City of Portland, Oregon

Intergovernmental Agreement for
Remedial Investigation and Source Control Measures

DEQ No. LQVC-NWR-03-10

Stormwater Evaluation Report

City of Portland Outfall Project
ECSI No. 2425

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Executive Summary

City of Portland (City) stormwater systems collect and convey stormwater draining industrial, commercial, residential, and undeveloped lands to the Portland Harbor area of the Willamette River. In 2003, the City and the Oregon Department of Environmental Quality (DEQ) entered into an Intergovernmental Agreement (IGA) to collaborate on the identification and control of upland contaminant sources discharging to the City's shared stormwater conveyance systems (i.e., outfall basins). In accordance with the IGA, the City has been conducting remedial investigations (RI) of City outfall basins to assist with the identification of significant contaminant sources and to determine if source control measures (SCMs) are needed. These efforts are part of the DEQ-led upland environmental investigations and source control work being conducted in conjunction with the U.S. Environmental Protection Agency's in-water Portland Harbor RI / feasibility study.

In 2007 and 2008, during the course of their respective Portland Harbor-related investigations, the City, the Lower Willamette Group (LWG), and others collected stormwater data from 25 City outfall basins and 24 non-City outfall basins. This report provides a basis for identifying City outfall basins where additional source tracing activities may be needed and supports the development of the City outfall basin RI/SCM reports.

This report does not evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system. The RI/SCM reports will integrate City basin investigation findings, upland site stormwater pathway evaluations conducted under DEQ oversight, and other pertinent data to summarize how sources have been identified and controlled through the respective authorities of DEQ and the City. The Basin RI/SCM process will be informed by the inriver remedial investigation, risk assessment, and feasibility study being completed by the LWG.

Evaluation Approach and Results

A multiple-step process was used to evaluate the stormwater data from City outfall basins.

Stormwater Screening

The first step in the evaluation process was to compare analyte detections to conservative Joint Source Control Strategy (JSCS) screening level values (SLVs) selected to be protective of inriver receptors. In some cases, SLV exceedances were noted for stormwater concentrations below DEQ's estimated background surface water concentrations or from areas with no significant sources (e.g., Forest Park). Therefore, to better understand which analytes in each City outfall basin may need further source tracing, additional data evaluation was necessary.

Statistical Analyses

For each analyte exceeding its SLV in at least one City outfall basin stormwater sample, the next step consisted of conducting a statistical analysis of stormwater data collected by the City, the LWG and others from City *and* non-City outfall basins within Portland Harbor. The harborwide analyses resulted in the sorting of analytes by basin into one of three "source tracing categories" (i.e., "lower," "moderate," and "higher" relative to harborwide concentration levels) as the basis for identifying which analytes in each City outfall basin should be evaluated further to determine whether additional source tracing is needed. Stormwater analytes in either the "moderate" or "higher" source tracing categories were further evaluated by comparison to relevant screening factors (e.g., estimated surface water background concentrations, factors of exceedance of SLVs, and industrial stormwater permit benchmark concentrations). This evaluation identified a list of analytes for each City outfall basin to be carried forward into basin-specific assessments for determining future City source tracing needs.

Stormwater Evaluation Process

Stormwater Screening

1. Screen stormwater data for City outfall basins against JSCS SLVs.
2. Select analytes for harborwide statistical analysis.

Statistical Analyses

1. Categorize stormwater analytes in each City basin by likelihood of having significant uncontrolled sources.
2. Identify analytes for further evaluation in each City basin.

City Basin Source Tracing Assessment

1. Assess whether known or potential sources within each City outfall basin may account for observed concentrations.
2. Make recommendations for additional

City Basin Source Tracing Assessment

The basin-specific assessments considered potential upland sources of the identified analytes (and whether these sites have conducted or are conducting stormwater source investigations under DEQ oversight), available LWG stormwater solids data, and other relevant information. The final step in the basin assessments resulted in each City outfall basin receiving one of the following source tracing recommendations:

- *No further City source tracing is planned* – Represents City outfall basins (13) that have low stormwater analyte concentrations and are considered the least likely to include significant, uncontrolled upland sources.
- *No further source tracing is recommended at this time (but may be needed in the future)* – Represents City outfall basins (10) where analytes were identified for further evaluation but where potential upland sources have been identified that may account for the observed concentrations and are in the process of conducting source control evaluations under DEQ oversight. The need for additional City source tracing efforts, DEQ-required source control measures at upland sites, or DEQ site discovery actions are contingent on the findings of the ongoing upland site source control evaluations.
- *Further source tracing may be needed* – Represents City outfall basins (Basins 52C and 53) where analytes are present in stormwater at levels that indicate uncontrolled sources may exist within the basin or that nearby sources may be impacting stormwater quality in the basins (e.g., air deposition, particle tracking)

and for which potential sources have not been identified. Additional City and DEQ evaluation is recommended to determine whether additional source tracing and/or DEQ site discovery efforts are needed.

Conclusions

The results indicate significant progress by the City, DEQ, and upland sites in identifying and controlling sources of contaminants to the City's shared stormwater conveyance systems within the Study Area. Key findings and conclusions include:

- Stormwater analyte concentrations in City outfall basins are predominantly lower than concentrations detected in non-City outfall basins (i.e., most of the basins in the "higher" source tracing category are non-City basins).
- Further source tracing is not needed for most analytes in the majority of the City outfall basins.
- City outfall basins in the "higher" source tracing category typically have known or potential upland sources of the analytes identified, and most of these upland sources are in the process of conducting source control evaluations under DEQ oversight. The City will continue to work with DEQ to track the progress of ongoing source control evaluations at these sites and will identify any further source investigation efforts that may be needed based on the results of these evaluations.
- The need for further source tracing in Basins 52C and 53 was identified. The City will work with DEQ to assess the need and priority for further source tracing in these basins, based on consideration of inriver sediment data, results from the Port of Portland's T-4 Early Action Recontamination evaluation, and other factors. .

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites to limit the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system. The City recognizes that analytes not being carried forward for source tracing evaluation may warrant additional consideration in the context of inriver cleanup goals defined by the inriver feasibility study or to address recontamination concerns during remedial design. Based on the analyses presented in this report, the City will work with DEQ on source identification in two identified basins and will review new information as it becomes available to further inform the outfall basin RI/SCM reports and to guide its ongoing source investigation program.

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Abbreviations and Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
BEHP	di(2-ethylhexyl)phthalate or bis(2-ethylhexyl)phthalate
BES	City of Portland Bureau of Environmental Services
City	City of Portland
COI	contaminant of interest
CSM	conceptual site model
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DDx	sum of DDD, DDE and DDT
DEQ	Oregon Department of Environmental Quality
DOC	dissolved organic carbon
ECSI	Environmental Cleanup Site Information
EPA	U.S. Environmental Protection Agency
FS	feasibility study
FSP	field sampling plan
FSR	field sampling report
FY	fiscal year
GE	General Electric
IGA	Intergovernmental Agreement
ISA	initial study area
JSCS	Joint Source Control Strategy
LWG	Lower Willamette Group
µg/L	micrograms per liter
mg/L	milligrams per liter
MRL	method reporting limit
MS4	Municipal Separate Storm Sewer System
NA	not applicable
NFA	no further action
NPDES	National Pollutant Discharge Elimination System
OAR	Oregon Administrative Rules
OF	Outfall
ORS	Oregon Revised Statutes
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
Port	Port of Portland
QAPP	Quality Assurance Project Plan

RA	risk assessment
RI	remedial investigation
RM	river mile
ROD	Record of Decision
RPD	relative percent difference
SAP	Sampling and Analysis Plan
SCD	source control decision
SCM	source control measures
SLV	screening level value
Study Area	Portland Harbor Study Area
TBD	to be determined
TOC	total organic carbon
TPH	total petroleum hydrocarbon
TS	total solids
TSS	total suspended solids
UIC	underground injection control

1 Introduction

This report presents an evaluation of the stormwater analytical results collected from City of Portland (City) stormwater outfalls discharging to the Willamette River within the Portland Harbor Study Area (Study Area). City stormwater systems convey stormwater draining from industrial, commercial, residential, and undeveloped lands to the Willamette River. In 2003, the City and the Oregon Department of Environmental Quality (DEQ) entered into an Intergovernmental Agreement (IGA) to collaborate on the identification and control of upland contaminant sources to City stormwater conveyance systems discharging to the Portland Harbor Study Area. The City has been conducting remedial investigations of City outfall basins (City of Portland Outfall Project), in accordance with the IGA, to assist with the identification and implementation of source control measures (SCM). These efforts are part of the DEQ-led upland environmental investigations and source control work being conducted in conjunction with the U.S. Environmental Protection Agency's (EPA) in-water Portland Harbor remedial investigation / feasibility study (RI/FS).

During the course of their respective Portland Harbor related investigations, the City, the Lower Willamette Group (LWG), and the Port of Portland (Port) collected stormwater and inline sediment trap data from 25 City outfall basins, at locations near the outfalls. This report provides an evaluation of these data to identify basins where significant sources may be present but have not been identified for source control measures. This information will be utilized to prioritize further City conveyance system source tracing.

1.1 Objective

This report presents the results of an outfall basin data analysis conducted to identify City outfall basins discharging to the Study Area where additional source tracing is needed. The evaluation steps were:

1. Screen stormwater data collected from City stormwater conveyance systems to identify a list of analytes for statistical analysis and potential source tracing activities.
2. Perform a statistical analysis of harborwide stormwater concentrations for the identified list of analytes using stormwater data from City and non-City stormwater conveyance systems discharging to the Willamette River within the Study Area to assess the relative significance of observed analyte concentrations.
3. Evaluate the results of the statistical analysis for City outfall basins, considering information on upland sites (known or potential sources), stormwater solids data, and other factors, to assess the need for additional source tracing in City outfall basins that discharge to the Portland Harbor.

Information presented in this report will also be used to support development of the outfall basin RI/SCM reports (see Section 1.3).

1.2 Report Organization

The report is divided into the following sections:

- *Section 2: Background*
  This section provides the overall context for the report, including a description of the City's outfall basin RI/SCM process and an explanation of how the stormwater data evaluation fits into this overall process.
- *Section 3: Data Sources*
  This section describes the sources of data evaluated for this report.
- *Section 4: Harborwide Stormwater Evaluation*
  This section presents the results of screening and statistical analysis of harborwide stormwater data discharging to the Portland Harbor to identify City outfall basins with potentially significant concentrations of one or more analytes in stormwater discharges. The analytes identified for potential source tracing are carried forward into the basin assessments presented in Section 5.
- *Section 5: Stormwater Basin Assessments*
  This section presents a basin-by-basin assessment of the stormwater analytes identified for potential source tracing. The basin assessments consider stormwater solids data, known potential upland sources, and other information to identify basins where additional source tracing efforts may be needed.
- *Section 6: Findings and Conclusions*
  This section summarizes findings and conclusions regarding the need for additional source tracing activities within specific City outfall basins.

1.3 Relationship to Other Documents

In 2004, the City developed the *Programmatic Source Control Remedial Investigation Work Plan for the City of Portland Outfalls Project* (Programmatic WP) (CH2M Hill, 2004), which included a structured, weight-of-evidence evaluation of City outfall basins that discharge stormwater to the initial study area (ISA) designated for the Portland Harbor Superfund Site to prioritize each basin for source investigation. Since that time, several technical memoranda and reports have been submitted to DEQ under the IGA that document the City's investigations of its stormwater conveyance systems.

Information in these documents and this report will support the development of the City's outfall basin RI/SCM reports, required under the IGA. The process employed by DEQ and the City to evaluate and control sources to City outfall basins is depicted conceptually in Figure 1-1. The RI/SCM reports will integrate City basin investigation findings, upland site stormwater pathway evaluations conducted under DEQ oversight,

and other pertinent data to summarize how sources have been identified and controlled through the respective authorities of DEQ and the City. The Basin RI/SCM process will be informed by the inriver remedial investigation, risk assessment (RA), and feasibility study (FS) being completed by the LWG. Additional source control may be required in some basins before sediment cleanup occurs, if inriver FS or Remedial Design evaluations identify a potential for recontamination. Therefore, a Basin RI/SCM report is also intended to provide sufficient information to guide further source reduction efforts by the City and DEQ, if needed.

2 Background

In December 2000, a section of the Willamette River called the Portland Harbor (shown on Figure 2-1), was added to EPA's Superfund National Priority List. Potential sources of the contamination that led to the Superfund listing include overwater activities and upland releases. DEQ and EPA, under a February 2001 Memorandum of Understanding, developed the *Portland Harbor Joint Source Control Strategy*[1] (JSCS), which provides a framework for identifying, evaluating, and controlling sources of contamination to the River.

The JSCS also establishes contaminant screening level values (SLVs) for assessing the need for upland source evaluation and control and for prioritizing upland source control tasks. As the SLVs are not cleanup levels[2], an exceedance of an SLV does not necessarily indicate that the upland source of contamination poses an unacceptable risk to human or the environment, but does require further consideration of whether source control is needed. Screening results and consideration of other factors identified in the JSCS are used by DEQ to prioritize upland sites as high, medium, and low priority and to determine if source control is required. Medium priority sites undergo a site-specific weight-of-evidence evaluation to determine if source control measures are required, using both upland information and in-water data. Low priority sources are those for which source control measures will not be required unless determined necessary by the Portland Harbor RI/FS or Record of Decision (ROD).

The City's Portland Harbor Outfall Project is being conducted in accordance with the August 13, 2003 IGA between the City and DEQ for the remedial investigation and source control measure evaluation. The source control work under the IGA is a shared effort with DEQ to identify, evaluate, and control upland sources of discharges to the City stormwater conveyance system that might adversely affect sediment and surface water quality in Portland Harbor. The IGA identifies the following joint City/DEQ objectives:

- Identifying significant sources of contaminants to City-owned outfalls using the authorities of DEQ and the City.
- Collecting and evaluating sufficient data to determine if source control measures are needed for discharges to the City stormwater collection systems or whether existing source control measures are effective.
- Identifying and implementing source control measures for discharges to the City stormwater collection system, in accordance with the following provisions:
    - The City will identify permitted and unpermitted upland discharges to its public stormwater collection system and make recommendations as to where source control measures are appropriate for upland sites.

[1] The JSCS was finalized in December 2005 (DEQ/EPA, 2005) and updated in July 2007.
[2] The EPA Portland Harbor ROD(s) will establish contaminant specific cleanup levels for the Superfund Site using Applicable or Relevant and Appropriate Requirements (ARARs) or risk-based levels (DEQ/EPA, 2005).

- DEQ and the City, using their respective authorities, will implement or require appropriate source control measures.

Initial priorities for source investigation activities conducted by the City were identified through two sequential planning efforts. The first of these, the development of the Programmatic WP (CH2M Hill, 2004), included a structured, weight-of-evidence evaluation of City outfall basins that discharge stormwater to the ISA to prioritize each basin for source investigation. The additional outfall basins within the expanded Study Area have been prioritized informally for source investigation using a similar approach as that used in the Programmatic WP (results of the prioritization of the basins in the expanded Study Area will be submitted to DEQ in Spring 2010).

The objectives of City's outfall investigation work to date have been to identify significant upland sources with complete stormwater pathways in basins prioritized for source tracing[3], to collect sufficient data in other basins to confirm that they are not significant pathways to the river, and to coordinate with DEQ on site investigations and implementation of source control measures under the City's and DEQ's respective authorities. The City has largely completed its source investigation work through a combination of data collection efforts, including the stormwater sampling described in this report and evaluation of upland site stormwater pathway data collected under DEQ oversight. Working collaboratively with DEQ under the IGA, the City has collected data that have supported the inclusion of additional sites in DEQ's Cleanup program, and supported the expansion of scopes of upland source investigation and source control activities at cleanup sites to address discharges to City conveyance systems.

The City's and DEQ's joint goal is to have significant sources of upland contamination to City stormwater conveyance systems identified before EPA's planned issuance of the ROD establishing cleanup goals for Portland Harbor, and to have these sources controlled before the inriver cleanup begins. This stormwater data evaluation report provides a basis for identifying City outfall basins where additional source tracing activities may or may not be needed and supports the development of the City outfall basins RI/SCM reports.

[3] "Priority 1" and "Priority 2" basins, as identified in the Programmatic WP (CH2M Hill, 2004) and the forthcoming *Prioritization of Study Area Basins* report (BES, in progress).

3 Data Sources

The sources of the data evaluated in this report include the City's stormwater data collected in 2007 and 2008 for the City of Portland Outfall Project, stormwater data collected between 2006 and 2009 under the City's municipal stormwater discharge permit, and data collected and/or compiled by the LWG in 2007 and 2008 for City and non-City outfalls discharging to the Portland Harbor Study Area. These data sources are described below. The locations of City and non-City outfall basins included in the stormwater data evaluation are shown on Figures 3-1a, 3-1b, and 3-1c. Data sources, sample type(s), and chemical analyses for all data used in the evaluation are summarized by outfall basin in Table 3-1.

3.1 City Data

The City designed its stormwater sampling program to obtain data in support of the IGA objectives: to evaluate the status of ongoing source tracing activities, to confirm whether significant sources are discharging to City stormwater conveyance systems associated with the outfalls, and/or to verify that significant sources have been identified and controlled. Stormwater data for this project were collected in accordance with the project-specific *Fall 2007 Stormwater Grab Sampling and Analysis Plan* (BES, 2007a) and *Winter 2008 Stormwater Sampling and Analysis Plan* (BES, 2007b) (stormwater SAPs), and the *Amended Programmatic Quality Assurance Project Plan* (QAPP) (BES, 2007c) and *Amended Programmatic Sampling and Analysis Plan* (Programmatic SAP) (BES, 2007d) for collection of water and solids samples for the City of Portland Outfall Project. Additional data for the Outfall Project are obtained through other City monitoring programs, such as the stormwater conveyance system discharge monitoring conducted under the City's NPDES Municipal Separate Storm Sewer System (MS4) Discharge Permit. The types of samples collected by the City for use in the City of Portland Outfall Project are described below.

3.1.1 Stormwater Grab Samples

Seventeen City outfalls were each sampled during four storm events in the 2007/2008 wet season (see Table 3-1). The grab sampling location within each basin was chosen to represent as much of the drainage basin as possible and to avoid low-elevation areas susceptible to backup flow from the river. Descriptions of the grab sampling locations, sample collection dates and methods, storm events sampled, chemical analyses, and sampling results are presented in Appendix A.

3.1.2 Stormwater Composite Samples

Outfall Basin 53

The City collected flow-weighted composite stormwater samples from Basin 53 as part of the 2007/2008 stormwater sampling, in accordance with the Winter 2008 stormwater

SAP (BES, 2007b). The City's sampling location in Basin 53 was selected to be representative of discharges from the entire basin and to supplement the Basin 53 data set collected in 2007 by the Port (the Port's data collection activities are described in Section 3.2). Descriptions of the Outfall 53 sampling location, sample collection dates and methods, storm events sampled, chemical analyses, and flow-weighted composite sampling results are presented in Appendix A.

Outfall Basin 19

Stormwater discharges from the City's stormwater outfall system are authorized and regulated under MS4 Discharge Permit #101314, issued jointly to the City, Multnomah County, and the Port. To supplement data obtained through the source investigations under the IGA, the City's Outfall Project team uses information gathered from the MS4 program to evaluate potential upland sources and identify areas where further investigation may be needed. Stormwater from Basin 19 has been monitored during at least three storm events per year starting in fiscal year (FY) 1998/1999 to generate a long-term effectiveness measure of the City's Industrial Stormwater Program. Starting in FY 2005/2006, the list of constituents analyzed in samples collected at Outfall 19 was expanded to meet the objectives of both the MS4 program and the City of Portland Outfall Project. The Outfall 19 MS4 monitoring data have previously been reported to DEQ in the City's Annual MS4 permit reports (http://www.portlandonline.com/bes/index.cfm?c=50289). Data and additional documentation for the Outfall 19 MS4 monitoring are provided in Appendix B. The Outfall 19 MS4 data for FY 2005/2006 through FY 2008/2009 as previously reported to DEQ are incorporated into the stormwater data evaluation presented in this report.

3.2 Non-City Data

The primary source of non-City data used in this report is the LWG's Round 3 (including Rounds 3A and 3B) stormwater sampling, a component of the overall LWG RI/FS for the Portland Harbor. The purpose of the Round 3 stormwater data collection included evaluating the potential for sediment recontamination from stormwater discharge to the river after cleanup of the Portland Harbor has been completed (Anchor and Integral 2007a, 2008b).

The Round 3 stormwater evaluation activities were conducted in 2007 and 2008. Concurrent with the LWG's Round 3 stormwater sampling and analyses, the Port collected stormwater data in the vicinity of its Terminal 4 property (including in Outfall Basin 53) and General Electric (GE) collected stormwater data at the GE Decommissioning Facility. The LWG included the Terminal 4 and GE Decommissioning Facility stormwater sampling data in its Round 3A/3B Stormwater Data Report. Including these data sources, the LWG's Round 3 stormwater evaluation incorporated the results from the collection of: flow-weighted composite stormwater samples at 36 sampling locations (including 11 City outfall basins); grab stormwater samples at 10 of these sampling locations; and sediment trap samples at 32 of these locations. Table 3-1 lists the basins sampled, sample type(s), and chemical analyses for each sampling

location included in the LWG's Round 3A/3B stormwater evaluation. Figures 3-1a through 3-1c show the stormwater basins included in the Round 3 data evaluation.

The LWG's Round 3 stormwater and sediment sampling activities are briefly summarized below. Detailed descriptions of these data collection efforts are available in the following documents:

- *Round 3A Stormwater Sampling Field Sampling Plan* (FSP; Anchor and Integral 2007a),
- *Round 3A Stormwater Sampling Field Sampling Plan* Addendum (FSP Addendum; Anchor and Integral 2007b),
- *Round 2 Quality Assurance Project Plan Addendum 8* (QAPP; Integral 2007), *Round 3A Stormwater Sampling Rationale* (Anchor and Integral 2007c),
- *Round 3A* and *Round 3B Stormwater Sampling Field Sampling Reports* (FSRs; Anchor and Integral 2007d; Anchor and Integral 2008a), and
- *Round 3A and 3B Stormwater Data Report* (Anchor and Integral, 2008b).

The Port's Terminal 4 field sampling activities are detailed in the following documents:

- *Storm Water Evaluation Work Plan* (Ash Creek Associates/Newfields, 2007),
- *Field Sampling Procedures Report Storm Water Sampling Program Terminal 4 Upland Facility* (Ash Creek Associates/Newfields, 2009a),
- *Storm Water Source Control Evaluation Terminal 4 Slip 1 and Slip 3 Upland Facilities* (Ash Creek Associates/Newfields, 2009b), and
- *Terminal 4 Recontamination Analysis* (BBL, 2006).

The field sampling activities conducted at the GE Decommissioning Facility are detailed in four GE stormwater monitoring reports (AMEC, 2007a, 2007b, 2007c, and 2007d).

3.2.1 Stormwater Composite Samples

The LWG, Port, and GE composite stormwater sampling efforts are described below.

LWG Sampling Locations

The LWG collected flow-weighted composite stormwater samples at 27 selected sampling locations[4] during Round 3A (conducted from February through July 2007) and Round 3B (conducted from November 2007 through February 2008). Nine City outfall basins were included in the LWG effort, and three to six samples were collected from each sampling location. The samples were collected using automated samplers as

[4] Two of these locations are treated as a single sampling location; sample site WR-145 became obstructed and was therefore moved to site WR-142 following the first round of sampling (Anchor and Integral, 2008b).

described in the FSP (Anchor and Integral 2007a, 2007b) and submitted unfiltered for organic compound analyses and as filtered/unfiltered pairs for metals analyses.

Port of Portland Terminal 4

The Port conducted stormwater characterization at seven locations in the vicinity of its Terminal 4 facility to evaluate whether stormwater and stormwater solids may be a potential source for future adverse impact to the Willamette River by recontamination of river sediments after cleanup of the Portland Harbor (Ash Creek Associates/Newfields, 2007). As noted above, one of the Port's sampling locations represented stormwater discharge from City Outfall Basin 53; another represented City Outfall Basin 52C. Three to five flow-weighted composite stormwater samples were collected from each sampling location during the winter/spring 2007 storm season and the fall 2007/winter 2008 storm season.

GE Decommissioning Facility

During its source control evaluation of the GE Decommissioning Facility, GE collected flow-weighted composite stormwater samples at two locations (designated "Manhole 2" and "Sample Vault 1") discharging stormwater from the site to the City's Basin 17 stormwater conveyance system. A total of three storms were sampled at each location during the spring and fall of 2007 (AMEC, 2007a, 2007b, 2007c, and 2007d).

3.2.2 Stormwater Grab Samples

As part of the Round 3A/3B stormwater evaluation, the LWG collected grab samples from ten basins during one to two storm events in 2007. The purpose of the grab samples was to collect partitioning (chemical dissolved phase/suspended sediment) rather than loading data; to meet this objective, the grab samples were collected during the rising limb of the storm hydrograph to increase the likelihood of detecting the target analytes (Anchor and Integral 2007a). Three of the grab sampling locations were within City outfall basins (see Table 3-1). The sampling locations were selected based on general knowledge of site uses and potential contaminant sources (Anchor and Integral 2007c).

3.2.3 Stormwater Sediment Samples

Stormwater sediment traps were deployed at most of the stormwater sampling locations established for the LWG's Round 3 stormwater data evaluation (including the Port's Terminal 4 sampling locations). The objective was to obtain samples of suspended stormwater sediment to supplement the chemical loading evaluation. Sediment was collected from a total of 32 locations (including 11 City basins) during the Round 3 sampling activities; stormwater sediment trap samples were not collected at four locations (WR-4, WR-181/Basin Q, and the two GE Decommissioning Facility locations) because no feasible location was available to install the sediment traps (Anchor and Integral, 2008b). Each sediment trap was installed as close as possible to the automated stormwater sampler and was in place for a minimum duration of 3 months. For cases where insufficient sediment volume accumulated at a particular station, analyses were

selected in accordance with the analytical priorities established in the FSP (Anchor and Integral 2008b). The basins where stormwater sediment traps were installed and the associated chemical analyses for each sediment trap location are indicated on Table 3-1.

4 Stormwater Data Evaluation

This section summarizes the data evaluation and statistical process used to identify City outfall basins and associated stormwater analytes that may warrant further source tracing to identify potentially significant uncontrolled upland sources. This process was developed to supplement the JSCS screening process to differentiate potentially significant sources that may need immediate action from lower contributing sources. Additional technical information and detail regarding the evaluation methodology are provided in Appendix C.

4.1 Overview of Stormwater Data Evaluation Approach

A multiple-step process was used to evaluate the stormwater data from City outfall basins. The process included the comparison of stormwater analyte concentrations detected in City stormwater outfall basins to established criteria in order to select analytes for statistical evaluation. This screening is followed by statistical analyses of harborwide stormwater data collected by the City, LWG and others for City and non-City outfall basins discharging to the Study Area to provide an objective context for interpreting the potential significance of results. Concentrations in City basins at the higher end of the spectrum can be compared to concentrations observed at known sources to help indicate where significant sources to the river may be present in City basins. The results of the stormwater data evaluation provide a basis for identifying City outfall basins where further source tracing may be needed for specific analytes. These analytes are carried forward into the basin-specific assessments of source-tracing needs presented in Section 5. This analysis does not evaluate the inriver sediment in the vicinity of City outfalls to determine if there is a complete pathway for upland contributions (e.g., an outfall may be identified for further source tracing even if there are no elevated sediment concentrations adjacent to the outfall).

Stormwater Data Evaluation Process

1. Stormwater Screening

   Screen stormwater data for City outfall basins against JSCS SLVs to select analytes for harborwide statistical analysis.

2. Statistical Analyses

   Categorize stormwater analytes in each basin by relative likelihood of having significant uncontrolled sources.

3. Identification of Basin Analytes

   Apply additional reference values (e.g. DEQ background and NPDES benchmarks) to statistical results to generate analyte list per basin for further evaluation in Section 5.

4.2 Stormwater Screening

The first step in the evaluation process was to compare individual stormwater sampling event analyte detections to conservative JSCS SLVs (see Appendix A). Because the SLVs are conservative screening values selected to be protective of inriver receptors, application of these values to in-pipe media (stormwater and stormwater solids) results in the identification of analytes that in some cases are below estimated background

concentrations or concentrations from areas with no sources, such as Forest Park. Additionally, SLVs do not recognize state-authorized NPDES discharges to the City's system (i.e., metals benchmarks are one to two orders-of-magnitude higher than the SLVs) and therefore are not always useful in evaluating where uncontrolled sources may be present. For this evaluation, the SLVs were used for the purpose of identifying the list of analytes to include in the statistical analyses.

Selection of Analytes for Statistical Evaluation

3. Screen individual stormwater event data points for City outfall basins against JSCS SLVs (Appendix A)
4. For any analyte >SLV in at least one sample, calculate arithmetic and geometric mean concentrations for each outfall basin (Appendix C, Attachment C-2)
5. Screen geometric mean concentrations for City outfall basins against JSCS SLVs (Appendix D).
6. Analytes with geometric mean concentrations >JSCS SLVs were evaluated in the harborwide statistical analysis (Appendix C).

To account for the inherent variability in stormwater data, geometric mean concentrations were calculated for analytes detected at concentrations above the JSCS SLV in at least one sampling event in any City outfall basin[5]. The geometric mean was selected as an appropriate measure of stormwater outfall concentrations for the purposes of the harborwide statistical analysis. Tables summarizing the mean and geometric mean concentrations and additional rationale and assumptions pertaining to these calculations are presented in Appendix C. All analytes for which at least one basin geometric mean concentration exceeded the SLV (see Table 4-1 and Appendix D) were carried forward into the harborwide statistical analysis for all City basins, as discussed below.

4.3 Statistical Analyses

A statistical mixture model was used for the analysis of the harborwide stormwater outfall data. A detailed description of the model (including the key assumptions, limitations, and statistical output) is provided in Appendix C. The model was used to analyze the distribution of the geometric mean concentrations for harborwide outfall basins and to assign each outfall basin to one of three concentration groups (i.e., lower, moderate, or higher). This concept is consistent with the JSCS method for identifying low, medium, and high priority sites. Statistical analysis was performed for the analytes selected based on the data screening described in Section 4.2 (unless the number of samples was insufficient to conduct a valid statistical analysis; see Table 4-1). Graphs of the results of the statistical evaluation are included in Appendix C.

Use of the full harborwide data set in the statistical evaluation allowed comparison of stormwater concentrations in City outfall basins to other stormwater discharges in the Portland Harbor Study Area. Source tracing categories were statistically identified based on specific outfall concentrations relative to harborwide concentration levels. For

[5] See data tables in Appendices A and B for data collected by the City; see Anchor and Integral 2008b for City outfall basin data collected by others.

each analyte included in the statistical evaluation, each outfall basin was assigned to one of three source tracing categories:

- **Category 1**. Stormwater analyte concentrations in these basins are lower relative to stormwater concentrations harborwide (i.e., relative to other private and public outfalls) and are least likely to have significant uncontrolled sources. The need for additional source tracing in City outfall basins within this category is low.
- **Category 2**. Stormwater analyte concentrations in these basins generally fall within a narrow moderate range and may or may not have significant uncontrolled sources. The need for additional source tracing in City outfall basins within this category should be evaluated further, unless otherwise indicated (see discussion below in Section 4.4).
- **Category 3**. Stormwater analyte concentrations in these basins are higher relative to harborwide concentrations and are the most likely to have significant uncontrolled sources. The need for additional source tracing in City outfall basins in this category is evaluated.

The break lines defining Categories 1 through 3 for each analyte are described and shown on the graphs in Appendix C. Table 4-2 summarizes the resulting distributions of source tracing categories by analyte and City outfall basin. Analytes identified as Category 2 or 3 source tracing categories were further evaluated to assess whether additional source tracing is needed in Section 4.4.

4.4 Selection of Analytes for City Outfall Basin Assessments

Selection Steps

1. For each City outfall basin, screen the geometric mean concentration of each Group 2 and 3 analyte against the following, as applicable:
   a. DEQ background concentration,
   b. 10x the JSCS SLV, and
   c. 0.1x the NPDES benchmark concentration.
2. For each City outfall basin, carry forward all analytes that exceed applicable screening criteria (Table 4-3) to the basin-specific assessments (Section 5).

The source tracing categories defined in Section 4.3 are based on harborwide concentration distributions. Due to the conservative assumptions in the statistical analysis (selection of analytes for the statistical analyses, assumptions in calculating the geometric mean concentrations, etc.) analytes identified as Category 2 or 3 were further evaluated to identify those basin-specific analytes that may indicate the presence of significant uncontrolled upland sources. Basin geometric mean concentrations were compared to relevant screening considerations (e.g., DEQ surface water background concentrations, factors of exceedance of SLVs, and industrial stormwater permit benchmark concentrations).

Analytes meeting one or more of the following conditions are considered unlikely to present a significant uncontrolled source and were not carried forward in the basin assessment for a given City outfall basin:

- The geometric mean concentration for a given City outfall basin was less than DEQ's background surface water concentration (DEQ, 2002) (metals only).
- The geometric mean concentration for a given City outfall basin was within one order of magnitude of the JSCS SLV. As most SLVs are conservative for stormwater-related media, a ten-fold exceedance was not considered a high priority for further source tracing.
- The geometric mean concentration for a given City outfall basin was less than 10 percent of the NPDES 1200Z benchmark concentration (applies only to copper, lead, and zinc).
- Total PAHs[6] are not carried forward if all individual PAH compounds are less than one order of magnitude greater than their respective JSCS SLVs.

Table 4-3 provides a basin-by-basin summary of the screening considerations and resulting analytes that were carried into the basin assessments presented in Section 5.

[6] The JSCS does not establish an SLV for total PAHs. Individual PAH compounds, as well as total PAHs, were statistically evaluated and assessed through further screening; however, only total PAHs were carried forward to the basin-specific assessments and potential future source tracing activities. PAH compounds typically have common sources (e.g., petroleum oils and coal-based products, combustion, fuels, asphalt, wood preservatives, and automobile fluids), and individual PAH compounds do not typically occur alone.

5 Stormwater Basin Assessments

This section evaluates the results of the statistical analysis of stormwater data described in Section 4 in the context of basin-specific information such as known upland sources, stormwater pathway investigation status, and sediment trap sampling results, to identify City outfall basins within the Study Area where additional source tracing efforts may be needed.

5.1 Assessment Methodology and Rationale

The assessment of each City outfall basin involves three primary evaluation steps:

Step 1: Identification of Stormwater Analytes for Further Evaluation

As discussed in Section 4, basin-specific stormwater analytes for each City outfall basin were identified by the statistical evaluation of harborwide stormwater concentrations and comparison to additional screening criteria. These analytes are summarized in Table 4-3 and carried forward to Step 2.

Step 2: Evaluation of Identified Stormwater Analytes in the Context of Relevant Basin Information

This step evaluates basin-specific source information for the stormwater analytes carried forward from Step 1. It considers upland site information, City source investigation findings, LWG and Port sediment trap results (as available) and comparisons of stormwater concentrations to industrial stormwater permit benchmarks to determine source-tracing needs. The evaluation steps are described below.

- *Information on Potential Upland Sources*

  Information on identified upland sites (potential sources) discharging to the City's stormwater conveyance system are inventoried to assess whether known sources may account for the presence of the identified stormwater analytes.

  The upland facilities identified as potential sources for the purpose of this evaluation include DEQ Cleanup Program sites, as listed in DEQ's Environmental Cleanup Site Information (ECSI) database, and facilities permitted by DEQ under the NPDES industrial stormwater discharge (1200Z) permit program due to stormwater exposures to industrial operations. Although limiting the list of potential sources to those meeting either of these criteria may omit some potential sources (such as sites with unidentified contamination issues, sites that do not require an NPDES permit, or sites that have had spills or that may illicitly discharge contaminants to the stormwater conveyance system), the list for each basin is intended to capture the known and likely potential sources based on

available information to facilitate the basin evaluations. These potential sources are listed by basin in Table 5-1.

For ECSI sites, Table 5-1 lists the current status under the DEQ cleanup program and indicates whether a stormwater pathway evaluation has been (or is being) conducted under DEQ oversight. This information has bearing on source tracing status; for example, if a site has been remediated and a stormwater pathway evaluation has been completed, the site may not be a significant ongoing source of contaminants to the conveyance system. Likewise, if stormwater pathway evaluations are currently underway at one or more upland sites within a given basin, it may not be possible to fully assess whether all significant sources within a basin have been identified until the stormwater pathway evaluations are completed.

- *City Stormwater Conveyance System Source Investigations*

  Table 5-1 also lists source investigations that the City has conducted to date in each City outfall basin. For some investigations, the results have been evaluated and reported to DEQ, while for others the evaluation is still in progress. Acknowledging the fact that basins with larger industrial areas typically warrant more extensive source investigations compared to smaller basins with fewer upland sites, the extent to which the conveyance system has been investigated provides a general indication of the progress that has been made toward tracing the contaminant sources in each basin. This information, together with information on the upland sites, provides the basis for whether stormwater analytes under evaluation are likely accounted for by the identified sources (see Table 5-1, right-hand column ["Stormwater Analytes Likely Accounted for by Identified Potential Sources?"]). General findings from City source investigations were also considered in the basin assessment conclusions (see Table 5-2).[7]

- *Sediment Trap Solids Data*

  For those analytes not available in stormwater data, LWG and Port sediment trap solids data (collected in City outfall basins 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1 and M-2) are incorporated into the basin assessments to evaluate whether these additional analytes need further source tracing efforts. Analytes detected in sediment trap solids samples are evaluated with regard to the JSCS Toxicity SLVs. If an analyte exceeds the JSCS Toxicity SLV in sediment trap solids but was not analyzed in stormwater, it is added to the list of analytes evaluated to determine whether further source tracing may be needed (see Table 5-2). The LWG and Port sediment trap data for City outfall basins are summarized in Appendix E.

[7] The City source investigation findings will be incorporated in detail in the outfall basin RI/SCM reports. The source investigation data helps identify the general location of potential sources within a basin and may be combined with upland site information to suggest where significant contributions to the shared conveyance system occur.

- *Comparison to NPDES 1200Z Permit Benchmarks*

  NPDES industrial stormwater permits establish benchmark concentrations for certain contaminants, identifying a performance threshold for these constituents. Discharges in excess of permit benchmarks warrant site response under the terms of the 1200Z permits. Among the parameters listed under the permit benchmarks are three metals (copper, lead, and zinc) that also are analytes included in the City stormwater data evaluation. The associated NPDES permit benchmarks are 100 µg/L for copper, 400 µg/L for lead, and 600 µg/L for zinc. For basins receiving discharges under NPDES 1200Z permits, the stormwater concentrations are compared to the applicable permit benchmarks (see Table 5-2). Stormwater analytes with concentrations less than the permit benchmarks are not recommended for additional source tracing in these basins at this time.

Step 3: Identification of Source Tracing Recommendations by Analyte

The information developed through the evaluation conducted in Step 2 is synthesized in Step 3 to provide source tracing recommendations by analyte for each basin. The conclusions and supporting rationale for source tracing recommendations are summarized in Table 5-2.

5.2 Results

Results of the basin assessment are presented in Tables 5-1 and 5-2. Table 5-2 summarizes conclusions with regard to the need for further source tracing efforts by the City in each basin evaluated. Based on these conclusions, each basin is placed into one of the following three groups: (1) basins for which no further source tracing is planned; (2) basins where further source tracing is not recommended at this time but may be needed in the future (depending on the outcome of current upland stormwater pathway evaluations and/or evaluation of City source investigation results); and (3) basins where further source tracing may be needed. The following table lists the basins that are categorized into each of these three groups:

Further Source Tracing Not Planned	Further Source Tracing Not Recommended At This Time	Further Source Tracing May Be Needed
22C, 22D, 45, 47, 48, 49, 50, 52A, M-2, M-3, S-2, S-5, S-6	16, 18, 19, 22, 22B, 46, 52, 53A, M-1, S-1	52C, 53

The basin assessment outcomes by group are summarized below. For further detail, refer to Table 5-2.

5.2.1 Basins Where Further Source Tracing is Not Planned

The basin assessments results indicate that no further source tracing is needed for 13 City outfall basins. Factors supporting this conclusion include:

- No stormwater analytes were identified for further evaluation based on the results of the harborwide statistical analysis and selection process described in Section 4, and no additional analytes were detected at concentrations greater than JSCS Toxicity SLVs in the associated Port/LWG sediment trap solids samples (where collected).
  (Applies to Basins 22C, 22D, 47, 48, 49, 50, 52A, M-2, M-3, S-2 and S-5)
- The only analyte identified for further evaluation in stormwater is a permitted metal, and stormwater concentrations did not exceed the corresponding permit benchmarks.
  (Applies to Basins 45 and S-6)

If new information arises that indicates the presence of significant unidentified sources to the stormwater conveyance system in any of these basins, the City will reevaluate the need for further source tracing in the basin and undertake further action as appropriate.

5.2.2 Basins Where Further Source Tracing is Not Recommended at This Time

For the ten City outfall basins in this group, analytes were identified for further evaluation in stormwater or exceeded JSCS Toxicity SLVs in sediment trap solids. Further source tracing efforts in these basins are considered premature at the current time because pending information from ongoing or recently completed upland investigations will inform the need for additional source tracing activities. The following factors support that further source tracing activities are not needed at this time:

- Stormwater pathway evaluations are currently underway at one or more upland sites in the City outfall basin. Analytes identified for further evaluation in this report have been found on upland site(s) or are under investigation. Results of these evaluations may indicate whether source control will be required by DEQ at these sites or if further source tracing is needed to identify other potential sources. (Applies to all basins in this category)
- The City has conducted one or more source investigations in the basin post-dating the 2007–2008 stormwater sampling. Evaluations of the results are in progress. (Applies to Basins 16, 18, 52, and 53A)
- Extensive source control measures are in the process of being implemented by upland sites in the basin; data collected following implementation of these source control measures will indicate whether further source tracing is needed.
  (Applies to Basins 18, 19, 22, 22B, 53A, and M-1)

5.2.3 Basins Where Further Source Tracing May Be Needed

Basin assessment results for Basins 52C and 53 indicate that further source tracing may be needed in these basins. In both these basins, PCBs were identified for further source tracing evaluation in stormwater and no sources of these analytes have been identified. A single pesticide was also identified for further source tracing in Basin 53.

6 Findings and Conclusions

The evaluation of stormwater data from City outfall basins discharging to the Portland Harbor Study Area, in the context of a harborwide stormwater data set and other relevant information (e.g., sediment trap data and information on upland sites/sources), provides a comprehensive basis for assessing the need for additional source tracing in City outfall basins and comprises a major component of the City's overall basin RI process (see Figure 1-1). The results of the evaluation indicate significant progress by the City, DEQ, and upland sites in identifying and controlling sources of contaminants to the City's shared stormwater conveyance systems within the Study Area.

This section presents key findings and conclusions regarding the need for additional source tracing activities. It also discusses the recommended actions by the City and/or DEQ to complete the identification and control of significant upland sources to City outfall basins before the EPA-directed Portland Harbor inriver cleanup begins.

Findings and conclusions of the statistical evaluation and source tracing categorization of harborwide stormwater data include:

- Of the 25 City outfall basins included in the stormwater data evaluation, only two are recommended for further evaluation of source tracing investigations at this time.
- Most analytes in City outfall basins are identified as source tracing Category 1 (i.e., least likely to have significant unidentified sources) as shown in Table 6-1.
- City outfall basins with stormwater source tracing Category 2 and 3 analytes typically have known or potential upland sources of the analytes identified. Most of these upland sources are in the process of conducting source control evaluations under DEQ oversight, as discussed in Section 5.
- Stormwater analyte concentrations in City outfall basins are predominantly on the lower range of the spectrum of harborwide stormwater concentrations.

The City's approach for identifying outfall basins for further source tracing is consistent with DEQ's current approach for identifying the priority for stormwater discharges in Portland Harbor under the JSCS (DEQ, 2010).

6.1 Further Source Tracing in City Outfall Basins

The source-tracing status of the City outfall basins, as identified through the basin-specific assessments discussed in Section 5 and summarized in Table 5-2, fall into three general groups:

- *No further City source tracing is planned* – This group, comprising the majority (13) of City outfall basins evaluated, represents basins for which stormwater analyte concentrations are low and which are least likely to include significant, uncontrolled upland sources. The City does not anticipate conducting further

source tracing activities in the stormwater conveyance systems within these basins.

- *No further source tracing is recommended at this time (but may be needed in the future)* – This group, comprising ten City outfall basins, generally represents basins where data analysis indicates contaminant sources are present but for which potential upland sources have been identified and are in the process of conducting source control evaluations under DEQ oversight. As indicated in Table 5-2, the City plans to review findings of the source control evaluation investigations of the identified sites. Whether additional City source tracing efforts, DEQ-required source control measures at upland sites, or DEQ site discovery actions are needed depends largely on the findings of the ongoing source control evaluations. Therefore, the City does not plan to conduct further source tracing in the stormwater conveyance systems within these basins at this time and will determine the need for further source tracing once additional information is available.
- *Further source tracing may be needed* – This group, comprising two City outfall basins (OF 52C and OF 53), represents basins where contaminants are present in stormwater at levels that indicate uncontrolled sources may exist within the basin or that nearby sources may be impacting stormwater quality in the basins (e.g., air deposition, particle tracking) and for which potential sources have not been identified. Additional City and DEQ evaluation is recommended to determine whether additional source tracing and/or DEQ site discovery efforts are needed.

It is important to note that source tracing recommendations have been developed in this report without review of relevant inriver data. For all basins where data indicate that source tracing should be considered now or following completion of investigation and control of known sources, inriver sediment data will be evaluated to ascertain the potential significance of the outfall as a contaminant pathway. The City recognizes that analytes not being carried forward for source tracing evaluation may warrant additional consideration in the context of inriver cleanup goals defined by the inriver FS, or to address recontamination evaluation concerns during remedial design.

6.2 Next Steps

The need for source tracing in Basins 52C and 53 was identified. The City will work with DEQ to assess the need and priority for further source tracing in these basins. The scope and timing of potential future source tracing activities will consider:

- Inriver sediment data (which are not elevated in the vicinity of these outfalls);
- Results from the Port of Portland's T-4 Early Action recontamination evaluation for stormwater discharges from various outfalls including OF 52C and OF 53;
- Results from upland investigations that may inform whether air deposition or particle tracking may be contributing to these basins; and

- Basin size, land use, and stormwater concentrations relative to DEQ upland source control decisions.

In addition, the City is currently initiating watershed planning activities along the east shore of the river, including the St. Johns area where Basins 52C and 53 are located, and will be identifying opportunities for improving stormwater management to further reduce pollutant contributions to the river.

For the remainder of the City outfall basins included in the stormwater data evaluation, the City will continue to work with DEQ to track the progress of ongoing source control evaluations at upland sites and will identify any further source investigation efforts that may be needed based on the results of these evaluations. The results of the stormwater data evaluation presented in this report will also assist DEQ in identifying upland site stormwater pathway evaluation and source control needs in City outfall basins and will support development of the basin RI/SCM reports that will be submitted to DEQ under the terms of the IGA.

Overall, the findings of this stormwater data evaluation indicate the collaborative work conducted by the City and DEQ under the IGA has been effective in identifying and characterizing upland sources of analytes to City stormwater outfall basins. The City expects that concentrations of contaminants to the City stormwater conveyance systems will be reduced by the ongoing and future implementation of site source control measures, as sites complete their source control evaluations under DEQ oversight. Reductions in contaminant discharges to City conveyance systems have also been achieved by other City stormwater and watershed health programs, including City Industrial Stormwater programs, water quality requirements for new and redeveloped sites under the Stormwater Management Manual, implementation of the Portland Watershed Management Plan, and other green infrastructure and incentive programs. These programs will continue to be implemented to maintain current gains and to further reduce overall loading as redevelopment and other changes across the landscape occur.

As noted in Section 5, many upland sites could be contributing contaminants to City stormwater conveyance systems, but the focus of this evaluation has been to assess basin stormwater data in the context of upland site information to identify basins where significant uncontrolled sources may be present but have not been accounted for. The City recognizes that future stormwater and solids data collected from any of the upland sites or City stormwater conveyance systems, as well as developments in the larger Portland Harbor RI/FS process, will help to refine the basin source tracing conclusions presented in this report. The City will review new information as it becomes available to guide its ongoing source investigation program. The City recognizes that analytes not being carried forward for source tracing evaluation may warrant additional consideration in the context of inriver cleanup goals defined by the inriver FS or to address recontamination concerns during remedial design.

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites to limit

the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system. Based on the analyses presented in this report, the City will work with DEQ on source identification in two identified basins and will review new information as it becomes available to further inform the outfall basin RI/SCM reports and to guide its ongoing source investigation program.

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Tables

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Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
City Outfall Basins				
OF 16	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Inline sediment trap	TOC, TS, PAHs, phthalates, PCB congeners, organochlorine pesticides	
OF 18	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, phthalates, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Stormwater – grab	*PAHs, phthalates, PCB congeners, herbicides*, TSS, TOC/DOC	
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), PAHs, phthalates, PCB congeners, organochlorine pesticides, herbicides, TS, TOC	
OF 19	City of Portland NPDES Municipal Separate Storm Sewer System (MS4) Discharge Permit Monitoring Program	Stormwater – flow-weighted composite	Metals (arsenic, cadmium, chromium, *copper*, *lead*, silver, *zinc*), PAHs, SVOCs, PCB congeners, TSS[2]	Appendix B
	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, phthalates, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), PAHs, phthalates, PCB congeners, organochlorine pesticides, herbicides, TS, TOC	

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
OF 22	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Stormwater – grab	*PAHs, PCB congeners*, TSS, TOC/DOC	
		Inline sediment trap	TOC, TS, PCB congeners	
OF 22B	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, PCB congeners, herbicides, organochlorine pesticides, TSS, TOC/DOC	Anchor and Integral 2008b
		Stormwater – grab	*PAHs, PCB congeners, herbicides, organochlorine pesticides*, TSS, TOC/DOC	
		Inline sediment trap	TOC, TS, PCB congeners	
OF 22C	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 22D	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 45	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
OF 46	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 47	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 48	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 49	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, phthalates, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides	
OF 50	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 52	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 52A	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
OF 52C (Port T4 Basin T)	Port of Portland Terminal 4 Recontamination Analysis and Storm Water Sampling Program	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners, organochlorine pesticides	Ash Creek Associates/Newfields 2009a; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, grain size	
OF 53	Port of Portland Terminal 4 Recontamination Analysis and Storm Water Sampling Program	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), *PAHs, TPH, phthalates, PCB congeners, PCB Aroclors, organochlorine pesticides,* TSS, TOC/DOC	Ash Creek Associates/Newfields 2009a; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, phthalates, SVOCs, PCB Aroclors, PCB congeners, organochlorine pesticides, TS, TOC	
	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – flow-weighted composite	Metals (arsenic, cadmium, chromium, copper, lead, manganese, nickel, silver, zinc), PCB congeners, PCB Aroclors, PAHs, phthalates, SVOCs, TSS	Appendix A
OF 53A	City of Portland Outfalls Project, Winter 2008 Stormwater Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF M-1	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Inline sediment trap	PCB congeners, organochlorine pesticides, TS, TOC	
	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
OF M-2	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, cadmium, total chromium, copper, lead, nickel, selenium, silver, zinc), PAHs, phthalates PCB congeners, herbicides, TSS, TOC/DOC	Anchor and Integral 2008b
		Inline sediment trap	PAHs, phthalates, PCB congeners, organochlorine pesticides, TS, TOC	
	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF M-3	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF S-1	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF S-2	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF S-5	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
OF S-6	City of Portland Outfalls Project, Fall 2007 Stormwater Grab Sampling and Analysis	Stormwater – grab	Metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc), PCB congeners, PAHs, phthalates, SVOCs, TSS	Appendix A
Non-City Outfall Basins				
Port T4 WR-169 (Basin D)	Port of Portland Terminal 4 Recontamination Analysis, Storm Water Sampling, and Storm Water Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAH, phthalates, PCB congeners	Ash Creek Associates/Newfields 2009a, 2009b; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, PAHs, phthalates	

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
Port T4 WR-20 (Basin L)	Port of Portland Terminal 4 Recontamination Analysis, Storm Water Sampling, and Storm Water Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners, organochlorine pesticides	Ash Creek Associates/Newfields 2009a, 2009b; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates	
Port T4 WR-177 (Basin M)	Port of Portland Terminal 4 Recontamination Analysis, Storm Water Sampling, and Storm Water Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners, organochlorine pesticides	Ash Creek Associates/Newfields 2009a, 2009b; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates	
Port T4 WR-181 (Basin Q)	Port of Portland Terminal 4 Recontamination Analysis, Storm Water Sampling, and Storm Water Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners, organochlorine pesticides	Ash Creek Associates/Newfields 2009a, 2009b; BBL, 2006; Anchor and Integral 2008b
Port T4 WR-183 (Basin R)	Port of Portland Terminal 4 Recontamination Analysis, Storm Water Sampling, and Storm Water Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners, organochlorine pesticides	Ash Creek Associates/Newfields 2009a, 2009b; BBL, 2006; Anchor and Integral 2008b
		Inline sediment trap	TS, PCB congeners	
ODOT Hwy 30A at 35th St.	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	TS, TOC, PCB congeners	

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
ODOT Hwy 30B [3] at Reed St.	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
General Electric Manhole 2	GE Stormwater Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHS, phthalates, PCB congeners	AMEC 2007a, b, c, d
General Electric Sample Vault 1	GE Stormwater Source Control Evaluation	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, phthalates	AMEC 2007a, b, c, d
ODOT St. John's Bridge (SJB)	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, phthalates, herbicides	Anchor and Integral 2008b
		Stormwater – grab	*PAHs*, *phthalates, PCB congeners*, *herbicides*, TOC/DOC, TSS	
		Inline sediment trap	TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates	
Sulzer Pump WR-3	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
Sulzer Pump WR-4	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
Chevron Transportation WR-14	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
OSM WR-22	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs*	
OSM WR-22	See above	Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
Siltronic WR-67	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	TOC, TS, PCB congener	
Arkema WR-96	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides, organochlorine pesticides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs, SVOCs, pesticides*	
		Inline sediment trap[4]	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
Gasco WR-107	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs*	
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
Schnitzer International WR-123	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs*	
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
Gunderson WR-142/145[5]	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs*	
		Inline sediment trap	TOC, TS, PCB congeners	
Gunderson WR-147	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	TOC, TS, PCB congeners, organochlorine pesticides	

Table 3-1. Portland Harbor Outfall Basin Data Sources.

Outfall Basin	Data Collection Program	Sample Type(s)	Analytes	References [1]
Portland Shipyard WR-161	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, phthalates, PCB congeners, herbicides	Anchor and Integral 2008b
		Stormwater – grab	TSS, TOC/DOC, *herbicides*, *PCB congeners*, *phthalates*, *PAHs*	
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
UPRR Albina WR-218	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
Schnitzer-Riverside WR-384	LWG Round 3A Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TS, TOC, PCB congeners, organochlorine pesticides, PAHs, phthalates, herbicides	
Yeon-NW35 [6]	LWG Round 3A and 3B Stormwater Sampling	Stormwater – flow-weighted composite	*Metals* (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc), TSS, TOC/DOC, PAHs, PCB congeners, herbicides	Anchor and Integral 2008b
		Inline sediment trap	TS, TOC, PCB congeners	

Notes:

Analytes in italics are reported in both total and dissolved (filtered) concentrations. Unless in italics, analytes are reported in total concentrations only.

(1) References are listed in Section 7 of report.

(2) In addition to the analytes listed, the City MS4 samples from OF 19 were also tested for ammonia-nitrogen, nitrate-nitrogen, orthophosphate phosphorus, total dissolved solids, total phosphorus, total solids, and hardness.

(3) The runoff sampled at this location drains to the combined sewer overflow bypass tunnel constructed in 2006.

(4) Due to insufficient volume collected in sediment traps and the large amount of sediment accumulated around the bottles, sediment was collected from within the outfall structure at this location for sediment sample analysis.

(5) Sample site WR-145 was moved to site WR-142 during the sampling period as the site became obstructed.

(6) This site was originally intended to measure Hwy 30 runoff only, however, as discussed in the Field Sampling Report (Anchor and Integral 2008a), the sampling equipment was installed at a location where additional drainage from NW 35th was sampled. In order to avoid confusion, this site has been renamed.

Table 4-1. Stormwater Analytes Selected for Statistical Evaluation. (1), (2)

PCB Congeners:
Total PCBs

PAHs:
Acenaphthene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Indeno(1,2,3-cd)pyrene
Naphthalene
Phenanthrene
Pyrene
Total PAHs (3)

Pesticides:
2,4'-DDD
2,4'-DDE
2,4'-DDT
4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
Total chlordane
Dieldrin
Heptachlor
Heptachlor epoxide

Phthalates:
Bis(2-ethylhexyl)phthalate (BEHP)

Metals (total metals):
Arsenic
Cadmium
Copper
Lead
Manganese
Silver
Zinc

Other SVOCs:
Pentachlorophenol

Notes:

(1) This list includes all detected analytes for which any City outfall basin geometric mean concentration exceeded the JSCS SLV. The analytes identified above are listed regardless of the magnitude by which the geometric mean exceeds the conservative JSCS SLV. Exceedance of an SLV does not necessarily indicate an unacceptable risk to human or ecological receptors (DEQ/EPA, 2005). DEQ and EPA recognize the conservative nature (i.e., low concentrations) of the SLVs in the JSCS (DEQ and EPA, 2005, Table 3-1 revised July 2007) and that some SLVs are less than laboratory practical quantification limits (PQLs) using standard methods.

(2) Analytes shown in italics were analyzed and/or detected in a limited number of outfall basins (one to three basins); therefore, adequate data are not available to perform a meaningful statistical evaluation. These analytes are further evaluated in Section 5 for those basins in which these analytes were detected.

(3) The JSCS does not include an SLV for total PAHs; however, because individual PAH compounds do not typically occur alone, total PAHs were carried forward as an analyte for the harborwide statistical analysis.

Table 4-2. Source Tracing Categories[1] for Selected Stormwater Analytes [2] in City Outfall Basins.

City Outfall Basin	PCB Congeners	Polycyclic Aromatic Hydrocarbons (PAHs)														Phthalates	Metals (Total)					
	Total PCBs	Acenaphthene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Bis(2-ethylhexyl)phthalate (BEHP)	Arsenic	Cadmium	Copper	Lead	Silver	Zinc
OF 16 LW3	2	1	1	1	1	1	1	1	1	1	1	1	2	1	2	NA [3]	1	2	2	2	1	1
OF 18 LW3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	2
OF 19 LW3+MS4	2	1	1	2	1	1	2	2	2	1	1	1	1	1	1	2	1	2	1	2	1	2
OF 22 LW3	1	1	1	1	1	1	1	2	1	2	1	1	2	2	2	NA	2	2	1	1	1	2
OF 22B LW3	2	1	1	1	1	1	1	1	1	2	1	2	2	1	2	NA	2	3	2	2	2	2
OF 22C City	1	3	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
OF 22C Tualatin Hills LW3 [4]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF 22D City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF 45 City	1	1	1	1	1	1	2	2	2	2	1	1	2	1	2	2	1	2	2	2	1	2
OF 46 City	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	1	2	2	2	1	2
OF 47 City	1	1	1	2	1	2	2	2	1	2	1	1	2	2	2	2	1	2	1	2	1	1
OF 48 City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF 49 LW3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF 50 City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF 52 City	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
OF 52A City	1	1	1	1	1	1	1	2	1	2	1	1	2	2	2	1	1	1	1	1	1	1
OF 52C Basin T Port	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1
OF 53 City+Port	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	1
OF 53A City	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	1	2	1	2
OF M-1 City [4]	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2
OF M-1 LW3 [4]	1	1	1	1	2	2	2	2	1	2	2	1	1	2	2	NA	1	2	1	1	1	1
OF M-2 City [4]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1
OF M-2 LW3 [4]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
OF M-3 City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
OF S-1 City	1	2	2	2	2	2	2	2	2	3	2	1	2	2	3	1	1	2	2	1	1	2
OF S-2 City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
OF S-5 City	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
OF S-6 City	1	1	1	1	1	1	2	2	1	2	1	1	1	1	2	1	1	1	2	1	1	2

Notes:

[1] Source tracing category divisions determined by statistical analysis of Portland Harbor stormwater data (including non-City basins). The statistical analysis is described in Section 4 and in Appendix C.

1	Stormwater analyte concentrations are lower relative to stormwater concentrations harborwide and least likely to have significant unidentified sources.
2	Stormwater analyte concentrations represent a range of moderate concentrations relative to the total harborwide range of stormwater concentrations and may or may not have significant unidentified sources.
3	Stormwater analyte concentrations are higher relative to harborwide concentrations and are the most likely to have significant unidentified sources.

[2] The process for selecting analytes for statistical evaluation is described in Section 4.2 and Appendix C.

[3] NA indicates outfall was not sampled for selected analyte.

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream.

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites discharging to the City's shared conveyance system to limit the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system.

Table 4-3. Assessment of Stormwater Analytes Identified in City Outfall Basins.

City Outfall Basin	Preliminary List of Analytes for Further Source Tracing Evaluation [1]	Source Tracing Category [2]	Additional Considerations / Analysis Outcome	Final List of Analytes for Further Source Tracing Evaluation in Basin Assessment [3]
OF 16	Total PCBs	2	Carried forward to basin assessment.	Total PCBs *Copper*
	PAHs:			
	Phenanthrene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentration for individual PAH compounds are less than SLVs; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
OF 18	Total PCBs	2	Carried forward to basin assessment.	Total PCBs *Copper*
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF 19	Total PCBs	2	Carried forward to basin assessment.	Total PCBs 4,4-DDD Aldrin Heptachlor Total chlordane
	PAHs:			
	Benzo(a)pyrene	2	Basin geomean is less than 10x the SLV. Basin geomean for total PAHs is Category 1. Not carried forward to basin assessment.	
	Benzo(k)fluoranthene	2	Basin geomean is less than 10x the SLV. Basin geomean for total PAHs is Category 1. Not carried forward to basin assessment.	
	Chrysene	2	Basin geomean is less than 10x the SLV. Basin geomean for total PAHs is Category 1. Not carried forward to basin assessment.	
	Dibenzo(a,h)anthracene	2	Basin geomean is less than 10x the SLV. Basin geomean for total PAHs is Category 1. Not carried forward to basin assessment.	
	Pesticides:			
	4,4'-DDD	N/A [6]	Exceedance based on only one sample result, which is an estimated value and is less than Tap Water PRGs. However, carried forward based on potentially significant detections of other pesticides.	
	Aldrin	N/A [6]	Exceedance based on only one sample result, which is an estimated value and is less than Tap Water PRGs. However, carried forward based on potentially significant detections of other pesticides.	
	Heptachlor	N/A [6]	Exceedance based on only one sample result, which is less than Tap Water PRGs. However, carried forward based on potentially significant detections of other pesticides.	
	Total chlordane	N/A [6]	Exceedance based on only one sample result, which is less than Tap Water PRGs. However, carried forward based on potentially significant detections of other pesticides.	
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF 22	PAHs:			Arsenic
	Chrysene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Fluoranthene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Phenanthrene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Pyrene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin	
	Metals (total):			
	Arsenic	2	Carried forward to basin assessment.	
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF 22B	Total PCBs	2	Carried forward to basin assessment.	Total PCBs 2,4'-DDE 2,4'-DDT 4,4'-DDD 4,4'-DDE Aldrin Dieldrin Heptachlor Heptachlor epoxide Total chlordane Arsenic Cadmium *Copper*
	PAHs:			
	Fluoranthene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Naphthalene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Phenanthrene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin	
	Pesticides:			
	2,4'-DDE	N/A [6]	Carried forward to basin assessment.	
	2,4'-DDT	N/A [6]	Carried forward to basin assessment.	
	4,4'-DDD	N/A [6]	Carried forward to basin assessment.	
	4,4'-DDE	N/A [6]	Carried forward to basin assessment.	
	Aldrin	N/A [6]	Carried forward to basin assessment.	
	Dieldrin	N/A [6]	Carried forward to basin assessment.	
	Heptachlor	N/A [6]	Carried forward to basin assessment.	
	Heptachlor epoxide	N/A [6]	Carried forward to basin assessment.	
	Total chlordane	N/A [6]	Carried forward to basin assessment.	
	Metals (total):			
	Arsenic	2	Carried forward to basin assessment.	
	Cadmium	3	Carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Silver	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF 22C	PAHs:			(None)
	Acenaphthene	3	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compound is less than 10x SLVs; not carried forward to basin	
OF 22D	(None)	N/A	N/A	(None)
OF 45	PAHs:			*Copper*
	Benzo(k)fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Chrysene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Dibenzo(a,h)anthracene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Phenanthrene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin	
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	

Table 4-3. Assessment of Stormwater Analytes Identified in City Outfall Basins.

City Outfall Basin	Preliminary List of Analytes for Further Source Tracing Evaluation [1]	Source Tracing Category [2]	Additional Considerations / Analysis Outcome	Final List of Analytes for Further Source Tracing Evaluation in Basin Assessment [3]
OF 46	PAHs:			Total PAHs *Copper*
	Benzo(a)anthracene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Benzo(a)pyrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Benzo(b)fluoranthene	2	Carried forward to basin assessment under total PAHs.	
	Benzo(g,h,i)perylene	2	Basin geomean does not exceed the SLV; however, carried forward to basin assessment under total PAHs.	
	Benzo(k)fluoranthene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Chrysene	2	Carried forward to basin assessment under total PAHs.	
	Dibenzo(a,h)anthracene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Fluoranthene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Indeno(1,2,3-cd)pyrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Phenanthrene	2	Basin geomean does not exceed the SLV; however, carried forward to basin assessment under total PAHs.	
	Pyrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	(Total PAHs) [4]	2	Carried forward to basin assessment.	
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF 47	PAHs:			(None)
	Benzo(a)pyrene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Benzo(g,h,i)perylene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Benzo(k)fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Chrysene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Phenanthrene		Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Pyrene		Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin assessment.	
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
OF 48	(None)	N/A	N/A	(None)
OF 49	(None)	N/A	N/A	(None)
OF 50	(None)	N/A	N/A	(None)
OF 52	Total PCBs	2	Carried forward to basin assessment.	Total PCBs *Copper*
	Metals (total):			
	Copper	2	Carried forward to basin assessment.	
OF 52A	PAHs:			(None)
	Chrysene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Phenanthrene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Pyrene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin assessment.	
	Other SVOCs:			
	Pentachlorophenol	N/A [7]	Contaminant was detected in only one sample from this basin, at a concentration less than 10x the SLV. Not carried forward to basin assessment.	
OF 52C	Total PCBs	2	Carried forward to basin assessment.	Total PCBs
	Pesticides:			
	2,4'-DDD	N/A [6]	Exceedance based on one detection, at an estimated concentration less than 10x the SLV and significantly less than Tap Water PRGs (slightly exceeds SLV for ecological receptors). Analyte generally not detected in samples from this basin. Not carried forward to basin assessment.	
	2,4'-DDT	N/A [6]	Exceedance based on one detection, at an estimated concentration less than 10x the SLV and significantly less than Tap Water PRGs (slightly exceeds SLV for ecological receptors). Analyte generally not detected in stormwater samples from this basin. Not carried forward to basin assessment.	
	4,4'-DDT	N/A [6]	Exceedance based on one detection, at an estimated concentration significantly less than Tap Water PRGs (slightly exceeds SLV for ecological receptors). Contaminant generally not detected in stormwater samples from this basin. Not carried forward to basin assessment.	
	Total chlordane	N/A [6]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
OF 53	Total PCBs	2	Carried forward to basin assessment.	Total PCBs Heptachlor epoxide
	PAHs:			
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than SLVs; not carried forward to basin assessment.	
	Pesticides:			
	4,4'-DDE	N/A [6]	Exceedance based on one sample result, which is a concentration less than 10x the SLV and significantly less than Tap Water PRGs. Analyte generally not detected in stormwater samples from this basin. Not carried forward to basin assessment.	
	Heptachlor	N/A [6]	Exceedance based on one sample result, which is a concentration significantly less than Tap Water PRGs. Analyte generally not detected in stormwater samples from this basin. Not carried forward to basin assessment.	
	Heptachlor epoxide	N/A [6]	Carried forward to basin assessment.	
	Total chlordane	N/A [6]	Exceedance based on one sample result, which is a concentration less than 10x the SLV and significantly less than Tap Water PRGs. Analyte generally not detected in stormwater samples from this basin. Not carried forward to basin assessment.	
	BEHP	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Metals (total):			
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
OF 53A	Total PCBs	2	Carried forward to basin assessment.	Total PCBs Arsenic *Zinc*
	PAHs:			
	Acenaphthene	2	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than SLVs; not carried forward to basin assessment.	
	Metals (total):			
	Arsenic	2	Carried forward to basin assessment.	
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Lead	2	Basin geomean is less than 10% of NPDES 1200Z benchmark concentration; not carried forward to basin assessment.	
	Zinc	2	Carried forward to basin assessment.	

Table 4-3. Assessment of Stormwater Analytes Identified in City Outfall Basins.

City Outfall Basin	Preliminary List of Analytes for Further Source Tracing Evaluation [1]	Source Tracing Category [2]	Additional Considerations / Analysis Outcome	Final List of Analytes for Further Source Tracing Evaluation in Basin Assessment [3]
OF M-1	Total PCBs	2	Carried forward to basin assessment.	Total PCBs
	PAHs:			
	Benzo(b)fluoranthene	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Benzo(g,h,i)perylene	2 [9]	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Benzo(k)fluoranthene [8]	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Chrysene	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Dibenzo(a,h)anthracene	2 [9]	Basin geomean does not exceed the SLV; not carried forward to basin assessment.	
	Fluoranthene	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Indeno(1,2,3-cd)pyrene [8]	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Pyrene [8]	2 [9]	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2 [9]	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF M-2	Metals (total):			(None)
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Silver	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
OF M-3	(None)	N/A	N/A	(None)
OF S-1	PAHs:			Total PAHs *Copper*
	Acenaphthene	2	Basin geomean does not exceed the SLV; however, carried forward to basin assessment under total PAHs.	
	Benzo(a)anthracene	2	Carried forward to basin assessment under total PAHs.	
	Benzo(a)pyrene	2	Carried forward to basin assessment under total PAHs.	
	Benzo(b)fluoranthene	2	Carried forward to basin assessment under total PAHs.	
	Benzo(g,h,i)perylene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Benzo(k)fluoranthene	2	Carried forward to basin assessment under total PAHs.	
	Chrysene	2	Carried forward to basin assessment under total PAHs.	
	Dibenzo(a,h)anthracene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Fluoranthene	3	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Indeno(1,2,3-cd)pyrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Phenanthrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	Pyrene	2	Basin geomean is less than 10x the SLV; however, carried forward to basin assessment under total PAHs.	
	(Total PAHs) [4]	3	Carried forward to basin assessment.	
	Metals (total):			
	Cadmium	2	Basin geomean is less than DEQ suggested default background concentration for surface water.[5] Not carried forward to basin assessment.	
	Copper	2	Carried forward to basin assessment.	
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF S-2	Metals (total):			(None)
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF S-5	Metals (total):			(None)
	Zinc	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
OF S-6	PAHs:			*Copper* *Zinc*
	Benzo(k)fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Chrysene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	Fluoranthene	2	Basin geomean is less than 10x the SLV; not carried forward to basin assessment.	
	(Total PAHs) [4]	2	Basin geomean concentrations for individual PAH compounds are less than 10x SLVs; not carried forward to basin	
	Metals (total):			
	Copper	2	Carried forward to basin assessment.	
	Zinc	2	Carried forward to basin assessment.	

Notes:

N/A = not applicable

SLV = screening level value established in the Joint Source Control Strategy (JSCS) (DEQ/EPQ, 2005)

[1] Preliminary list consists of analytes for which the analyte was detected and the basin geometric mean ("geomean") concentration was ranked into source tracing Category 2 or 3 (see Table 4-2), unless otherwise noted.

[2] Source tracing category divisions determined by statistical analysis of Portland Harbor stormwater data (including non-City basins). The statistical analysis is described in Section 4 and in Appendix C.

[3] Basin assessment (presented in Section 5) evaluates further source tracing needs for identified analytes. Discharges of analytes shown in italics are regulated under the NPDES 1200Z industrial stormwater permit program.

[4] A JSCS SLV has not been established for total PAHs. PAH compounds typically have common sources, and therefore individual PAH compounds do not typically occur alone. For this reason, only total PAHs (not individual PAH compounds) are carried forward for the purposes of the basin assessments and potential future source tracing activities.

[5] Oregon Department of Environmental Quality (DEQ), 2002. Default background concentrations for metals. Internal DEQ memorandum, to DEQ Cleanup Project Managers, from: Toxicology Workgroup. Dated October 28, 2002.

[6] Pesticides were identified for evaluation if the basin geomean exceeded the JSCS SLV (in the case of Basin 19, only one sample was tested for pesticides, so any pesticide SLV exceedances in this Basin 19 sample were identified for evaluation; see data tables for FY 2008-09 in Appendix B). The number of basins in which pesticides analyses were conducted is too small to support a robust statistical analysis.

[7] Pentachlorophenol was detected in only 1 of 4 samples from this basin and not detected in other City outfall basins.

[8] Basin geomean for this analyte exceeds the JSCS SLV at the LWG sample location but not the City sample location.

[9] This PAH was ranked into Category 2 only for the LWG sample location; the ranking was Category 1 for the City sample location in this basin.

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites discharging to the City's shared conveyance system to limit the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system.

Table 5-1. Summary of Upland Site and Source Investigation Information in City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	Information on Potential Upland Sources (DEQ Cleanup Sites and NPDES 1200Z Permit Sites)						City Stormwater Conveyance System Source Investigations	Stormwater Analytes Likely Accounted for by Identified Potential Sources? [5]
		Potential Upland Sources	DEQ Cleanup (ECSI) Site	NPDES 1200Z Permitted Site [2]	Site Contaminants of Interest [3]	DEQ Cleanup Program Status [4]	Site Stormwater Pathway Evaluated Under DEQ Oversight?		
OF 16	Total PCBs *Copper*	Calbag Metals Co. (Nicolai) (ECSI #5059)	X	X	Copper, lead, zinc, silver, chromium, nickel, cadmium, PCBs, BEHP, TPH	Active	In process	• 2005 Inline solids and dry-weather flow • 2007 Inline solids • 2008 Inline sediment traps	TBD
		ESCO Corporation (Plant #3)		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		Guilds Lake (ECSI #404)	X		(Site not listed in Table 4.4-4 of Draft RI Report)	NFA, SCD issued	Yes		
		Front Avenue MP (ECSI #4008)	X		(Site not listed in Table 4.4-4 of Draft RI Report)	NFA issued	No		
		Lincoln & Allen Co.		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		McCracken Motor Freight Inc.		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		Nudelman & Son Inc. (ECSI #966)	X		(Site not listed in Table 4.4-4 of Draft RI Report)	Pending	No		
		Peninsula Truck Lines		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
OF 18	Total PCBs *Copper*	ANRFS / ABF Freight Systems / ANRFS Holdings Inc. (ECSI #1820)	X	X	Arsenic, chromium, copper, zinc, PCBs, PAHs, BEHP	Inactive	No	• 2003 Inline solids • 2004 Inline solids • 2007 Inline sediment traps • 2008/2009 Inline sediment traps and inline solids	TBD
		Ashland Chemical / Hill Investment (ECSI #1076)	X		Arsenic, chromium, copper, zinc, PCBs, PAHs, BEHP	Inactive	No		
		BNSF/PTRR Guilds Lake Railyard (ECSI #100) / Pacific Rail Services	X	X	Antimony, arsenic, cadmium, chromium, copper, mercury, selenium, zinc, PAHs, PCBs, phenols, TPH, VOCs, sodium cyanide, ethylene glycol, creosote constituents	Active	In process		
		Carson Oil (ECSI #1405)	X	X	VOCs, PAHs, TPH, arsenic, chromium, copper, zinc, PCBs, BEHP	Inactive	No		
		Christenson Oil (ECSI #2426)	X	X	Cadmium, copper, lead, mercury, zinc, PAHs, VOCs, TPH	Active	In process		
		Columbia American Plating (ECSI #29)	X		Lead, PCBs, VOCs, SVOCs	Active	In process		
		Container Management Services (ECSI #4784)	X	X	PCBs, lead, mercury, zinc, PAHs, PCBs, TPH	Active	In process		
		Container Recovery Inc. (ECSI #4015)	X	X	Cadmium, lead, zinc, PAHs, PCBs, phthalates	Inactive	No		
		Gunderson LLC (ECSI #1155)	X	X	TPH, butyltins, PCBs, phthalates, arsenic, copper, chromium, zinc	Active	In process		
		Magnus / Wilhelm Trucking (ECSI #69)	X	X	Lead	Active	In process		
		McWhorter Inc. (ECSI #135)	X		VOCs, SVOCs, PAHs, TPH, phthalates	Active	In process		
		MRP Environmental		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		Schnitzer Investment (ECSI #2424)	X		VOCs, SVOCs, metals	Inactive	No		
		Shell/Texaco Terminal (ECSI #169)	X	X	PAHs, VOCs, TPH	Active	In process		
		Texaco/Equilon Pipeline (ECSI #2117)	X		PAHs, VOCs, TPH	Inactive	N/A		
		Owens Corning / Trumbull Asphalt (ECSI #1160)	X	X	PAHs, PCBs, phthalates, arsenic, chromium, copper, zinc	Inactive	No		
		Univar (Van Waters & Rogers) (ECSI #330)	X		Lead, pesticides, TPH, VOCs	Active (under EPA oversight)	In process		
OF 19	Total PCBs 4,4-DDD Aldrin Heptachlor Total chlordane	Anderson Brothers (ECSI #970)	X		VOCs, PAHs, TPH, metals	NFA and SCD issued	Yes	• 2003 Inline solids • 2006 Inline solids • 2007 Inline sediment traps and inline solids • 2008 Inline sediment traps	TBD
		Brazil & Co (ECSI #1026)	X		PCBs	Inactive	No		
		Calbag Metals (ECSI #2454)	X		Cadmium, lead, mercury, zinc, PCBs, phthalates	NFA, SCD issued	Yes		
		Chapel Steel (ECSI #4920)	X		Aluminum, antimony, lead, nickel, zinc, PAHs, PCBs, BEHP	Inactive	No		
		Dura Industries (ECSI #111)	X		Cadmium, chromium, lead	Inactive	No		
		Front Avenue LP (Tube Forgings) (ECSI #1239)	X	X	Metals [arsenic, chromium, copper, zinc],[6] PAHs, PCBs, VOCs, SVOCs, phthalates, TPH	Active	In process		
		Greenway Recycling (ECSI #4655)	X	X	VOCs, TPH, PCBs, arsenic, chromium, copper, zinc	NFA issued	Yes		
		Mt. Hood Chemical Corp (ECSI #81)	X		Methylene chloride (VOCs)	Active	In process		
		Mt. Hood Chemical Property (ECSI #1328)	X		VOCs	NFA issued	No		
		Paramount Petroleum (Chevron Asphalt) (ECSI #1281)	X	X	VOCs, PAHs, TPH, metals [arsenic, chromium, copper, zinc][6]	SCD pending	In process		
		Penske Truck Leasing (ECSI #5055)	X		TPH, PAHs, VOCs, SVOCs, metals	NFA issued	Yes		
		PGE – Forest Park (ECSI #2406)	X		PCBs	NFA issued	Yes		
		Schnitzer Kittridge (ECSI #2442)	X		Cadmium, lead, mercury, zinc, PCBs, VOCs, TPH	NFA issued	No		
		Western Wire Works		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		Willbridge Terminal - Unocal/Conoco/Phillips (ECSI #1549/177) [7]	X	X	Metals [arsenic, chromium, copper, zinc],[6] PAHs, pesticides/herbicides, phthalates, VOCs, TPH	Active	In process		
		Willbridge Rail Yard / BNSF (ECSI #3395)	X		TPH	Active	In process		
OF 22	Arsenic	McCall Oil (ECSI #134) / Brenntag Pacific	X	X	PAHs, PCBs, butyltins, VOCs, SVOC, BEHP, TPH, arsenic, chromium, copper, lead, zinc	Active	In process	• 2006 Inline solids	Yes
		Paramount Petroleum (Chevron Asphalt) (ECSI #1281)	X	X	VOCs, PAHs, TPH, metals [arsenic, chromium, copper, zinc][6]	Active	In process		
		Willbridge Terminal - Unocal/Conoco/Phillips (ECSI #1549/177) [7]	X	X	Metals [arsenic, chromium, copper, zinc],[6] PAHs, pesticides/herbicides, phthalates, VOCs, TPH	Active	In process		
		Willbridge Chevron (#1549 / 25) [7]	X	X	Metals [arsenic, chromium, copper, zinc],[6] PAHs, pesticides/herbicides, phthalates, VOCs, TPH	Active	In process		
		Willbridge Rail Yard / BNSF (ECSI #3395)	X		TPH	Active	In process		
OF 22B	Total PCBs 2,4'-DDE 2,4'-DDT 4,4'-DDD 4,4'-DDE Aldrin Dieldrin Heptachlor Heptachlor epoxide Total chlordane Arsenic Cadmium *Copper*	Arkema (ECSI #398)	X		DDx	Active	In process	• 2003/2004 Inline solids • 2005 Inline solids and dry-weather flow • 2008 Inline sediment traps	Yes
		Gould Inc. (ECSI #49)	X		Arsenic [copper],[6] lead, zinc, PAHs, PCBs, pesticides/herbicides, VOCs	ROD issued (long-term monitoring)	Yes		
		Metro Central Transfer Station (ECSI #1398)	X	X	Heavy metals, pesticides	Pending	No		
		Rhone Poulenc (RPAC) - East Doane Lake / Doane Creek (ECSI #155)	X		*Historic discharges from Doane Lake*: VOCs, pesticides/herbicides, PCBs, metals [arsenic, chromium, zinc],[6] dioxin/furans, phthalates. *Current groundwater infiltration into OF 22B*: SVOCs, pesticides/herbicides, arsenic, lead, phthalates, dioxin/furans.	Active	In process		
		Schnitzer Investment / Air Liquide (ECSI #395)	X	X	Arsenic, PCBs, VOCs	Active	In process		

Table 5-1. Summary of Upland Site and Source Investigation Information in City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	Information on Potential Upland Sources (DEQ Cleanup Sites and NPDES 1200Z Permit Sites)						City Stormwater Conveyance System Source Investigations	Stormwater Analytes Likely Accounted for by Identified Potential Sources? [5]
		Potential Upland Sources	DEQ Cleanup (ECSI) Site	NPDES 1200Z Permitted Site [2]	Site Contaminants of Interest [3]	DEQ Cleanup Program Status [4]	Site Stormwater Pathway Evaluated Under DEQ Oversight?		
OF 22C	None	Koppers (ECSI #1348)	X		VOCs, SVOCs, PAHs, TPH, metals [arsenic, chromium, copper, zinc][6]	Active	In process	• 2003/04 Inline solids • 2006 Inline solids • 2007 Stormwater	Yes
		Gasco (ECSI #84)	X		*Groundwater infiltration:* PAHs, cyanide	Active	In process		
		Siltronic (ECSI #183)	X	X	VOCs, SVOCs, PAHs, TPH, metals [arsenic, copper, zinc][6]	Active	In process		
		Rhone Poulenc (RPAC) - East Doane Lake (ECSI #155)	X		(Site not listed as a source for this basin in Table 4.4-4 of Draft RI Report)	Active	In process		
		Santa Fe Pacific Pipeline Co (ECSI #2104)	X		None	Inactive	No		
		St Helens Road Petroleum (ECSI #2630)	X		VOCs, PAHs, TPH	Inactive	No		
		V & K Services (ECSI #2423)	X		VOCs, TPH	Inactive	No		
OF 22D	None	None	N/A	N/A	N/A	N/A	N/A	None	N/A
OF 45	*Copper*	UPRR Albina Rail Yard (ECSI #178)	X	X	Arsenic, chromium, [copper][6], lead, zinc, PAHs, PCBs, phthalates, SVOCs, TPH	Active	In process	• 2007 Inline solids	TBD
OF 46	Total PAHs *Copper*	Industrial Battery (ECSI #935)	X		Metals	NFA issued	No	• 2005 Inline solids	TBD
		UPRR Albina Rail Yard (ECSI #178)	X	X	Arsenic, chromium, [copper][6], lead, zinc, PAHs, PCBs, phthalates, SVOCs, TPH	Active	In process		
OF 47	None	Federal Express		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A	• 2006 Inline solids	N/A
OF 48	None	None	N/A	N/A	N/A	N/A	N/A	• 2006 Inline solids	N/A
OF 49	None	None	N/A	N/A	N/A	N/A	N/A	• 2005 Inline solids	N/A
OF 50	None	Crawford Street Corp. (ECSI #2363)	X		VOCs, PAHs, TPH, PCBs, arsenic, chromium, copper, zinc	Active	In process	• 2007 Inline solids	N/A
		BES Water Pollution Control Laboratory (ECSI #2452)	X		None	Active	Yes		
OF 52	Total PCBs *Copper*	Crawford Street Corp. (ECSI #2363)	X		VOCs, PAHs, TPH, PCBs, arsenic, chromium, copper, zinc	Active	In process	• 2008 Inline solids	TBD
OF 52A	None	None	N/A	N/A	N/A	N/A	N/A	• 2005 Inline solids	N/A
OF 52C	Total PCBs	Borden Packaging and Industrial Products (ECSI #1277)	X		(Site not listed in Table 4.4-4 of Draft RI Report)	Inactive	No	None	No
OF 53	Total PCBs Heptachlor epoxide	None	N/A	N/A	N/A	N/A	N/A	None	No
OF 53A	Total PCBs Arsenic *Zinc*	Consolidated Metco (ECSI #3295)	X	(X) [8]	PAHs, TPH, PCBs, phthalates, zinc, copper	Active	In process	• 2005 Dry-weather flow and inline solids • 2007/2008 Inline sediment traps	TBD
		EVRAZ Oregon Steel Mills (ECSI #141)	X	X	Metals [arsenic, chromium, copper, zinc],[6] PAHs, PCBs, TPH	Active	In process		
		JR Simplot (ECSI #3343)	X	X	TPH	Inactive	No		
		S. Rivergate Industrial Park (ECSI #2980)	X		None	Inactive	No		
		Union Chemical Division (ECSI #329)	X		Anhydrous ammonia	NFA issued	No		
OF M-1	Total PCBs	Coho Distributing - Swan Island		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A	• 2003 Inline solids • 2007 Inline sediment traps • 2009 Inline solids	TBD
		Fred Devine Diving and Salvage (ECSI #2365)	X		Metals [arsenic, copper, zinc],[6] PAHs, SVOCs, TPH, phthalates	Active	In process		
		Freightliner TMP / Western Star Truck Manufacturing (ECSI #2366)	X	X	Metals [chromium, copper, zinc],[6] PAHs, PCBs	Active	In process		
		Maletis Beverage		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		Roadway Express / YRC Inc. (ECSI #3807)	X	X	TPH, nitric acid, methyl iodide	Pending	No		
		SIC Processing USA		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		United Parcel Service		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		US Navy and Marine Reserve Center (ECSI #5109)	X		TPH	Active	No		
OF M-2	None	Auto Truck Transport		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A	• 2005 Dry-weather flow	N/A
		Coho Distributing - Swan Island		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		GI Trucking Co.		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
		SAIA Motor Freight		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
OF M-3	None	Fred Meyer - Swan Island Dairy (ECSI #44)	X	X	PCBs	NFA issued	No	• 2005 Dry-weather flow	N/A
		Freightliner TMP II / Daimler Trucks (ECSI #115)	X	X	Metals [copper, zinc][6]	Active	In process		
		Rose City Moving & Storage Co.		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A		
OF S-1	Total PAHs *Copper*	Cascade General (aka Portland Shipyard) (ECSI #271) / Vigor Industrial	X	X	VOCs, PAHs, TPH, PCBs, metals [chromium, copper, zinc],[6] butyltins, phthalates	Active	In process	None	TBD

Table 5-1. Summary of Upland Site and Source Investigation Information in City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	Information on Potential Upland Sources (DEQ Cleanup Sites and NPDES 1200Z Permit Sites)						City Stormwater Conveyance System Source Investigations	Stormwater Analytes Likely Accounted for by Identified Potential Sources? [5]
		Potential Upland Sources	DEQ Cleanup (ECSI) Site	NPDES 1200Z Permitted Site [2]	Site Contaminants of Interest [3]	DEQ Cleanup Program Status [4]	Site Stormwater Pathway Evaluated Under DEQ Oversight?		
OF S-2	None	Automatic Vending (ECSI #1430)	X		TPH	Inactive	No	None	N/A
		Cascade General (aka Portland Shipyard) (ECSI #271)[9]	X		(Site not listed as a source for this basin in Table 4.4-4 of Draft RI Report) [11]	Active	In process		
		Crosby & Overton (ECSI #877)	X		PCBs	Inactive	No		
OF S-5	None	Environmental Fibers		X	(Site not listed in Table 4.4-4 of Draft RI Report)	N/A	N/A	• 2005 Inline solids	N/A
OF S-6	*Copper* *Zinc*	Cascade General (aka Portland Shipyard) (ECSI #271) / Vigor Industrial	X	X	VOCs, PAHs, TPH, PCBs, metals [chromium, copper, zinc],[6] butyltins, phthalates	Active	In process	• 2006 Inline solids	TBD

Notes:

N/A = not applicable.

[1] See Section 4 and Table 4-3 of this report. Identification of analytes for further evaluation is based on a statistical analyses conducted by the City to determine the significance of detected concentrations relative to other basins discharging to Portland Harbor. Analytes shown in italics are permitted under the NPDES 1200Z industrial stormwater permit program.

[2] Except as noted, reference for NPDES 1200Z permit holders is *BES Industrial Stormwater, Portland Harbor Permits – Sorted by Outfall, Report Date: 10/23/09* . NPDES 1200Z permits allow discharges of permitted analytes up to the designated benchmark concentrations. NPDES 1200Z permit analytes and benchmarks include copper (100 ug/L), lead (400 ug/L), and zinc (600 ug/L).

[3] Contaminants of interest (COI) for DEQ ECSI sites identified in Table 4.4-4 of the *Portland Harbor RI/FS Remedial investigation Report Draft* (Integral Consulting and others, 2009). The listing of "TPH" as a COI implies that PAHs are COIs because TPH consists of PAHs in addition to other compounds.

[4] NFA = No Further Action determination issued by DEQ. SCD = Source Control Decision by DEQ. Pending = site has agreed to work with DEQ under the cleanup program, but cleanup activities have not yet been initiated. N/A = not applicable because site is not an ECSI site (or no ECSI sites in basin).

[5] TBD = To be determined, pending results from ongoing site-specific stormwater source control evaluations being conducted under DEQ oversight, and/or the evaluation of recent City source tracing data (concurrent with or post 2007/2008 stormwater sampling events).

[6] Metals COIs for this site not listed individually [or this metal not listed] in Table 4.4-4, but selected metals COIs are identified in Panels 10.2-9A - 10.2-12C of the *Portland Harbor RI/FS Remedial investigation Report Draft* (Integral Consulting and others, 2009).

[7] ECSI #1549 encompasses a number of discrete DEQ Cleanup sites. The site COIs listed for these individual cleanup sites include the site COIs for the larger site (ECSI #1549).

[8] This site had an NPDES 1200Z permit for discharge to OF 53A at the time of the 2007-2008 City stormwater sampling; this permit has subsequently been terminated.

[9] The portion of this site designated as "Operational Unit 3" (OU3) discharges to Basin S-2. The COIs listed for ECSI #271 for Basins S-1 and S-6 are not necessarily representative of COIs for OU3. The COIs for OU3 will be refined during the course of the stormwater pathway evaluation currently underway (Ash Creek Associates/Newfields, 2008).

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites discharging to the City's shared conveyance system to limit the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system.

Table 5-2. Source Tracing Recommendations for City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	LWG / Port Sediment Trap Data [2]	Source Tracing Status by Analyte (including analytes elevated in sediment samples only)			Basin Assessment Conclusions	City Next Steps
			Analytes [3]	Further Source Tracing Needed?	Rationale		
OF 16	Total PCBs *Copper*	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* Phthalates (BEHP, dibutyl phthalate)	PCBs	TBD	One source identified (see Table 5-1); stormwater pathway evaluation is currently underway.	**Further source tracing not recommended at this time:** ● A stormwater pathway evaluation is currently underway at one upland site (see Table 5-1); results may indicate whether further source tracing is needed to identify other PCB, phthalate and/or copper source(s). ● The City has conducted extensive source investigations, including sediment trap sampling post-dating the 2007-2008 stormwater sampling (see Table 5-1). Evaluation of these data is currently underway and will be presented in a forthcoming technical memorandum. Solids data will be reviewed to evaluate if additional source tracing or site discovery activities are warranted.	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluation ● Evaluate 2008 City sediment trap data
			(Phthalates)	TBD	One source identified (see Table 5-1). Stormwater pathway evaluation is currently underway.		
			Copper	No	Multiple copper sources identified (see Table 5-1). Stormwater pathway evaluation currently underway at one location. Copper is permitted and geomean concentration at the outfall is less than 50% of the NPDES permit benchmark. [5]		
OF 18	Total PCBs *Copper*	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* Pesticides (DDD, DDE [1 of 5 samples], total chlordane and heptachlor [3 of 5 samples])	PCBs	TBD	Multiple sources identified (see Table 5-1); stormwater pathway evaluations are currently underway at several upland sites.	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluations are currently underway at several upland sites (see Table 5-1); results may indicate whether further source tracing is needed to identify PCB, pesticide, and/or copper source(s). ● The City has conducted extensive source investigations, including sediment trap and inline solids sampling post-dating the 2007-2008 stormwater sampling (see Table 5-1). Evaluation of these data is currently underway and will be presented in a forthcoming technical memorandum. Solids data will be reviewed to evaluate if additional source tracing or site discovery activities are warranted.	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations ● Evaluate 2007 - 2009 City sediment trap and inline solids data
			(Pesticides)	TBD	A source has been identified (see Table 5-1); a stormwater pathway evaluation is currently underway at this upland site and pesticides also are being screened at other sites in the basin.		
			Copper	No	Multiple sources identified (see Table 5-1). Stormwater pathway evaluations are currently underway. Copper is permitted and the geomean concentration at the outfall is less than 30% of the NPDES permit benchmark. [5]		
OF 19	Total PCBs 4,4-DDD Aldrin Heptachlor Total chlordane	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* N/A[4]	PCBs	TBD	Multiple sources identified (see Table 5-1). Stormwater pathway evaluations are currently underway or under consideration.	**Further City source tracing not recommended at this time:** ● Stormwater pathway evaluations are currently underway at several upland sites (see Table 5-1); results may indicate whether further source tracing is needed to identify PCB and/or pesticide source(s). ● The City has conducted extensive source investigations (see Table 5-1) and major sources likely have been identified. Evaluation of City inline solids data will be included in the forthcoming Basin 19 Source Investigation Update Report. Solids data will be reviewed to evaluate if additional source tracing or site discovery activities are warranted.	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations ● Collect additional pesticide data in stormwater ● Evaluate stormwater solids data set
			Pesticides	TBD	Pesticide data are limited and identification for further source tracing evaluation is based on one sample. Pesticides were detected in catch basin solids and stormwater samples at the Anderson Brothers site* (ECSI 970) in 2006/2007 and stormwater at the Chevron Asphalt site** (ESCI 1281) in 2009.		
OF 22	Arsenic	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* N/A[4]	Arsenic	No	Multiple sources are identified and are conducting stormwater pathway evaluations (see Table 5-1). Basin geomean concentration is less than 2x background.	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluations are currently underway at several upland sites (see Table 5-1); results may indicate whether further source tracing is warranted to identify arsenic source(s). ● The entire basin area is comprised of upland sites in DEQ Cleanup Program that are undergoing stormwater pathway evaluations.	● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations

Table 5-2. Source Tracing Recommendations for City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	LWG / Port Sediment Trap Data [2]	Source Tracing Status by Analyte (including analytes elevated in sediment samples only)			Basin Assessment Conclusions	City Next Steps
			Analytes [3]	Further Source Tracing Needed?	Rationale		
OF 22B	Total PCBs 2,4'-DDE 2,4'-DDT 4,4'-DDD 4,4'-DDE Aldrin Dieldrin Heptachlor Heptachlor epoxide Total chlordane Arsenic Cadmium *Copper*	*Additional analytes exceeding JSCS Toxicity SLVs for solids* : BEHP	PCBs	TBD	Multiple sources identified (see Table 5-1); stormwater pathway evaluations are currently underway or under consideration at several upland sites.	**Further source tracing not recommended at this time:** ● The entire basin area is comprised of upland sites in DEQ Cleanup Program that are undergoing stormwater pathway evaluations. ● Stormwater pathway evaluations are currently underway at several upland sites (see Table 5-1). ● The City has conducted extensive source investigations, and major sources likely have been identified (see Table 5-1). ● Extensive source control measures are currently being implemented, including an interim remedial action measure to address infiltration of contaminated groundwater into the stormwater conveyance system; post-source-control-implementation monitoring data may indicate whether further source tracing is needed.	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations
			Pesticides	TBD	Multiple sources identified (see Table 5-1); stormwater pathway evaluations are currently underway or under consideration at several upland sites.		
			(BEHP)	TBD	One source identified (see Table 5-1). Stormwater pathway evaluation is currently underway at this site and others are under consideration.		
			Metals	TBD	Multiple sources identified (see Table 5-1). Stormwater pathway evaluations are currently underway or under consideration. Copper is permitted, and basin geomean concentration at the outfall is less than 35% of the NPDES permit benchmark.[5] The basin geomean concentration for arsenic is lesss than 2x the background concentration.		
OF 22C	None	*Additional analytes exceeding JSCS Toxicity SLVs for solids* : None	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Stormwater pathway evaluations are currently underway at several upland sites (see Table 5-1). ● The single analyte ranked as source tracing Category 3 (acenaphthene) has known upland sources (see Table 5-1).	None
OF 22D	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Basin unlikely to include significant sources (see Table 5-1).	None
OF 45	*Copper*	LWG/Port sediment trap sample not collected	*Copper*	No	One potential copper source identified (see Table 5-1); stormwater pathway evaluation is currently underway. Basin geomean concentration at the outfall is less than 30% of the NPDES permit benchmark.[5]	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Stormwater pathway evaluation is currently underway at the identified upland site (see Table 5-1); City requested additional characterization of discharges to Basin 45. ● City Illicit Discharge Elimination Program identified one site with copper in process water discharged to the stormwater system and required site to reroute process water to the sanitary sewer system.	None
OF 46	Total PAHs *Copper*	LWG/Port sediment trap sample not collected	PAHs	TBD	One source identified (see Table 5-1). Stormwater pathway evaluation is currently underway.	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluation is currently underway at one upland site (see Table 5-1); results may indicate whether further source tracing is warranted to identify PAH and/or copper source(s). ● City source investigation did not identify significant sources. ● Basin stormwater is slated for diversion to wastewater treatment plant in 2011.	● Review findings of upland stormwater pathway evaluation, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluation
			Copper	No	One source identified (see Table 5-1); stormwater pathway evaluation is currently underway. Copper is permitted and the basin geomean concentration is less than 40% of the NPDES permit benchmark.[5]		
OF 47	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● City inline solids investigation did not indicate the presence of significant unidentified sources.	None

Table 5-2. Source Tracing Recommendations for City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	LWG / Port Sediment Trap Data [2]	Source Tracing Status by Analyte (including analytes elevated in sediment samples only)			Basin Assessment Conclusions	City Next Steps
			Analytes [3]	Further Source Tracing Needed?	Rationale		
OF 48	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Basin unlikely to include significant sources (see Table 5-1). ● Basin has stormwater treatment in place. ● City inline solids source investigation indicated analyte concentrations in untreated solids were lower than JSCS Toxicity SLVs.	None
OF 49	None	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* None	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples and generally low in sediment trap solids. ● Basin unlikely to include significant sources (see Table 5-1). ● Basin has stormwater treatment in place.	None
OF 50	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Analyte concentrations were below JSCS Toxicity SLVs in 2007 City inline solids sample representing the majority of basin discharges. ● Stormwater pathway evaluations have been completed or are underway at both identified upland sites (see Table 5-1). ● Basin has stormwater treatment in place.	None
OF 52	Total PCBs *Copper*	LWG/Port sediment trap sample not collected	PCBs	TBD	One source has been identified, and a stormwater pathway evaluation is underway at this upland site (see Table 5-1).	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluation is underway at one upland site; results may indicate whether further source tracing is warranted to identify PCB and/or metals source(s). ● The City conducted source investigations in this basin in 2008. Evaluation of these data is currently underway and will be presented in a forthcoming technical memorandum. Solids data will be reviewed to evaluate if additional source tracing or site discovery activities are warranted. ● BES Industiral Stormwater providing technical assistance at two sites in the basin that are potential metals sources.	● Review findings of upland stormwater pathway evaluation, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluation ● Evaluate 2008 City inline solids data
			Copper	No	One source has been identified, and a stormwater pathway evaluation is underway at this upland site (see Table 5-1). Copper is permitted and basin geomean concentration is less than 35% of the NPDES benchmark.		
OF 52A	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Basin unlikely to include significant sources (see Table 5-1).	None
OF 52C	Total PCBs	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* None / N/A[4]	PCBs	Yes	No sources have been identified (see Table 5-1).	**Further source tracing may be needed:** ● Source(s) of PCBs have not been identified (see Table 5-1).	● Coordinate with DEQ on next steps for possible source tracing
OF 53	Total PCBs Heptachlor epoxide	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* None / N/A[4]	PCBs	Yes	No sources have been identified (see Table 5-1).	**Further source tracing may be needed:** ● Source(s) of PCBs and pesticides have not been identified (see Table 5-1).	● Coordinate with DEQ on next steps for possible source tracing
			Pesticides	Yes	No sources have been identified (see Table 5-1).		

Table 5-2. Source Tracing Recommendations for City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	LWG / Port Sediment Trap Data [2]	Source Tracing Status by Analyte (including analytes elevated in sediment samples only)			Basin Assessment Conclusions	City Next Steps
			Analytes [3]	Further Source Tracing Needed?	Rationale		
OF 53A	Total PCBs Arsenic *Zinc*	LWG/Port sediment trap sample not collected	PCBs	TBD	Multiple sources identified; stormwater pathway evaluations are currently underway at these upland sites (see Table 5-1).	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluations are currently underway at two upland sites (see Table 5-1); results may indicate whether further source tracing is warranted to identify PCB and/or metals source(s). ● The City has conducted source investigations, including sediment trap and inline solids sampling post-dating the 2007-2008 stormwater sampling (see Table 5-1). Evaluation of these data is currently underway and will be presented in a forthcoming technical memorandum. Solids data will be reviewed to evaluate if additional source tracing or site discovery activities are warranted.	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations ● Evaluate 2007/2008 City sediment trap data
			Metals	No	Multiple sources identified; stormwater pathway evaluations are underway at these upland sites (see Table 5-1). Basin geomean concentration for arsenic is approximately 2x background. Zinc is permitted and the basin geomean concentration is less than the NPDES benchmark.		
OF M-1	Total PCBs	*Additional analytes exceeding JSCS Toxicity SLVs for solids*: N/A[4]	PCBs	TBD	One source has been identified, and stormwater pathway evaluations are currently underway or under consideration at this and other upland sites (see Table 5-1).	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluations have been completed or are underway at three upland sites; the pending results may indicate whether further source tracing is warranted to identify PCB source(s).	● Review findings of upland stormwater pathway evaluations, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluations
OF M-2	None	*Additional analytes exceeding JSCS Toxicity SLVs for solids:* N/A[4]	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Basin unlikely to include significant sources (see Table 5-1).	None
OF M-3	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● The stormwater pathway evaluation currently underway (see Table 5-1) is expected to be completed soon; results will further clarify any potential source issues.	None
OF S-1	Total PAHs *Copper*	LWG/Port sediment trap sample not collected	PAHs	TBD	One source identified (see Table 5-1). Stormwater pathway evaluation is currently underway.	**Further source tracing not recommended at this time:** ● Stormwater pathway evaluation is currently underway at one upland site (see Table 5-1); results may indicate whether further source tracing is warranted to identify PAH and/or copper source(s).	● Review findings of upland stormwater pathway evaluation, as available ● Continue coordination with DEQ regarding ongoing stormwater pathway evaluation
			Copper	No	One source identified (see Table 5-1); stormwater pathway evaluation is currently underway. Copper is permitted, and the basin geomean concentration at the outfall is less than 35% of the NPDES permit benchmark.[5]		
OF S-2	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Stormwater pathway evaluation is underway (see Table 5-1).	None
OF S-5	None	LWG/Port sediment trap sample not collected	N/A	N/A	N/A	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Basin unlikely to include significant sources (see Table 5-1).	None

Table 5-2. Source Tracing Recommendations for City Outfall Basins.

City Outfall Basin	Stormwater Analytes Identified for Further Source Tracing Evaluation [1]	LWG / Port Sediment Trap Data [2]	Source Tracing Status by Analyte (including analytes elevated in sediment samples only)			Basin Assessment Conclusions	City Next Steps
			Analytes [3]	Further Source Tracing Needed?	Rationale		
OF S-6	*Copper* *Zinc*	LWG/Port sediment trap sample not collected	Metals	No	One source identified (see Table 5-1); stormwater pathway evaluation is currently underway. Copper and zinc are permitted. The basin geomean concentration for copper is less than 35% of the NPDES benchmark. The basin geomean concentration for zinc is less than the NPDES benchmark.[5]	**Further source tracing not planned:** ● Analyte concentrations are low in 2007/2008 stormwater samples. ● Stormwater pathway evaluation is currently underway at the identified upland site (see Table 5-1). ● Source investigation determined highest copper and zinc concentration at connection from identified source.	None

Notes:

N/A = not applicable

TBD = to be determined

[1] See Section 4 and Table 4-3 of this report. Identification of analytes for further evaluation is based on statistical analyses conducted by the City to determine the significance of detected concentrations relative to other basins discharging to Portland Harbor and evaluate whether significant uncontrolled sources may exist in City outfall basins. Analytes shown in italics are permitted under the NPDES 1200Z industrial stormwater permit program.

[2] Sediment data considered only for constituents not analyzed in stormwater (i.e., applies to pesticides and phthalates only). Source of sediment trap data: LWG Round 3A and 3B Stormwater Data Report (BBL, 2006; Anchor and Integral, 2008b). LWG and Port sediment trap data for City outfall basins are tabulated in Appendix E.

[3] Analytes shown in parentheses added to basin assessment because they exceed JSCS Toxicity SLVs in LWG/Port sediment trap solids and were not analyzed in stormwater from the basin.

[4] No additional constituents were analyzed in sediment trap samples that were not also analyzed in stormwater samples from this basin.

[5] DEQ-established NPDES 1200Z Permit Benchmark values: copper = 100 ug/L; lead = 400 ug/L; zinc = 600 ug/L.

(*) DEQ, 2009. Former Anderson Brothers Site - ECSI #970 - Source Control Decision. Prepared by Bob Schwarz, DEQ Cleanup Program. Dated July 16, 2009.
(**) DEQ, 2009. Former Chevron Asphalt Site - ECSI #1281 - Source Control Evaluation Report. Prepared by ARCADIS for Chevron Environmental Management. Dated May, 2009.

The results of the stormwater evaluation are intended to focus City resources and future source tracing activities. The results are not intended to be used by upland sites discharging to the City's shared conveyance system to limit the analyses of potential chemicals of concern. In addition, the results are not intended to evaluate potential risks or the significance of stormwater analytes discharging to the river through the City's conveyance system.

Table 6-1. Summary City Outfall Basin Source Tracing Categorization for Selected Analytes [1]

Category	Definition	Percent of City Outfall Basins Assigned to Category (by analyte)		
		Total PCBs [2]	**PAHs** [2, 3]	**Metals** [2, 4]
1 (lower)	Least Likely to Have Unidentified Significant Sources	64 %	80 %	69 %
2 (moderate) [5]	May or May Not Have Unidentified Significant Sources	36 %	27 %	31 %
3 (higher) [5]	Most Likely to Have Unidentified Significant Sources	0 %	1 %	1 %

Notes:

[1] Categories ≠ Risk. Categories are based on distribution of harborwide concentrations and without consideration of the significance of the outfall basin concentration (i.e., greater than or less than applicable screening levels, background concentrations, etc.).

[2] The percentage of City Outfalls within each category was estimated by combining the results for outfalls with multiple locations (OF M1, OF M2). For these outfalls the higher category was used. The results representative of Forest Park (OF 22C – Tualatin Hills) were not included in the results presented in this table.

[3] The percentage of City Outfalls within each category for PAHs is based on the cumulative results of the thirteen individual PAHs presented in Table 4-2 of the *Stormwater Evaluation Report.*

[4] The percentage of City Outfalls within each category for metals is based on the cumulative results of the six individual metals presented in Table 4-2 of the *Stormwater Evaluation Report.*

[5] Use of the full harborwide data set allowed stormwater concentrations in City Outfall basins to be ranked and evaluated relative to other stormwater discharges to the Portland Harbor Study Area. City outfall basins with analyte concentrations potentially in the upper range of the concentration distribution were identified for further evaluation of the need source tracing.

Figures

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Figure 1-1. City Outfall Basin Evaluation Process

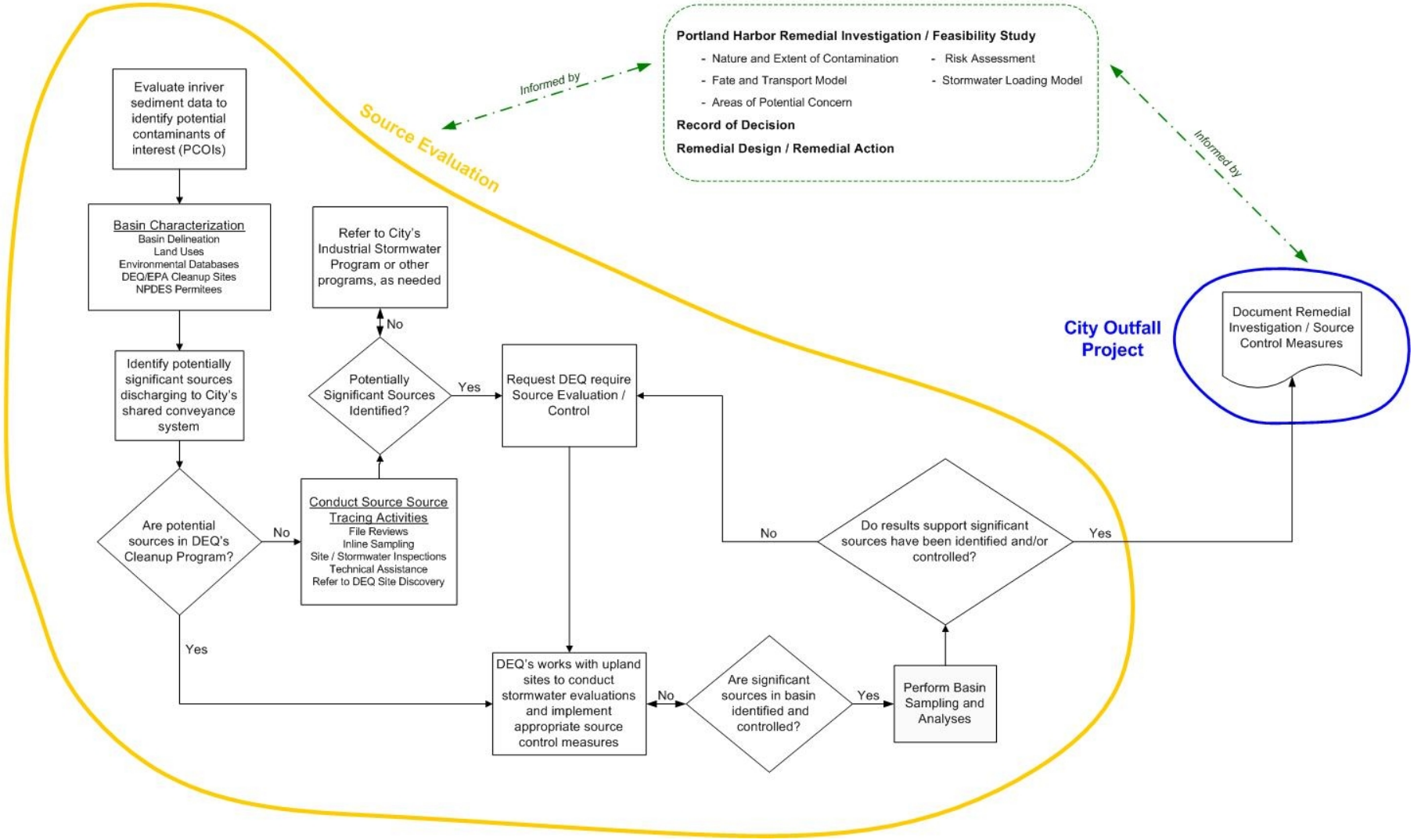

Figure 2-1
Drainage Overview

Legend

- Outfall
- River Mile
- Portland Harbor Hydroboundary
- Basin Sampled by LWG
- Basin Sampled by City
- Basin Sampled by Multiple Parties
- Basin Sampled by GE
- Basin Sampled by Port

Information contained on this map is accurate according to available records, however, the City of Portland makes no warranty, expressed or implied, as to the completeness or accuracy of the information published

0 1,250 2,500 5,000 Feet

N W E S

Source: City of Portland BES Aerial photo 2008	ENVIRONMENTAL SERVICES CITY OF PORTLAND 1120 SW Fifth Avenue, Room 1000 Portland Oregon, 97204-1912
Prepared by: Sara Gardner	
File Name: c:\gis\figure2-1.mxd	***Program Manager:*** Linda Scheffler Portland Harbor Superfund
Sheet No. 1 OF 1	***Date Printed:*** 01/26/2010

Figure 3-1a
Locations of Basins Sampled
River Mile 02 to 05

Legend

- Outfall
- Outfall Location for Basin Sampled
- River Mile
- Basin Sampled by City
- Basin Sampled by LWG
- Basin Sampled by Port
- Willamette River
- Taxlot

0 600 1,200 2,400 Feet

N W E S

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Source: City of Portland BES Aerial photo 2008

Prepared by: Sara Gardner

Environmental Services
City of Portland
1120 SW Fifth Avenue, Room 1000
Portland Oregon, 97204-1912

File Name: c:\gis\map1.mxd

Sheet No. 1 OF 1

Program Manager: Linda Scheffler
Portland Harbor Superfund

Date Printed: 01/20/2010

OSM
Basin 53A
WR-22
OF53A
2
3
4
5
WR-123
Schnitzer-Riverside
WR-384
Schnitzer International
Port T4 (Basin R)
WR-133
Port T4 (Basin Q)
WR-181
OF52C
WR-177
Basin 52C / Port T4 (Basin T)
Port T4 (Basin M)
Port T4 (Basin L)
WR-20
Port T4 (Basin D)
WR-169

Figure 3-1b
Basins Sampled
River Mile 05 to 08

Legend

- Outfall
- Outfall Basin Sample
- River Mile
- Basin Sampled by City
- Basin Sampled by LWG
- Subbasin Sampled by LWG
- Basin Sampled by Multiple Parties
- Willamette River
- Taxlot

0 600 1,200 2,400 Feet

N W E S

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Source: City Basin Delineation (January 2010)
LWG Basin Delineation (December 2009)

Prepared by: Sara Gardner

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City of Portland
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Portland Oregon, 97204-1912

File Name: gis\stormwater data report figure3-1b.mxd

Sheet No. 1 OF 1

Program Managers: Linda Scheffler/Rod Struck
Portland Harbor Superfund

Date Printed: 01/27/2010

Basin 53
Basin 52A
Basin 52
Basin 50
Basin 52
Basin 49
Basin 22D
Basin 48
Basin 22C (LWG)
Basin 22C
Basin 22B
Basin 22
Basin 19
Basin M-1
Basin S-1
Basin S-6
Basin S-2
BasinS-5

OF53
OF52A
OF22D
OF52
OF50
OF49
OF48
OF22C
OF22B
OF19
OF 22
OFM-1
OFM-2
OFS-1
OFS-6
OFS-2

WR-107
WR-67
WR-96
WR-14
WR-161

St. Johns
ODOT
St. Johns Bridge
Railroad
Gasco
Gasco
Siltronic
Arkema
Chevron
Transportation
Portland
Shipyard

Figure 3-1c
Locations of
Basins Sampled
River Mile 08 to 11

Legend

- Outfall
- Outfall Basin Sample
- River Mile
- Basin Sampled by City
- Basin Sampled by LWG
- Basin Sampled by Multiple Parties
- Basin Sampled by GE
- Subbasin Sampled by LWG
- Willamette River
- Taxlot

0 600 1,200 2,400 Feet

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N W E S

Source: City of Portland BES

Prepared by: Sara Gardner

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City of Portland
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Portland Oregon, 97204-1912

File Name: c:\gis\map1.mxd

Sheet No. 1 OF 1

Program Manager: Linda Scheffler
Portland Harbor Superfund

Date Printed: 01/20/2010

Railroad

OF22C
OF22B
WR-96
Arkema
Basin 22B
WR-14
Chevron Transportation
OF22
Basin 22
OF19
Basin 19
OF18
WR-142
WR-145
Gunderson
WR-147
Gunderson
Basin 18
Yeon
NW 35th
ODOT
HWY 30A
OF16
General Electric
Basin 16
Sulzer Pump
WR-3
WR-4
OF46
Basin 46
Basin M-1 (LWG)
Basin M-1
Basin M-2 (LWG)
Basin M-2
OFM-1
WR-161
Portland Shipyard
OFS-1
OFM-2
Basin S-1
OFS-6
Basin S-6
Basin S-2
OFM-3
OFS-2
Basin M-3
Basin S-5
OFS-5
Basin 47
OF47
WR-21
UPRR Albina
Fremont
Basin 45
OF45
ODOT HWY 30B

Appendix A

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Appendix A

2007-2008 City Outfall Stormwater Data Summary Report

City of Portland Outfall Project
ECSI No. 2425

February 2010

Prepared by
City of Portland
Bureau of Environmental Services

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Attachment A2: Storm Event Precipitation Graphs, (2007-2008 Stormwater Grab Sampling)

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Abbreviations and Acronyms

BES	Bureau of Environmental Services
City	City of Portland
COC	chain of custody
DEQ	Oregon Department of Environmental Quality
DRM	data review memorandum
ECSI	DEQ's Environmental Cleanup Site Inventory
EPA	U.S. Environmental Protection Agency
ERF	Extended Range Forecasting Company, Inc.
HYDRA	Hydrological Data Retrieval and Alarm
IGA	intergovernmental agreement
JSCS	Portland Harbor Joint Source Control Strategy
LIMS	BES Laboratory Information Management System
LWG	Lower Willamette Group
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
Port	Port of Portland
PST	Pacific Standard Time
QA/QC	quality assurance/quality control
QAPP	quality assurance project plan
SAP	sampling and analysis plan
SOP	standard operating procedure
SVOC	semivolatile organic compound
TOC	total organic carbon
TSS	total suspended solids
WPCL	BES Water Pollution Control Laboratory

A1 Introduction

This report summarizes the results of the City of Portland (City) Bureau of Environmental Services' (BES) stormwater sampling activities conducted from September 2007 through May 2008 at 18 City outfalls within the Portland Harbor Study Area (Figure A-1). On August 13, 2003, the City and the Oregon Department of Environmental Quality (DEQ) entered into a remedial investigation/source control measure intergovernmental agreement (IGA) to collaborate on the evaluation and control of potential upland sources of discharges to the City stormwater conveyance system that might adversely affect sediment and surface water quality in the Portland Harbor. These investigation results are submitted pursuant to the IGA.

The data collection activities described in this report were conducted in accordance with the City's *Fall 2007 Stormwater Grab Sampling and Analysis Plan* (BES, 2007a) and *Winter 2008 Stormwater Sampling and Analysis Plan* (BES, 2007b) (stormwater SAPs), submitted to DEQ on August 23 and December 20, 2007, respectively.

This report describes stormwater sampling locations and conditions, summarizes field and laboratory procedures, and presents analytical testing results. It comprises Appendix A to the *Stormwater Evaluation Report, City of Portland Outfall Project, ECSI No. 2425* (BES, 2010), which evaluates the stormwater data, in conjunction with other basin data, to assess the need for and priority of additional source tracing in basins that discharge via City outfalls to Portland Harbor.

A1.1 Purpose

The purpose of the City's monitoring efforts was to conduct stormwater sampling and evaluations in accordance with the *Portland Harbor Joint Source Control Strategy* [(JSCS); DEQ/EPA, 2005, as amended 2007] in 17 basins and to collect stormwater data from one basin to supplement a land use study being conducted by the Lower Willamette Group (LWG). The City designed its stormwater sampling program to obtain data in support of meeting the remedial investigation objectives: to evaluate the status of ongoing source tracing activities, to confirm that no significant sources are discharging to City stormwater conveyance systems associated with the outfalls, and/or to verify that all significant sources have been identified and controlled.

A1.2 Report Organization

The remainder of this report is organized into the following major sections:

- Section A2: Sample Locations and Characteristics
- Section A3: Sampling Procedures
- Section A4: Storm Events Sampled
- Section A5: Laboratory Analyses and Data Management
- Section A6: Sample Results
- Section A7: References

Supporting information is provided in the following attachments:

- Attachment A1: Field Documentation
- Attachment A2: Storm Event Precipitation Graphs, (2007-2008 Stormwater Grab Sampling)

- Attachment A3: Hydrographs for Flow-Weighted Composite Samples
- Attachment A4: Summary of Stormwater Analytical Data
- Attachment A5: Laboratory Reports and Data Review Memoranda

A2 Sample Locations and Characteristics

In 2007 and 2008, stormwater samples were collected from the majority of City outfall basins within the Portland Harbor Study Area by the LWG, the Port of Portland (Port) and the City. Primary factors considered by the City in selecting the 18 outfall basins to be sampled included:

- Basin-specific objectives such as determining/confirming source investigation priority.
- Additional data needed to support ongoing stormwater evaluations.
- Whether samples obtained by the LWG and the Port represented the majority of the basin from which the sample was obtained.

Based on these factors, the following outfall basins were selected for stormwater sampling and analysis: Basins 48, 50, 52, 52A, M-1, M-2, M-3, S-1, S-2, S-5, and S-6 (sampled in fall 2007), and Basins 22C, 22D, 45, 46, 47, 53 and 53A (sampled in winter 2008). Characteristics of these basins are summarized in Table A-1. The basin outfall locations are shown on Figure A-1. The basin boundaries and sampling points are shown on Figures A-2 through A-19 and are described in Table A-1. Basins 22C, M-1 and M-2 were previously sampled by the LWG. However, the City collected additional samples because the LWG samples do not represent significant portions of these basins. Basin 53 was previously sampled by the Port; the City collected additional samples from this basin to supplement the LWG data set for the residential land use category.

A2.1 Grab Sample Locations

Stormwater grab samples were collected from each of the basins listed above, with the exception of Basin 53, from which composite stormwater samples were collected. The stormwater grab samples were generally collected from a manhole, not directly at an outfall (except at Outfall 22C), because the outfall pipe openings are typically submerged in the river or are otherwise difficult to access. The sampling location within each basin was chosen to represent as much of the drainage basin as possible, without compromising sample integrity due to anticipated river backup in the lower elevation systems. Basins with constructed conveyance systems at low elevations were anticipated to be only accessible for stormwater sample collection during fall, when the river is typically at its lowest stage; therefore, this factor was considered in prioritizing outfalls to be sampled during the fall 2007 monitoring period. The SAP identified alternative sampling locations that could be used in the event that the primary locations were not suitable for obtaining a representative sample. However, all primary sampling points proposed in the stormwater SAPs were successfully sampled, and alternative sampling locations were not required.

A2.2 Flow-Weighted Composite Sample Location

Outfall Basin 53 was included in the 2007 – 2008 stormwater sampling to supplement data collected by the Port for the recontamination analysis component of its EPA-directed cleanup of contaminated sediments at Terminal 4. Data collected by the Port at this outfall also was used by the LWG in its stormwater land use analysis (*Round 3A and 3B Stormwater Data Report;* Anchor and Integral, 2008). Specifically, the City's objectives for stormwater sampling in Basin 53 were to obtain additional stormwater data to evaluate contaminant concentrations detected in a 2007

sample collected by the Port in this basin and to facilitate statistical analysis of stormwater discharges from this basin.[1] To accomplish these objectives, the City elected to collect flow-weighted composite samples from this basin in accordance with LWG protocols. Flow-weighted composite samples, obtained using an automatic system, are collected progressively over the entire storm hydrograph and thus yield data representing mean contaminant concentrations in runoff over the course of the storm event being sampled.

[1] The City's sampling point in Basin 53 was at a different manhole than that utilized by the Port; however, both sampling points represent the total known basin area and therefore are considered comparable.

A3 Sampling Procedures

The sampling was conducted in accordance with the stormwater SAPs, which were developed to provide project-specific information to supplement the City's *Amended Programmatic Quality Assurance Project Plan* (QAPP) (BES, 2007c) and *Amended Programmatic Sampling and Analysis Plan* (Programmatic SAP) (BES, 2007d) for collection of water and solids samples for the City of Portland Outfalls Project. This section describes how key elements of these guidance documents were implemented.

A3.1 Sampling Staff

Personnel from BES performed the stormwater sampling. At a minimum, the sampling staff included a Storm Event Coordinator and Event Sampling Teams. The Storm Event Coordinator was responsible for tracking weather patterns, selecting the storm events for sampling, and directing sampling activities.

Event Sampling Teams were composed primarily of the City's Field Operations staff and were supplemented by other BES personnel as needed. Event Sampling Teams were two-person teams, including at least one experienced Field Operations staff member. Individual staff members were used, on occasion, if no traffic control was required.

In some cases, more than one Event Sampling Team was used during a single stormwater sampling event to decrease the length of field time and the number of individual storms needed to collect representative samples from all basin sampling locations designated in the stormwater SAPs.

A3.2 Storm Event Tracking

The stormwater SAPs identified the following target storm event criteria (consistent with the JSCS) for stormwater sampling:

- Antecedent dry period of at least 24 hours (as defined by <0.1 inch of rainfall over the previous 24 hours);
- Minimum predicted rainfall volume of >0.2 inches for the storm event; and
- Expected duration of the storm event of at least 3 hours.

These criteria were developed for implementation by upland sites. In this case, they were used as general guidelines to determine if forecasted storms should be targeted for sampling. Based on the City's experience with stormwater monitoring in this region, smaller storms or those of shorter duration are unlikely to generate runoff at the outfall that would be representative of entire stormwater basins that have large areas or significant pervious components. To the extent practicable, project personnel adhered to sampling only forecasted storms meeting the target storm criteria to help ensure that stormwater runoff would be adequate for sample collection, representative of stormwater runoff, and consistent between sampling events.

The Storm Event Coordinator worked directly with the City's contract weather forecasting service, Extended Range Forecasting Company, Inc., (ERF) to obtain forecasts and to decide whether to initiate a stormwater sampling event. The Storm Event Coordinator had the option to

use best professional judgment to determine potential storm events for which the targeted antecedent dry period might be shortened in an effort to collect a full data set. The minimum antecedent dry period was established at 6 hours, based on the stormwater monitoring program for the City's Underground Injection Control system permit.[2] For the 2007 and 2008 sample events, the antecedent dry period was greater than 24 hours for all the grab sampling events. For the composite sampling events from Outfall Basin 53, the antecedent dry period met or exceeded 24 hours for all three events.

A3.3 Field Sampling Procedures

Stormwater sampling procedures were conducted in accordance with the applicable Standard Operating Procedures (SOPs) included in the Programmatic SAP. The SOPs were established by the City's Field Operations section to standardize the data collection methodologies for a wide range of monitoring activities and thereby maintain comparability and representativeness of the data produced.

Given the varying complexity and size of the City outfall conveyance systems, the timing of grab sample collection relative to the start of the storm event was targeted to ensure that the grab samples represented contributions from the entire basin (including upper reaches of the system) and represented stormwater rather than flow from any non-stormwater sources (i.e., "dry-weather flow"). In general, the grab sampling events were timed to occur during what would be considered the rising limb of a flow hydrograph at each sample location. However, because flow monitoring was not conducted at the grab sample locations, determination of the optimum sampling window in each basin was based on the best professional judgment of the Storm Event Coordinator. The Storm Event Coordinator established the order in which basins were sampled based on characteristics such as basin size, the percent of impervious surfaces in a basin, forecasted storm size, and first-flush periods. In all cases, grab sampling was targeted to occur within the first 12 hours of observable storm runoff at the sampling site.

Grab stormwater samples were collected from the designated monitoring locations during four storm events for each basin. Two of the four events at each grab sample location targeted "first-flush" conditions (broadly defined for the purposes of basin-level monitoring as being within the first 3 hours of observed runoff), where applicable[3]. For flow-weighted composite sampling in Basin 53, three storm events were sampled. A description of each storm event sampled and an evaluation of the overall 2007 and 2008 sample representativeness are provided in Section A4.

The general procedures followed in the stormwater sampling program are summarized below, with reference to the applicable SOPs (refer to the Programmatic SAP for full descriptions of the SOPs). No significant deviations from the SOPs occurred during the course of the 2007 – 2008 stormwater sampling activities. Minor deviations in implementation of the SOPs are discussed in Section A3.4.

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[2] DEQ Water Pollution Control Facility / Underground Injection Control permit number 102830, issued to the City of Portland on June 1, 2005.

[3] In Basins 48 and 50, stormwater is routed to stormwater treatment facilities prior to discharge at the outfalls. The treatment facilities are located upgradient of the stormwater sample locations in these two basins resulting in a lag or retention time between the onset of stormwater flow at the treatment facility and at the outfall. Therefore, the timing of first flush discharge at the outfall sampling location does not correlate with rainfall.

A3.3.1 General Procedures (Grab and Composite Sampling)

Determination of Stormwater Flow

As specified in the stormwater SAPs, in the event there was any question whether water observed at the sampling location represented stormwater flow or standing water, (e.g., for basins in which the outfall pipe opening was submerged), field crews made visual observations at the time of sampling, such as noting the flow direction of a floatable object, to confirm the presence of stormwater flow. In all cases, it was determined that stormwater flow was sampled.

Field Parameter Measurements

Data collected in the field during each sampling event included measurement of pH, conductivity, and temperature for all primary stormwater samples (i.e., excluding field duplicate samples and field decontamination blanks). During collection of the flow-weighted composite samples, field personnel collected a separate grab sample solely for the purpose of measuring field parameters. The procedures followed during collection of these measurements are specified in the following SOPs: *SOP 1.01a , Field pH Measurement of Water Samples*; *SOP 1.03a, Field Conductivity Measurement of Water Samples*; and *SOP 1.05a, Field Temperature Measurement of Water Samples*. The general procedures for collecting these measurements include (1) equipment calibration, to ensure accurate readings; (2) collecting and recording the measurement on the field sample documentation; (3) conducting a post-measurement check of the equipment after returning from the field to confirm the accuracy of the field readings; and (4) properly maintaining the equipment.

Quality Control Procedures

Sampling quality control (QC) procedures included decontamination of all sampling equipment before sampling, collection of QC samples in the field, and completion of a chain-of-custody (COC) form for each set of samples. The basic elements of these procedures are summarized in the following paragraphs.

Sampling Equipment Decontamination

The equipment decontamination procedures followed during the stormwater sampling program are detailed in *SOP 7.01a, Decontamination of Sampling Equipment*. The appropriate decontamination sequence was selected for each set of samples based on the chemical analyses to be performed. The decontamination procedures include the use of specified wash and rinse solutions, followed by drying and packaging steps. The field crew decontaminated all sampling equipment in the staging area of the BES Water Pollution Control Laboratory (WPCL) before leaving for the sampling sites.

Collection of Field Decontamination Blanks and Duplicate Samples

The stormwater SAPs specified preparation of one field decontamination blank for each sampling round (defined as collection of one sample during each event) and collection of one field duplicate sample for approximately every ten stormwater samples. All field decontamination blanks and duplicate stormwater samples were collected according to the procedures specified in *SOP 7.01c, Field Quality Control Sample Collection*. The field decontamination blanks were composed of de-ionized water that had been transferred to the sample containers using decontaminated sampling equipment. Each field duplicate sample was collected alongside the primary sample, using the same sampling protocol. The QC samples were delivered to the laboratory with the associated stormwater samples.

Sample Chain-of-Custody

Handling of the samples was conducted as specified in *SOP 7.01d, Sample Chain-of-Custody*. This SOP specifies the detailed procedures to be followed regarding sample labeling, documentation, packaging and preservation, transport, delivery/relinquishment, and laboratory security. These procedures include completion of a COC form for each batch of samples. Information recorded on the COC form includes the project name and file number, type of sample (e.g., grab, composite), matrix, sample location, sample identification number, field parameter measurements (pH, temperature, conductivity), requested analytes, comments or special instructions for the receiving laboratory, and any additional comments concerning sample quality.

A3.3.2 Collection of Grab Samples

With the exception of Outfall Basin 22C, all grab samples were collected using the following procedure. The procedure, which is designed for use where direct access is not possible, such as when accessing storm sewer pipes through manholes, is described in detail in *SOP 2.02b, Grab Sample Collection with Stainless Steel Beaker*. At each sampling location, field crew attached a decontaminated beaker to a rope, slowly lowered the beaker to the water surface, then submerged and retrieved it, keeping the beaker off of the bottom of the storm sewer pipe or the bed of the surface water, if possible, to prevent adding deposited sediment to the sample. At Outfall Basin 22C, samples were collected directly from the 84-inch-diameter outfall. The collected stormwater was then transferred to pre-prepared, analyte-specific sample bottles/containers; the sample bottles were filled to one-quarter full, rinsed (except when pre-cleaned or pre-preserved sample bottles were being used), then filled fully and capped. The filled containers were placed in a cooler with ice for storage and transport to the laboratory.

A3.3.3 Collection of Flow-Weighted Composite Samples

The flow-weighted composite samples from Basin 53 were collected in accordance with *SOP 2.01b, Flow-Paced Composite Sampling of Stormwater*. The samples were collected during three storm events (January 26, February 6, and March 12, 2008). Automatic flow monitoring and sampling equipment were installed at the monitoring location prior to sample collection, and remained in place for the duration of the sampling project. New sample collection bottles were placed in the equipment before each targeted storm event and replaced as needed during the event as bottles filled. The equipment was programmed to collect a uniform aliquot of stormwater following the discharge of a calculated "trigger volume" of stormwater flow, such that sample aliquot collection frequency increased with flow rate. Each aliquot was distributed to one of eight glass sample bottles within the automated sampler; samplers were programmed to distribute three aliquots to each sample bottle.

Trigger volumes for aliquot collection were determined by evaluating the total basin area, impervious area and predicted storm size and duration. The objective of these calculations was to generate sufficient sample volume for all requested laboratory analyses and generate a composite stormwater sample representing both the rising and falling limbs of the storm hydrograph. Following completion of the sampling event, field crews reviewed flow, sampler, and rain gage data to determine the extent of the storm event represented by the set of sample bottles, including any triggers missed.

To achieve the event-averaged stormwater sample targeted in the sampling objectives for this basin, the final composite sample was created in the laboratory from representative portions of

the individual sample bottles.[4] Creation of the final composite sample for each event is detailed on the Composite Bottle Data Sheet (included with field documentation in Attachment A1). Each sample was created by decanting a specified volume from the individual sample bottles into a churn splitter and agitating the contents as subsamples were decanted into individual bottles for analysis. The SOP provides that some bottles, typically from the beginning or end of the sampling event, may be omitted from the final composite if they are not considered representative of the targeted conditions (e.g., if they may represent surface water baseflow prior to stormwater runoff). Any aliquots omitted from the final composite sample are noted on the Composite Bottle Data Sheets.

A3.4 Deviations from the SAPs

No major deviations occurred from the stormwater SAPs during the course of the 2007 – 2008 stormwater sampling. Storm events sampled generally met the target storm criteria (see Section A4), and the full set of samples at each proposed monitoring location was successfully obtained. In general, the Event Sampling Teams adhered to all applicable SOPs. However, the following minor deviations from the SAPs and/or SOPs occurred during the course of the sampling activities; these deviations do not affect the quality of the resulting data:

- No field parameters (pH, temperature, and conductivity) were measured for the composite stormwater sample collected from Basin 53 during the January 26, 2008, storm event. The storm occurred earlier than had been predicted, so field personnel did not arrive at the site in time to collect the field measurements.
- The stormwater SAPs specify the collection of one field decontamination blank for each round of stormwater sampling. However, only two field decontamination blanks were obtained for the five stormwater grab sampling rounds conducted in 2008, and only two were collected for the three flow-weighted composite sampling events in Outfall Basin 53. A field decontamination blank was not collected during the February 5, 2008 grab sampling event because the event was truncated by cessation of precipitation. Only three of six basins were sampled and a blank sample had not been obtained when sampling ceased. Field decontamination blanks were not collected during the February 29 and May 13, 2008 events because it was determined that existing and future planned (April 2008) blanks would provide adequate data given data objectives. For the 2008 grab samples, and also the composite samples from Outfall Basin 53, two full sets of field decontamination blank data were considered representative of potential bias caused by field quality procedures, and sufficient for the objectives of source screening.
- SOP 7.01c provides that the field decontamination blank is to be collected upon arrival at the first sampling location, prior to actual sampling. None of the field decontamination blanks were collected at the first sampling location for any sampling event, and stormwater sampling generally occurred before collection of the field blank. Deviation from this SOP was the result of collecting the field decontamination blanks at times that would not interfere with the objectives of the grab sampling program, such as collecting grab samples on the rising limb of a hydrograph to represent first-flush conditions. In all

[4] If sample bottles included three aliquots (triggers) per equipment record (sample and flow minimum), then equal portions were taken from all bottles. If one or more bottles had three aliquots but a reduced sample volume, then the subsampled volume from each bottle did not exceed this maximum volume. If one or more bottles had less than three aliquots, then subsampled volumes on these bottles were adjusted to be one-third or one-half of the volumes subsampled from bottles with three aliquots.

cases, the field decontamination blanks were collected from decontaminated sampling equipment before it was used for stormwater sampling.

A3.5 Sample Collection Documentation

Field data were recorded on project-specific paperwork during each sampling event, in accordance with the procedures described in the Programmatic SAP. Each Event Sampling Team completed the following forms during the course of each sampling event, as applicable: for all sampling, a Daily Field Report and COC form were completed; for collection of flow-weighted composite samples, Trigger Volume Work Sheets and Composite Bottle Data Sheets were also completed. Copies of the completed field documents are provided in Attachment A1.

A4 Storm Events Sampled

This section describes the storm events during which stormwater samples were collected from the City outfall basins in accordance with the stormwater SAPs. Grab samples were collected during a total of ten storm events during the 2007/2008 wet season (September to May). Four sampling events were completed at each of the 17 outfall grab-sampling locations. Flow-weighted composite stormwater samples were collected from Outfall Basin 53 during three separate storm events during the 2007/2008 wet season. The 13 storm events sampled are described below.

A4.1 Storm Event Data

As described in Section A3.2, storm events were targeted for sampling by the Storm Event Coordinator based on ERF forecasts of storms that would meet the target storm event criteria. After a sampling event was completed, the characteristics of the storm event sampled were evaluated using data from the City's Hydrological Data Retrieval and Alarm (HYDRA) system rain gage network (http://or.water.usgs.gov/non-usgs/bes/raingage_info/). Precipitation data from the following eight rain gages near the Portland Harbor Study Area were used to characterize the storm events for each sampling location, using the most representative gage available for each location (rain gage locations are shown on Figure A-1):

HYDRA (Rain gage) Station	Address	Outfall Basin
Station # 58: Bonny Slope School	10351 NW Thompson Rd.	22C, 22D
Station # 117: Albina	2920 N Larrabee Ave.	45, 46
Station # 121: Yeon [5]	3395 NW Yeon St.	M-1, M-2, M-3, S-1, S-2, S-5, S-6
Station # 160: WPCL	6543 N Burlington.	50, 52, 52A
Station # 167: Terminal 4	11040 N Lombard St.	53, 53A
Station # 193: Astor Elementary School	5601 N Yale St.	48
Station # 204: Swan Island	2600 N Going St.	M-1, M-2, M-3, S-1, S-2, S-5, S-6

In addition to using the gage records from the above stations to characterize precipitation at each sample location, rainfall for the study area was characterized for the entire 2007/2008 wet season by averaging the gage data for the Swan Island, Albina, WPCL, Terminal 4, and Yeon rain gages. These five gages were used to characterize the average precipitation because they are most representative of precipitation falling directly on impervious surfaces within the developed/industrial portion of the lower Willamette River. Precipitation data averaged from the five gages are shown on Figures A-20 through A-29. Figure A-20 depicts monthly rainfall for the September 2007 to May 2008 sampling period compared to the long-term average monthly rainfall between 1971 and 2000 for the same months. Figures A-21 through A-29 depict average

[5] This gage was utilized only for a single event, during a period in which the Swan Island gage was out of service.

hourly rainfall for individual months and the timing, with respect to precipitation events, of sampling events conducted during that month.

The specific stormwater sampling events for each outfall basin are listed on Table A-2. Graphs depicting precipitation, based on hourly individual rain gage data, and sample collection times for each basin where grab sampling was conducted are presented in Attachment A2. The graphs are presented to show the relationship between the timing, magnitude, and duration of precipitation events, and the grab sample collection times. The graphs do not depict a relationship between precipitation and flow volume as flow data were not collected at grab sampling locations. For each basin, Attachment A2 also includes a summary of the characteristics of each sampling event and designates those events that are judged as meeting "first-flush" criteria. Hydrographs associated with the three flow-weighted composite samples from Basin 53, showing precipitation and flow data and timing of individual sample aliquots collected, are presented in Attachment A3.

Determination of which events represent first-flush conditions for the entire basin was largely based on timing of sampling (generally, considered to be within the first 3 hours of observed stormwater flow at the sampling location) but also took into account factors such as basin size, characteristics, and saturation conditions prior to the sampled storm event. For example, in smaller outfall basins with a high percentage of impervious surfaces, the first-flush would be assumed to occur early within the targeted initial 3-hour timeframe, whereas in larger basins with a greater amount of pervious surfaces the window for first-flush conditions could extend beyond the initial 3 hours of observed flow, especially if the ground surfaces are relatively unsaturated prior to the storm event sampled (i.e., relatively long antecedent dry period). Sampling crews determined the order in which basins were sampled using best professional judgement to evaluate when precipitation in a basin was sufficient to (1) generate the initial flow at a sampling location in response to precipitation, and (2) represent flow from the entire basin.

A4.2 Descriptions of Storm Events

The descriptions of grab- and composite-sampling events provided below are based on sampling crew field notes, average hourly rainfall data shown in Figures A-21 through A-29, and precipitation representative of each outfall presented in Attachment A2. As described in Section A3.2, the target JSCS criteria for stormwater sampling were met[6]. For the sampling events described below, the beginning and ending of an event is defined as the period of reasonably continuous precipitation for a specific storm. In addition, the event is dated in accordance with the date on which the stormwater sample was collected, not necessarily the date on which rainfall began. In accordance with standard practice, all rain gage data are recorded in Pacific Standard Time (PST). Therefore, all sample times presented in this report are given in PST.

For each sampling event, samples were defined as meeting "first flush" conditions, based on an overall impression of the individual outfall rainage data presented in Attachment A2 and consideration of the following factors:

- Timing of sample collection during the storm event(i.e., targeted first portion or rising limb of a flow hydrograph at each location);

[6] Sampling events were scheduled based on forecasted storm size and durations (usually described as a range) that were predicted to meet the sampling criteria described in Section 3.2. Hourly precipitation data for an individual representative City rain gain was plotted to depict each storm event by outfall in Attachment B. Actual storm size and duration varied from forecasted amounts as described in the text.

- Field Observations; and
- Size of the basin (including consideration of impervious surfaces).

A4.2.1 Grab-Sampling Events

September 28, 2007

No significant rainfall was recorded for 24 days preceding this event. The minimum forecasted rainfall for September 28 was 0.37 inches. Rainfall began on September 27 between 11:00 p.m. and 12:00 midnight and continued intermittently until between 4:00 p.m. and 5:00 p.m. on September 28. Approximately 0.46 inches of rain fell within the first 5 hours of the storm. Samples were collected from eleven outfall basins between 1:20 a.m. and 3:54 a.m. on September 28. Except for the two samples collected downstream from stormwater treatment facilities in Basins 48 and 50, samples collected prior to 4:00 a.m. on September 28 are considered to reflect first-flush conditions based on the basin characteristics, field observations, timing of sample collection relative to the start of rainfall, and the unsaturated state of the drainage areas prior to this storm. Samples collected after 4:00 a.m. are not considered to reflect first-flush conditions.

September 30, 2007

No significant rainfall was recorded for 34 hours preceding this event. The minimum forecasted rainfall for this event was 0.68 inches. Rainfall began between 3:00 a.m. and 4:00 a.m and ceased between 9:00 p.m. and 10:00 p.m. on September 30 for a cumulative total of approximately 0.70 inches. Stormwater samples were collected from three basins between 8:43 a.m. and 9:57 a.m. These samples likely do not represent first-flush conditions in the sampled basins given the timing of sample collection relative to the start of rainfall.

October 16, 2007

Less than 0.1 inches of precipitation occurred in the five days preceding this event. The minimum forecasted rainfall for this event was 0.35 inches. Rainfall began between 8:00 a.m. and 9:00 a.m. and ceased between 3:00 p.m. and 4:00 p.m. on October 16 for a cumulative total of approximately 0.14 inches. Stormwater samples were collected from eleven outfall basins between 9:50 a.m. and 12:12 p.m. [7] on October 16. Except for the samples from Basins 48 and 50, these samples are considered to reflect first-flush conditions based on the basin characteristics, field observations, and the timing of sample collection.

November 16, 2007

Less than 0.1 inches of precipitation occurred in the three days preceding this event. The minimum forecasted rainfall for November 16 was 0.47 inches. Rainfall began between 5:00 p.m. and 6:00 p.m. on November 15 and ceased between 9:00 p.m. and 10:00 p.m. on November 16 for a cumulative total of approximately 0.78 inches. Stormwater samples were collected from eleven outfall basins between 5:24 a.m. and 9:00 a.m. on November 16. These samples likely do not represent first-flush conditions based on the timing of sample collection.

December 15, 2007

Less than 0.1 inches of precipitation occurred in the eight days preceding this event. The minimum forecasted rainfall for this event was 0.31 inches. Rainfall began between 10:00 p.m. and 11:00 p.m. on December 14 and ceased between 9:00 a.m. and 10:00 a.m. on December 15 for

[7] The sample collected at 12:12 p.m. was collected downstream of the treatment facility in Basin 50.

a cumulative total of approximately 0.12 inches. Stormwater samples were collected from eight outfall basins between 11:35 p.m. on December 14 and 1:31 a.m. on December 15. Except for the samples from Basins 48 and 50, the samples collected during this event are considered to reflect first-flush conditions based on the basin characteristics, field observations, the timing of sample collection, and the unsaturated state of the drainage areas.

February 5, 2008

Less than 0.1 inches of precipitation occurred within the two days preceding this event. The minimum forecasted rainfall for this event was 0.42 inches. Rainfall began between 5:00 a.m. and 6:00 a.m. on February 5 and ceased between 4:00 p.m. and 5:00 p.m. for a cumulative total of approximately 0.16 inches. Stormwater samples were collected from three basins between 2:01 p.m. and 2:45 p.m. on February 5. These samples likely do not represent first-flush conditions given the low storm intensity and the timing of sample collection.

February 29, 2008

Less than 0.1 inches of precipitation, in scattered precipitation events, occurred in the twenty days preceding this event. The minimum forecasted rainfall for this event was 0.25 inches. Rainfall began between 3:00 p.m. and 4:00 p.m. on February 29 and ceased between 7:00 p.m. and 8:00 p.m. for a cumulative total of approximately 0.10 inches. Stormwater samples were collected from six outfall basins between 5:05 p.m. and 6:20 p.m. on February 29. These samples are considered to reflect first-flush conditions based on the basin characteristics, field observations, the timing of sample collection, and the unsaturated state of the drainage areas prior to this storm event.

March 20, 2008

Less than 0.1 inches of precipitation occurred in the 53 hours preceding this event. The minimum forecasted rainfall for this event was 0.23 inches. Rainfall began between 11:00 a.m. and 12:00 noon on March 20 and ceased between 7:00 p.m. and 8:00 p.m. for a cumulative total of approximately 0.30 inches. Stormwater samples were collected from six outfall basins between 6:05 p.m. and 7:10 p.m. on March 20. The sample from Basin 22C likely represents first-flush conditions based on field observations, timing of the sampling, and basin size and surface characteristics. The other five samples collected during this event are not designated as first-flush samples, given the timing of sample collection.

April 4, 2008

Less than 0.1 inches of precipitation occurred in the four days preceding this event. The minimum forecasted rainfall for this event was 0.17 inches. However, the forecasted range was between 0.17 and greater than 0.23 inches. Rainfall began between 6:00 a.m. and 7:00 a.m. on April 4 and ceased between 10:00 a.m. and 11:00 a.m. for a cumulative total of approximately 0.17 inches. Samples were collected from six outfall basins between 7:30 a.m. and 9:01 a.m. on April 4. These samples are considered to reflect first-flush conditions based on the basin characteristics, field observations, the timing of sample collection, and the unsaturated state of the drainage areas prior to the storm.

May 13, 2008

Less than 0.1 inches of precipitation occurred in the 14 days preceding this event. The minimum forecasted rainfall for this event was 0.12 inches. However, the forecasted range was between 0.12 and greater than 0.19 inches. Although the minimum forecasted precipitation did not meet JSCS criteria, the Storm Event Coordinator initiated sampling because it appeared that the 2007 – 2008

wet season was near its end based on the significant decrease in precipitation beginning about May 1. Rainfall began between 9:00 a.m. and 10:00 a.m. on May 13 and ceased between 1:00 p.m. and 2:00 p.m. for a cumulative total of approximately 0.10 inches. Samples were collected from three outfall basins between 12:57 p.m. and 2:25 p.m. on May 13. The sample collected at 12:57 p.m. likely reflects first-flush conditions based on the basin characteristics, field observations, the timing of sample collection, and the unsaturated state of the drainage areas prior to the storm. The other two samples likely do not represent first-flush samples based on the timing of sample collection relative to the start of rainfall.

A4.2.2 Flow-Weighted Composite Sampling Events – Outfall Basin 53

January 26, 2008

No significant rainfall was recorded in the 11 days preceding this event. The mimimum forecasted rainfall for January 26 was 0.38 inches. Rainfall began between 9:00 a.m. and 10:00 a.m. on January 26 and ceased between 6:00 a.m. and 7:00 a.m. on January 27 for a cumulative total of approximately 0.74 inches. The Basin 53 composite sample was collected in 24 aliquots at flow-paced intervals between 11:10 a.m. and 7:01 p.m. on January 26. The event hydrograph in Attachment A3 presents the timing of the individual aliquots relative to flow and precipitation at the sample location.

February 6, 2008

Less than 0.1 inches of precipitation occurred during the 24 hours preceding this event, and no rainfall was recorded in the 11 hours preceding this event. The minimum forecasted rainfall for February 6 was 0.22 inches. Rainfall began between 1:00 p.m. and 2:00 p.m. on February 6 and ceased between 3:00 a.m. and 4:00 a.m. on February 7 for a cumulative total of approximately 0.87 inches. The composite sample was collected in 33 aliquots at flow-paced intervals between 4:21 p.m. on February 6 and 6:46 a.m. on February 7 (see event hydrograph in Attachment A3). Approximately 0.22 inches of rain fell between 10:00 p.m. and 11:00 p.m. on February 6; therefore, the sample bottles filled before the sampling crew reached the site at 11:40 p.m. to change bottles. As a result, 7 triggers were missed before completion of bottle replacement at 11:52 p.m.

March 12, 2008

Approximately 37 hours with no recorded rainfall preceded this event. The minmum forecasted rainfall for this event was 0.66 inches. Rainfall began between 7:00 p.m. and 8:00 p.m. on March 12 and ceased between 2:00 p.m. and 3:00 p.m. on March 13 for a cumulative total of approximately 0.65 inches. The composite sample was collected in 26 aliquots at flow-paced intervals between 9:01 p.m. on March 12 and 7:35 a.m. on March 13 (see event hydrograph in Attachment A3).

A4.3 Storm Event Representativeness

General conditions during the 2007 – 2008 stormwater sampling efforts were assessed to determine whether the City Outfall discharge samples collected are considered representative of expected Portland Area rainfall and of first-flush and/or overall stormwater runoff conditions within a particular outfall basin.

The 2007 – 2008 stormwater samples collected are considered representative of discharges from a typical wet season (between September and May) in the Portland area, based on a comparison of

the average monthly rainfall data for Portland Harbor[8] with regional long-term rainfall data[9]. The monthly precipitation pattern for 2007/2008 sampling period generally matches the historical precipitation pattern (Figure A-20). In addition, the total rainfall for Portland Harbor during the sampling period was 35.8 inches, slightly exceeding the total long-term wet season average of 33.8 inches. The 2007/2008 wet season was somewhat wetter than normal during October 2007, December 2007, January 2008, and March 2008.

The sampling met the objective of representing first-flush conditions in all basins, where applicable. At least two of the four grab samples obtained from 14 of the 17 basins sampled are considered representative of first-flush conditions; the exceptions are Basins 48, 50, and 52. Stormwater runoff in Basins 48 and 50 is routed to stormwater treatment facilities prior to discharge at the outfalls; therefore, first-flush criteria are not applicable in these basins. In Basin 52, only one sample is considered representive of first-flush conditions; however, review of the resulting stormwater data from this basin does not indicate a low bias in concentrations associated with the non-first-flush events.[10] In addition to capturing first-flush conditions for individual storm events, samples obtained on September 28, 2007 (from Basins M-1, M-2, M-3, S-1, S-2, S-5, and S-6) are considered to be representative of seasonal first-flush conditions (i.e., the first-flush of the wet season) because, except for 0.05 inches of rain on September 4, 2007, the samples were collected during the first storm event of the 2007/2008 wet season. Samples that are not designated as first-flush are considered representative of general stormwater runoff conditions within each basin.

Review of the flow, sampler, and rain gage data associated with the flow-weighted composite samples (Basin 53) indicates all sampling events successfully captured flow representing all portions of the storm hydrograph, with no significant gaps in aliquot collection during the course of any storm event. During the February 6, 2008 sampling event, seven aliquots were missed during bottle changing. However, based on the approximately 15-hour precipitation event and the 33 aliquots collected, the missed aliquots are not considered significant.

Based on the above discussion, the City stormwater samples are considered representative of typical wet-season conditions in the Portland area. Individual basin samples captured both first-flush and general basin runoff conditions in all basins. Samples designated as first-flush were collected within appropriate time frames, based on the size of the basin, land uses in the basin (specifically the percent of impervious surface in a basin), and the amount of precipitation.

[8] Average monthly rainfall for the Portland Harbor area between September 2007 and May 2008 were calculated using City of Portland Swan Island, Albina, WPCL, Terminal 4, and Yeon rain gages.

[9] Regional average long-term rainfall calculated using 1971-2000 data for the Portland International Airport (NWS, 2009).

[10] Contaminant concentrations for Basin 52 stormwater samples are relatively similar for all events with one exception – a high PCB hit in one of the non-first-flush samples.

A5 Laboratory Analyses and Data Management

A5.1 Chemical Analyses

Table A-3 lists the chemical analyses and analytical methods for the 2007 and 2008 stormwater samples. All samples were submitted for laboratory analysis of polychlorinated biphenyl (PCB) congeners, total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), semivolatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs) and phthalates, and total suspended solids (TSS). The stormwater composite samples collected from Outfall Basin 53 also were analyzed for total organic carbon (TOC) and PCB Aroclors. Each sample was analyzed by the WPCL and the following contracted analytical laboratories: Columbia Analytical Services, of Kelso, Washington; Test America, of Beaverton, Oregon; and Pace Analytical Services, of Minneapolis, Minnesota. These laboratories all maintain rigorous quality assurance / quality control (QA/QC) practices consistent with those required in the QAPP to ensure that the resulting data would meet project data quality objectives.

A5.2 Data Management

Field and laboratory data obtained during the 2007 and 2008 stormwater sampling events were managed in accordance with the QAPP. BES maintains records of the field data in both hard copy and electronic (.pdf file) formats. Analytical laboratory data from the WPCL and contract laboratories (with the exception of the PCB congener data from Pace Analytical Services), along with associated field parameter measurements as recorded on the COC forms, were manually entered into the BES Laboratory Information Management System (LIMS), which functions as the BES database for data storage, sample tracking, and reporting. A hard copy of the entered data was printed and checked for data entry errors. After all sample results had undergone technical and data entry review, the WPCL Laboratory QA Specialist electronically marked each sample in LIMS to indicate that all analyses for the sample were complete and had been checked for errors. Data were not released for use until the internal data review process was complete. The analytical data are summarized in tables provided in Attachment A4.

A5.3 Data Review and Usability

In accordance with the QAPP, the City reviewed all field and analytical data associated with the stormwater samples to verify that the resulting data were of acceptable quality for the intended use. Based on review of the data and supporting documentation, as described in this section, the quality of the stormwater field and analytical data are adequate for the purposes of meeting the stormwater SAP objectives.

A5.3.1 Field Data

No significant issues associated with sample collection procedures were encountered, and field data were collected in general accordance with the SOPs and other guidance documentation (with the minor exceptions noted in Section A3.4). Based on equipment calibration and post-measurement review, all field data were determined to be valid and of acceptable quality. Field

data documentation for sampling also met the objectives identified in the SAP to the extent practicable and was determined to be acceptable.

A5.3.2 Laboratory Data

A WPCL chemist checked analytical data sheets and results of laboratory quality control samples to ensure that the QC statistics were within control limits and that appropriate corrective actions were taken if control limits were exceeded. The WPCL chemist also flagged or provided comments on results that did not strictly meet quality control criteria. The WPCL applied an "EST", denoting an estimated value, to qualify results where appropriate. The contracting laboratories used customized flags to communicate detailed QC issues.

For each sampling event, the final laboratory reports were reviewed and QC issues identified by the WPCL or the contracted laboratories are summarized in a Data Review Memorandum (DRM) for the sampling event. The DRMs are included with the associated laboratory reports in Attachment A5.

Table A-4 summarizes those laboratory QC exceptions for the stormwater data that resulted in flagging of the results and affect data interpretation. Refer to the DRMs in Attachment A5 for additional discussion of the QC issues.

A6 Sample Results

The field and chemical analytical results for the 2007 – 2008 stormwater samples are summarized by outfall basin in the data tables presented as Attachment A4 to this report. The full laboratory reports and accompanying DRMs are presented in Attachment A5. The data tables presented in Attachment A4 include notations where appropriate to indicate potential data quality concerns or use limitations, as discussed in the DRMs.

The data tables include values for total PCB congeners, total PCB Aroclors, and total PAHs. For a given sample, these totals were calculated by summing the concentrations of individual compounds that were detected within the analyte group. Where chemical analyses resulted in undetected values for all compounds within the analyte group, then the total value is considered undetected ("ND"). If any of the individual values used in the sum are estimated ("J" qualified), then the total value is considered estimated.

In summary, the 2007 – 2008 City Outfall Basin stormwater sampling data were collected in accordance with the programmatic and stormwater SAPs during storm events that have been confirmed to be representative of typical precipitation events for the area. The quality of the resulting data (as qualified by the reporting laboratories and as described in the DRMs) has been determined to be acceptable for the intended purposes. Based on these factors, the 2007 – 2008 City Outfall Basin stormwater sampling data meet the objectives of the stormwater SAPs.

A7 References

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Tables

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Table A-1
Outfall Basin Characteristics and Descriptions of Stormwater Sampling Locations
2007 - 2008 City of Portland Outfall Stormwater Samples

Outfall Basin	Size (acres)	Impermeable Surface Area	Land Use(s) [1]	Sampling Location	
				Manhole/Outfall ID	Description
22C	1,107	2%	OS, HI, T, R	AAJ635	Samples collected directly from the 84" diameter outfall.
22D	240	4%	OS, R, T	AAE396	Located downstream of all known connections to the outfall. Samples collected at the manhole from the 48" line.
45	10	91%	HI, T, LI	ABC319	Located downstream of all known connections to the basin. Samples collected from the 27" line discharging from this manhole.
46	80	38%	OS, HI, R, G, T	AMR809	Located downstream of all known connections to the basin. Samples collected from the 60” line at the manhole.
47	9	69%	G, HI	AAT620	Located downstream of all known connections to the basin. Samples collected from the 27" line discharging from this manhole.
48	8	70%	R, HI	AAJ670	Located downstream of the stormwater treatment facility and all known connections to the outfall. Samples collected from the 30" line at the manhole.
50	39	58%	G, R, C, T, OS	AAE536	Located downstream of all stormwater treatment facilities and all known connections to the outfall. Samples collected from the 30" line discharging from this manhole.
52	23	76%	G, R, OS, T	AAE519	Located downstream of all known connections to the basin. Samples collected from the 27" line discharging from this manhole.
52A	25	70%	LI, G, HI, R, C	AAE397	Located downstream of all known connections to the basin. Samples collected from the 36" line at the manhole.
53	21	53%	R, C, G	AAC614	Located downstream of all known connections to the basin. Samples collected from 22” line discharging from this manhole.
53A	82	58%	HI	AAA170	Located downstream of all known connections to the basin. Samples collected at the manhole, or from 48" line discharging to it.

Table A-1
Outfall Basin Characteristics and Descriptions of Stormwater Sampling Locations
2007 - 2008 City of Portland Outfall Stormwater Samples

Outfall Basin	Size (acres)	Impermeable Surface Area	Land Use(s) [1]	Sampling Location	
				Manhole/Outfall ID	Description
M-1	162	78%	LI, R	AAM107	Located at last manhole before outfall. Samples collected from 60" line discharging from manhole. Excludes discharges from shoreline (and one upland) properties connected to the M-1 conveyance system.
M-2	127	78%	LI, R	AAM169	Located downstream of all known connections to the basin. Samples collected from 60" line discharging from this manhole.
M-3	111	78%	LI, G, R	AAQ004	Due to low elevation, excludes discharges from UPS and some catch basins on N. Basin near the outfall. Samples collected from the 60" line discharging from this manhole.
S-1	25	93%	HI, LI	AAM131	Located downstream of all known connections to the basin. Samples collected from 36" line discharging from this manhole.
S-2	27	66%	HI, LI	AAP957	Located downstream of all known connections to the basin. Samples collected from 36" line discharging from this manhole.
S-5	39	69%	HI, LI, G	AAP982	Located downstream of all known connections to the basin. Samples collected from 36" line discharging from this manhole.
S-6	22	83%	HI, LI	AAM118	Located downstream of all known connections to the basin. Samples collected from 36” line discharging from this manhole.

Notes:
1. Multiple land uses are listed in order of predominance. Land use definitions (based on zoning classifications):
   HI = Heavy Industrial
   LI = Light Industrial
   T = Major Transportation
   OS = Parks and Open Space
   C = Commercial
   G = General Employment
   R = Residential

Table A-2
Storm Events and Outfall Basins Sampled
2007 - 2008 City of Portland Outfall Stormwater Samples

Outfall Basin	Sampling Event			
	Event 1	Event 2	Event 3	Event 4
22C	2/29/2008	3/20/2008	4/4/2008	5/13/2008
22D	2/29/2008	3/20/2008	4/4/2008	4/4/2008
45	2/5/2008	2/29/2008	3/20/2008	4/4/2008
46	2/5/2008	2/29/2008	3/20/2008	4/4/2008
47	2/5/2008	2/29/2008	3/20/2008	4/4/2008
48	9/28/2007	10/16/2007	11/16/2007	12/15/2007
50	9/28/2007	10/16/2007	11/16/2007	12/14/2007
52	9/28/2007	9/30/2007	10/16/2007	11/16/2007
52A	9/28/2007	10/16/2007	11/16/2007	12/14/2007
M-1	9/28/2007	9/30/2007	10/16/2007	11/16/2007
M-2	9/28/2007	10/16/2007	11/16/2007	12/15/2007
M-3	9/28/2007	9/30/2007	10/16/2007	11/16/2007
S-1	9/28/2007	10/16/2007	11/16/2007	12/15/2007
S-2	9/28/2007	10/16/2007	11/16/2007	12/15/2007
S-5	9/28/2007	10/16/2007	11/16/2007	12/15/2007
S-6	9/28/2007	10/16/2007	11/16/2007	12/15/2007
53A	2/29/2008	3/20/2008	4/4/2008	4/4/2008

Note:
1. In addition to the 2007 - 2008 grab samples, composite samples were collected from Outfall Basin 53 during the following three events:
   Event 1: 1/26/08
   Event 2: 2/6/08
   Event 3: 3/12/08

Table A-3
Chemical Analytical Schedule
2007 - 2008 City of Portland Outfall Stormwater Samples

				Field Measurements			Laboratory Analysis and Method [2]							
Outfall Basin	**Sample ID**	**Sample Type [1]**	**Sample Collection Date**	Conductivity	pH	Temperature	TSS (SM 2540D)	TOC (EPA 415.1)	Total Metals (EPA 200.8)	Mercury (WPCLSOP-M-10.01)	PAHs and Phthalates (EPA 8270M-SIM)	SVOCs (full scan) (EPA 8270C)	PCB Congeners (EPA 1668A)	PCB Aroclors (EPA 8082)
22C	FO080315	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080435	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080508	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080654	N	5/13/2008	X	X	X	X	NA	X	X	X	X	X	NA
22D	FO080318	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080319	DUP	2/29/2008	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO080320	FDB	2/29/2008	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO080436	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080510	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080653	N	5/13/2008	X	X	X	X	NA	X	X	X	X	X	NA
45	FO080221	N	2/5/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080316	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080440	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080511	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
46	FO080222	N	2/5/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080317	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080437	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080512	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080513	DUP	4/4/2008	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO080514	FDB	4/4/2008	NA	NA	NA	X	NA	X	X	X	X	X	NA
47	FO080220	N	2/5/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080313	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080439	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080509	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
48	FO071152	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071153	DUP	9/28/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071154	FDB	9/28/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071260	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071400	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071586	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
50	FO071160	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071263	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071391	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071581	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA

Table A-3
Chemical Analytical Schedule
2007 - 2008 City of Portland Outfall Stormwater Samples

				Field Measurements			Laboratory Analysis and Method [2]							
Outfall Basin	**Sample ID**	**Sample Type [1]**	**Sample Collection Date**	Conductivity	pH	Temperature	TSS (SM 2540D)	TOC (EPA 415.1)	Total Metals (EPA 200.8)	Mercury (WPCLSOP-M-10.01)	PAHs and Phthalates (EPA 8270M-SIM)	SVOCs (full scan) (EPA 8270C)	PCB Congeners (EPA 1668A)	PCB Aroclors (EPA 8082)
52	FO071155	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071163	N	9/30/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071164	DUP	9/30/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071165	FDB	9/30/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071261	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071265	DUP	10/16/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071389	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
52A	FO071159	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071262	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071264	FDB	10/16/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071390	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071585	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
53	FO080172	N	1/26/2008	X	X	X	X	X	X	X	X	X	X	X
	FO080171	FDB	1/26/2008	NA	NA	NA	X	X	X	X	X	X	X	X
	FO080264	N	2/6/2008	X	X	X	X	X	X	X	X	X	X	X
	FO080409	N	3/12/2008	X	X	X	X	X	X	X	X	X	X	X
	FO080414	DUP	3/12/2008	NA	NA	NA	X	X	X	X	X	X	X	X
53A	FO080314	N	2/29/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080438	N	3/20/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080507	N	4/4/2008	X	X	X	X	NA	X	X	X	X	X	NA
	FO080652	N	5/13/2008	X	X	X	X	NA	X	X	X	X	X	NA
M-1	FO071150	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071162	N	9/30/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071258	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071397	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071394	FDB	11/16/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
M-2	FO071148	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071253	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071393	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071584	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
M-3	FO071149	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071161	N	9/30/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071259	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071392	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA

Table A-3
Chemical Analytical Schedule
2007 - 2008 City of Portland Outfall Stormwater Samples

				Field Measurements			Laboratory Analysis and Method [2]							
Outfall Basin	**Sample ID**	**Sample Type [1]**	**Sample Collection Date**	Conductivity	pH	Temperature	TSS (SM 2540D)	TOC (EPA 415.1)	Total Metals (EPA 200.8)	Mercury (WPCLSOP-M-10.01)	PAHs and Phthalates (EPA 8270M-SIM)	SVOCs (full scan) (EPA 8270C)	PCB Congeners (EPA 1668A)	PCB Aroclors (EPA 8082)
S-1	FO071151	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071255	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071399	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071587	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
S-2	FO071156	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071254	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071395	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071394	FDB	11/16/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071582	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
S-5	FO071157	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071257	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071398	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071401	DUP	11/16/2007	NA	NA	NA	X	NA	X	X	X	X	X	NA
	FO071583	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA
S-6	FO071158	N	9/28/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071256	N	10/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071396	N	11/16/2007	X	X	X	X	NA	X	X	X	X	X	NA
	FO071588	N	12/15/2007	X	X	X	X	NA	X	X	X	X	X	NA

Notes:

1. Sample types:
   - N = Normal
   - DUP = Field duplicate
   - FDB = Field decontamination blank. Note that each field decontamination blank is listed only at the collection site but represents the field blank for the entire sampling event.
2. Analyses:
   - TSS = Total suspended solids. Analysis performed by City of Portland, Bureau of Environmental Services' Water Pollution Control Laboratory (WPCL).
   - TOC = Total organic carbon. Analysis performed by WPCL.
   - Total Metals analysis includes arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc. Analysis performed by WPCL.
   - Total Mercury analsis performed by WPCL.
   - PAHs = Polycyclic aromatic hydrocarbons. PAH and phthalate analysis by EPA Method 8270M-SIM performed by Test America (TA).
   - SVOCs = Semivolatile organic compounds. Analysis of SVOCs (including PAHs and phthalates) by EPA Method 8270C performed by Columbia Analytical Services (CAS).
   - PCB = Polychlorinated biphenyls. PCB congener analysis performed by Pace Analytical Services. PCB Aroclor analysis performed by WPCL.
3. NA = Not Applicable

Table A-4
Laboratory and Field Data Quality Control Exceptions
2007 – 2008 City of Portland Outfall Stormwater Samples

Sample Date	QC Topic	Issue	Affected Sample(s)	Data Quality Flag[1]	Interpretation
Grab Samples					
9/28/07	Laboratory method blank	Di-n-butyl phthalate was detected in the blank analyzed by EPA Method 8270C and in all samples; the concentration in the blank is significant relative to the sample results.	All samples from this event.	Sample results are flagged "B".	Results for the OF 52, 52A, M-1, M-2, M-3, S-1 and field decontamination blank (FDB) samples are considered biased high (less than 10 times the method blank result). The results for OF 48, 50, S-2, S-5 and S-6 are considered a result of laboratory contamination (less than the method blank result).
		PCB congener 11 was detected at a low concentration in the method blank and in two samples.	FO071158 (OF S-6) FO071159 (OF 52A)	Sample results are flagged "B".	Both sample results for PCB congener 11 are considered the result of laboratory contamination (less than the method blank result). For OF 52A, the detection is not significant relative to the total PCB concentration. For OF S-6, the total PCB concentration is considered biased slightly high.
9/28/07	FDB	Zinc was detected in the FDB, and in two samples at concentrations less than 10 times the FDB concentration. Concentrations in the remaining samples are greater than 10 times the FDB detection.	FO071152 (OF 48) FO071153 (OF 48 duplicate)	Sample results for OF 48 are footnoted in the data table to indicate potential bias in results.	The results in the OF 48 samples are considered biased high (concentrations are less than 10 times the FDB concentration).

Table A-4 (continued…)

Sample Date	QC Topic	Issue	Affected Sample(s)	Data Quality Flag[1]	Interpretation
9/30/07	FDB	PCB congeners 129/138/163 and 153/168 were detected in the FDB at low concentrations.	FO071162 (OF M-1) FO071163 (OF 52) FO071164 (OF 52 duplicate)	As applicable (see Interpretation column), sample results are footnoted in the data tables to indicate potential bias in results.	The PCB congener 129/138/163 concentrations in the affected samples are greater than 5 times the FDB concentration and, therefore are not footnoted in the data tables. The congener 153/168 concentrations in the OF 52 samples are greater than 5 times the FDB concentration and, therefore are not footnoted in the data table. The PCB congener 153/168 concentration in OF M-1 is less than 5 times the FDB concentration and is considered biased high. As a result, for OF M-1, the total PCB concentration is considered biased slightly high.
		Di-n-butyl phthalate was detected in the FDB analyzed by EPA Method 8270C.	FO071161 (OF M-3) FO071162 (OF M-1) FO071163 (OF 52) FO071164 (OF 52 duplicate)	Sample results for OF 52, OF M-1, and OF M-3 are footnoted in the data table to indicate potential bias in results.	Results for the OF 52 samples are considered biased high (less than 10 times the FDB concentration). OF M-1 and M-3 sample concentrations are similar to the FDB detection and, therefore appear to be related to field decontamination procedures.
		Zinc was detected in the FDB.	FO071161 (OF M-3) FO071162 (OF M-1) FO071163 (OF 52) FO071164 (OF 52 duplicate)	None	Concentrations in all samples are greater than 10 times the FDB detection. Therefore, samples are not footnoted.
10/16/07	FDB	PCB congeners 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 were detected in the FDB at low concentrations.	FO071253 (OF M-2) FO071254 (OF S-2) FO071255 (OF S-1) FO071256 (OF S-6) FO071258 (OF M-1) FO071259 (OF M-3) FO071261 (OF 52) FO071262 (OF 52A) FO071265 (OF 52 duplicate)	As applicable (see Interpretation column), sample results are footnoted in the data tables to indicate potential bias in results.	For all affected samples, the concentration of PCB congeners 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 is less than 5 times the FDB concentration. The total PCB concentrations for these samples are considered biased slightly high.
		Zinc was detected in the FDB.	All samples from this event.	None	Concentrations in all samples are greater than 10 times the FDB detection. Therefore, samples are not footnoted.

Table A-4 (continued…)

Sample Date	QC Topic	Issue	Affected Sample(s)	Data Quality Flag[1]	Interpretation
11/16/07	FDB	Zinc was detected in the FDB.	All samples from this event.	None	Concentrations in all samples are greater than 10 times the FDB detection. Therefore, samples are not footnoted.
2/5/08	Laboratory method blank	Di-n-butyl phthalate was detected in the blank analyzed by EPA Method 8270C and in two samples; the concentration for the blank is significant relative to the sample results.	FO080221 (OF 45) FO080222 (OF 46)	Sample results are flagged "B".	Results for the OF 45 and OF 46 samples are considered biased high (less than 10 times the method blank concentration).
		Eleven PCB congeners / congener coelutions (comprising 20 individual congeners) were detected in the blank and in one or more of the three associated stormwater samples sample; the concentrations in the blank are significant relative to the sample results.	FO080221 (OF 45) FO080222 (OF 46) FO080220 (OF 47)	Sample results are flagged "B".	For the OF 46 sample, all but one (congener 183/185) of the blank detections were detected; the detections are considered a result of laboratory contamination (detected concentrations less than or very similar to the blank concentrations). For the OF 47 sample, six of the eleven blank detections were also detected; all are less than or less than 5 times the blank concentrations. For the OF 46 and OF 47 samples, the total PCB concentrations are considered biased significantly high. For the OF 45 sample, results for four of the congeners (11, 153/168, 170, and 183/185) were less than 5 times the blank concentrations; the total PCB concentration for this sample is considered biased slightly high.
2/29/08	FDB	Bis(2-ethylhexyl)phthalate was detected by EPA Method 8270M-SIM in the FDB and at similar (in some cases lower) concentrations in five samples.	FO080313 (OF 47) FO080214 (OF 53A) FO080316 (OF 45) FO080317 (OF 46) FO080319 (OF 22D duplicate)	Sample results are footnoted in the data tables to indicate potential bias in results.	For the OF 22D, OF 45, OF 53A samples, the detections are considered a result of field decontamination procedures (less than the concentration detected in the FDB). For the OF 46 and OF47 samples, results are considered biased high (less than 10 times the concentration detected in the FDB).

Table A-4 (continued…)

Sample Date	QC Topic	Issue	Affected Sample(s)	Data Quality Flag[1]	Interpretation
4/4/08	FDB	Zinc was detected in the FDB and in all associated stormwater samples.	All samples from this event	Sample results are footnoted in the OF 22C data table to indicate potential bias in results.	The zinc result for the OF 22C sample is considered biased high (less than 10 times the FDB detection). Zinc concentrations for the remaining samples are greater than 10 times the FDB concentration and are not flagged.
		PCB congener 11 was detected at a low estimated concentration in the FDB and also was detected at low concentrations in four of the associated field samples.	FO080511 (OF 45) FO080512 (OF 46) FO080513 (OF 46 duplicate) FO080509 (OF 47)	Sample results are footnoted in the data tables to indicate potential bias in results.	Sample results for PCB congener 11 are considered biased high (less than 5 times the FDB estimated concentration). The total PCB concentrations for these samples are considered biased slightly high.
Outfall Basin 53 Composite Samples					
1/26/08	Laboratory method blank	PCB congener 209 was detected at a low concentration in the method blank and in the associated stormwater sample; the concentration for the blank is significant relative to the sample result.	FO080172	Sample result is flagged "B".	The PCB congener 209 concentration in the sample is less than 5 times the blank concentration and is considered biased high. As a result, the total PCB concentration for the sample is considered biased slightly high.
	FDB	Bis(2-ethylhexyl)phthalate was detected by EPA Method 8270M-SIM in the FDB and in the associated stormwater sample.	FO080172	Sample result is footnoted in the data table to indicate potential bias in results.	The result for this sample is considered biased high (concentration is less than 10 times the FDB concentration).
2/6/08 – 2/7/08	Laboratory method blanks	Di-n-butyl phthalate was detected in the blank by EPA Method 8270C and in the sample; the concentration in the blank is significant relative to the sample result.	FO080264	Sample result is flagged "B".	Sample result is considered biased high (less than 10 times the method blank result).
		45 PCB congeners / congener coelutions (comprising 61 individual congeners) were detected in the blank analyzed by EPA Method 1668A and in the sample; the concentrations in the blank are significant relative to the sample results.	FO080264	Sample results are flagged "B".	The detections in the method blank were greater than 5 times the concentrations in the sample, and in many cases were greater than the sample concentrations. The total PCB congener concentration for this sample is considered biased significantly high.

Table A-4 (continued…)

Sample Date	QC Topic	Issue	Affected Sample(s)	Data Quality Flag[1]	Interpretation
3/12/08 – 3/13/08	Laboratory method blank	Bis(2-ethylhexyl)phthalate was detected in the blank for EPA Method 8270M-SIM and in both samples; the concentration for the blank is significant relative to the sample results.	FO080409 FO080414 (duplicate)	Sample results are flagged "B".	Result for the primary stormwater sample is considered a result of laboratory contamination (less than the blank concentration). Result for the duplicate sample is considered biased high (less than 10 times the blank concentration).

Notes:
FDB = Field decontamination blank

1. Except for issues regarding field decontamination blanks, data flags were assigned by the analytical laboratory reporting the data in accordance with laboratory-specific criteria.

Figures

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Figure A-1
Overview

Legend

- Outfall
- City Rain Gage Station
- River Mile
- Portland Harbor Hydroboundary
- City Basin Sampled

Information contained on this map is accurate according to available records, however, the City of Portland makes no warranty, expressed or implied, as to the completeness or accuracy of the information published

0 1,250 2,500 5,000 Feet

N W E S

Source:	City of Portland BES Aerial photo 2008
Prepared by:	Sara Gardner

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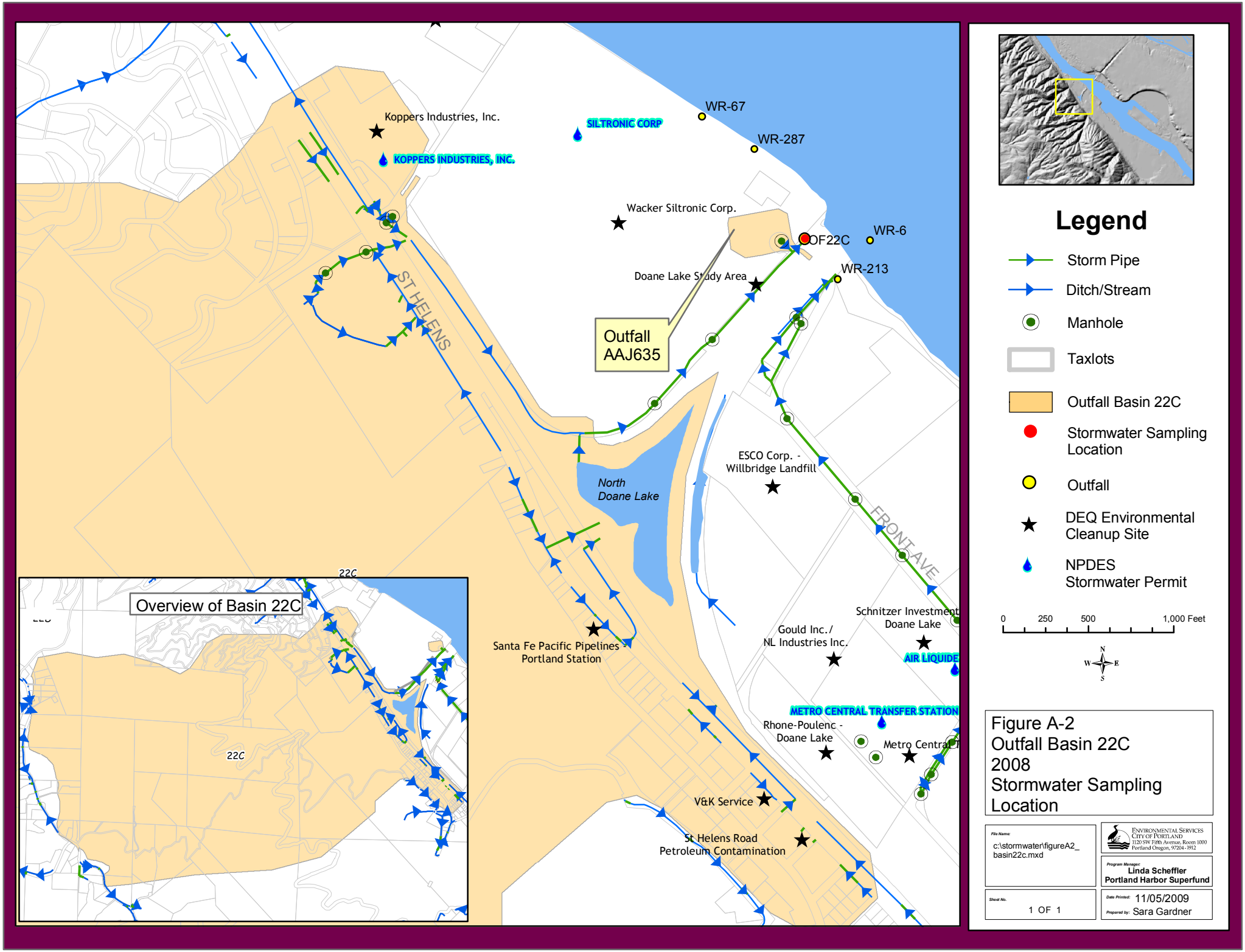

Figure A-2
Outfall Basin 22C
2008
Stormwater Sampling Location

File Name: c:\stormwater\figureA2_basin22c.mxd

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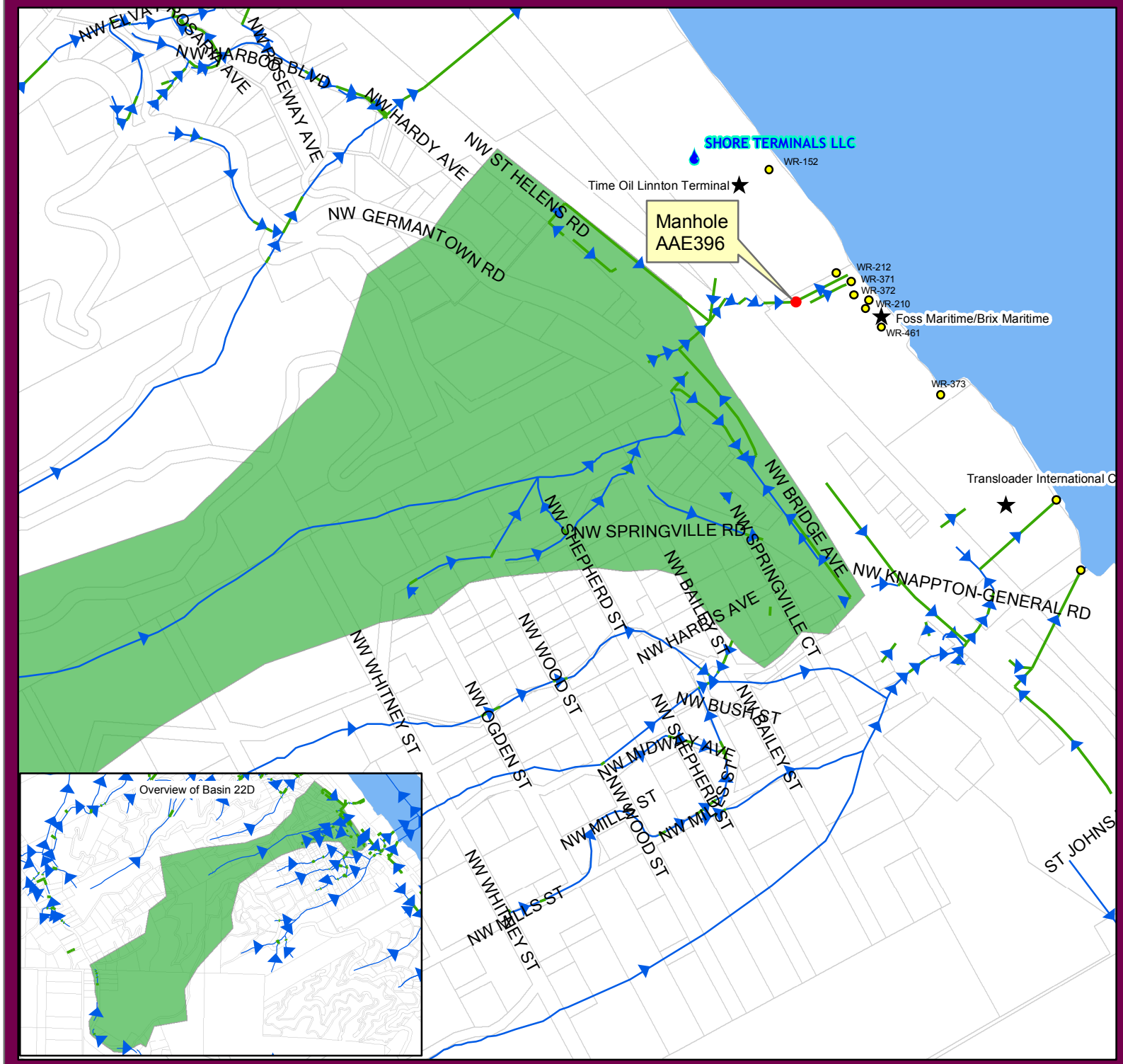

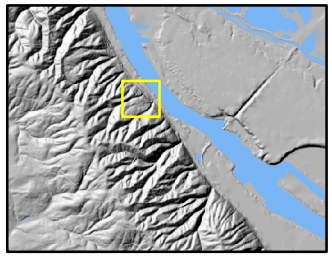

Legend

- Storm Pipe
- Ditch/Stream
- Manhole
- Taxlots
- Outfall Basin 22D
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 125 250 500 Feet

N W E S

Figure A-3
Outfall Basin 22D
2008
Stormwater Sampling Location

File Name: c:\stormwater\figureA3_basin22d

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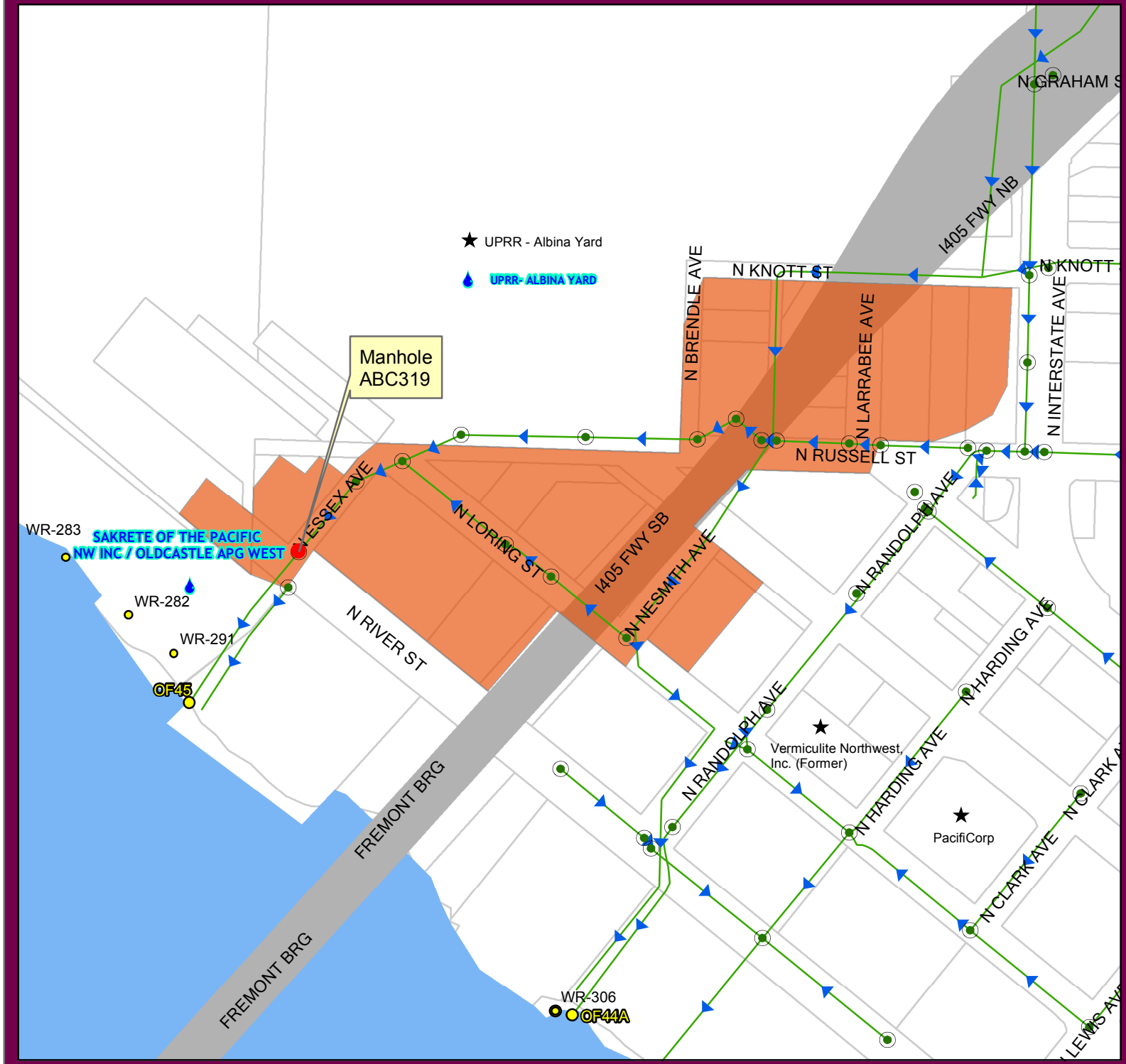

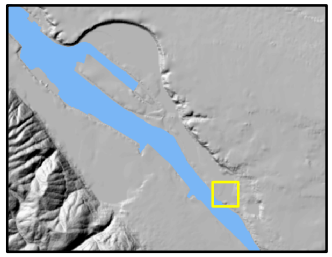

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin 45
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 100 200 400 Feet

Figure A-4
Outfall Basin 45
2008
Stormwater Sampling Location

File Name: c:/sarag/figurea4_basin45.mxd

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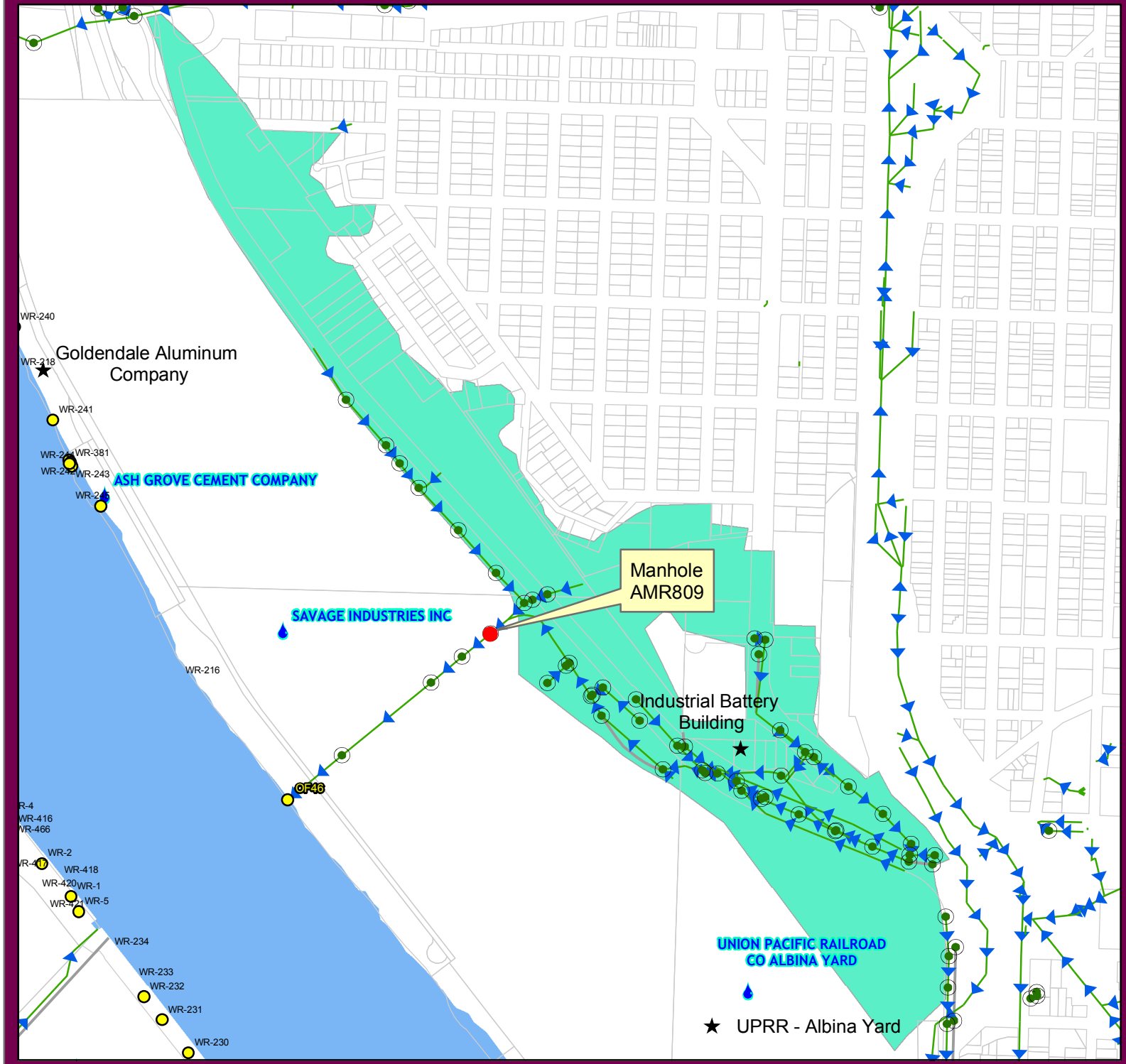

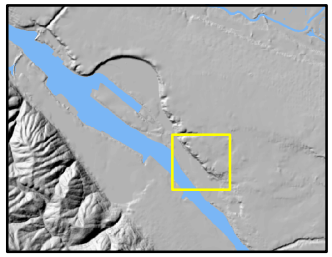

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin 46
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 250 500 1,000 Feet

N W E S

Figure A-5
Outfall Basin 46
2008
Stormwater Sampling Location

File Name: c:\stormwater\figureA5_basin46

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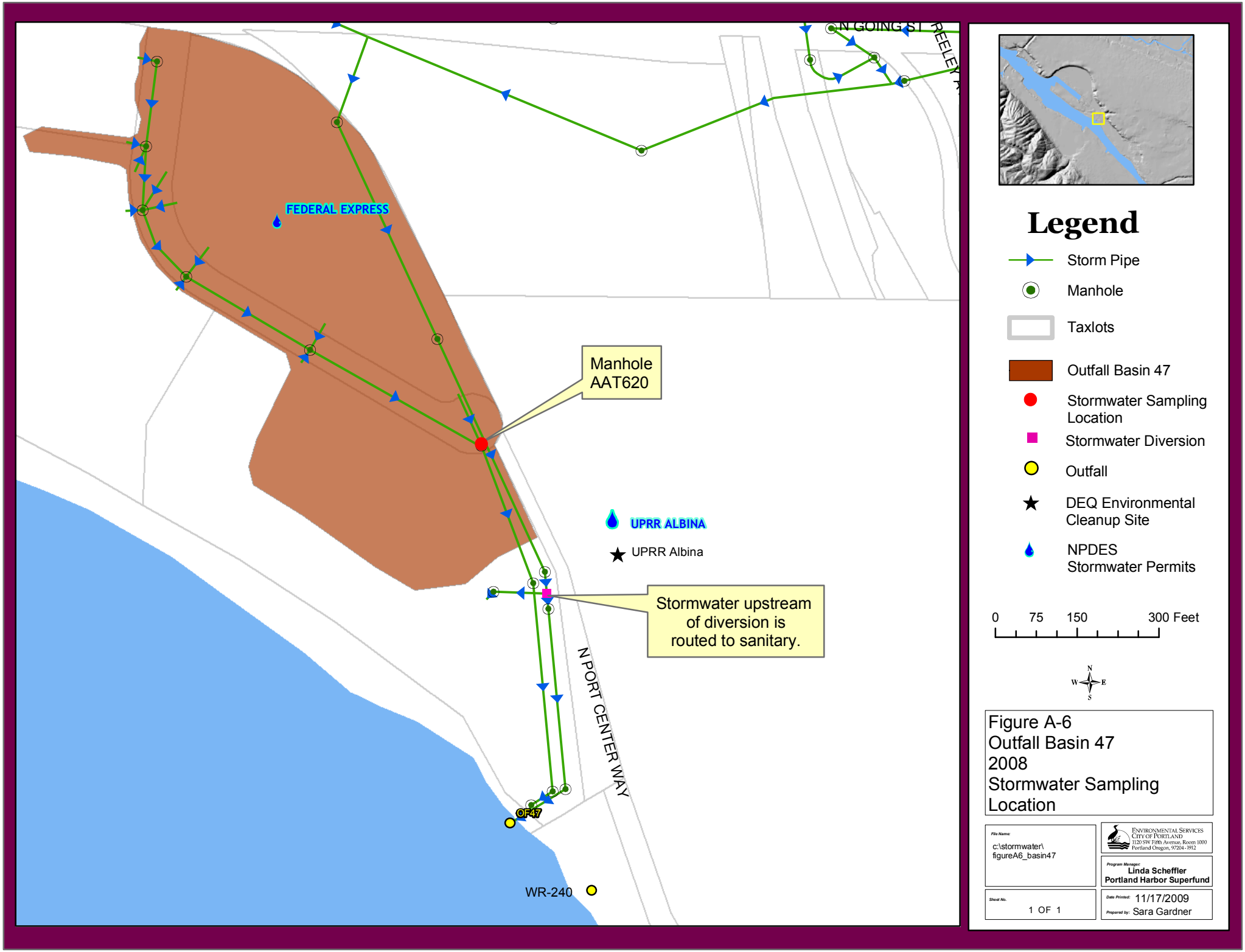

Figure A-6
Outfall Basin 47
2008
Stormwater Sampling
Location

File Name: c:\stormwater\figureA6_basin47

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Figure A-7
Outfall Basin 48
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA7_basin47

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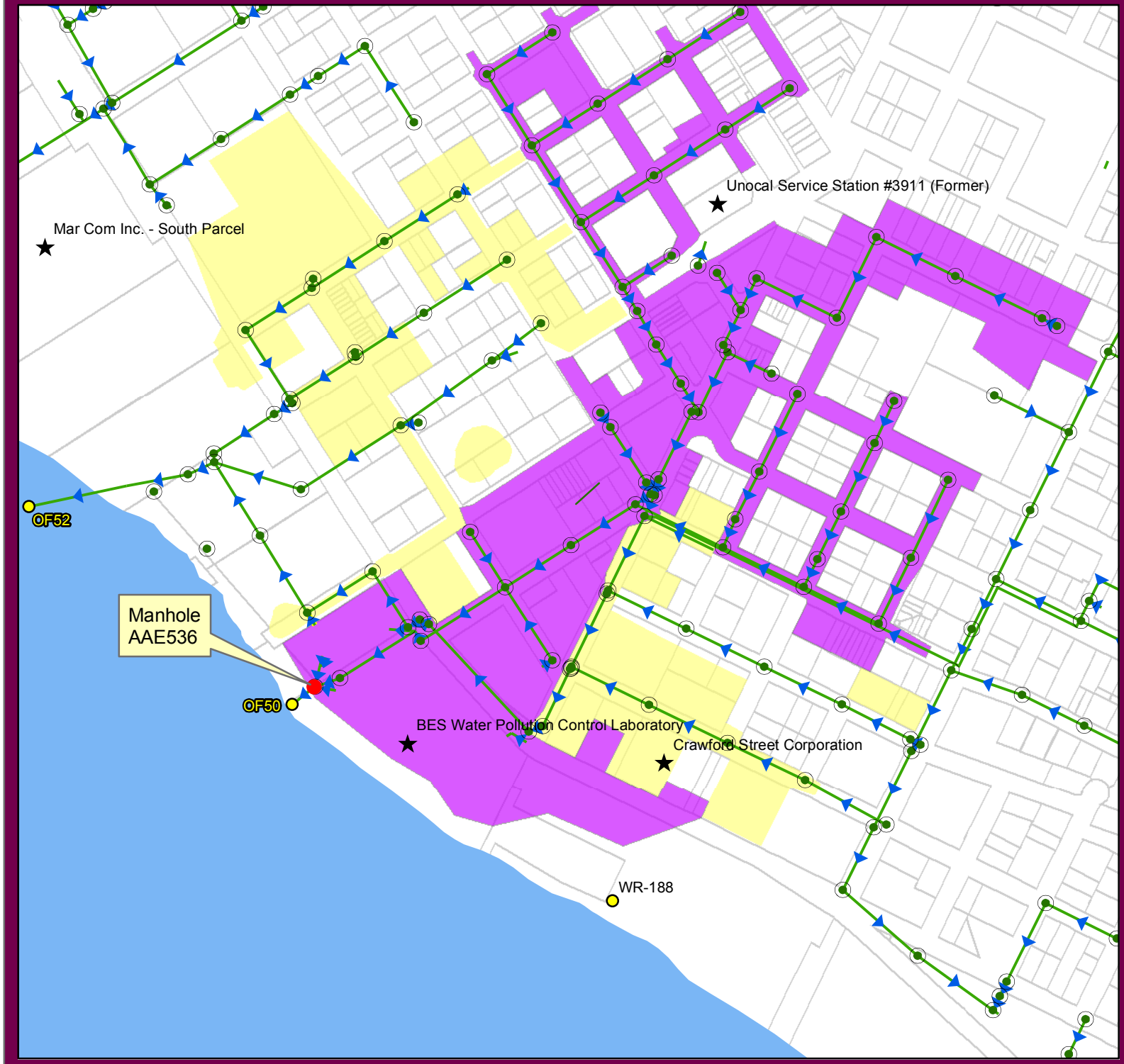

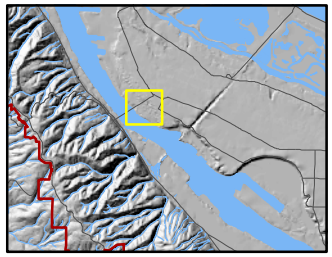

Legend

- Storm Pipe
- Ditch
- Manhole
- Taxlots
- Outfall Basin 50
- Outfall Basin 52 - see figure A-9
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site

0 125 250 500 Feet

N W E S

Figure A-8
Outfall Basin 50
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA12_basin53a

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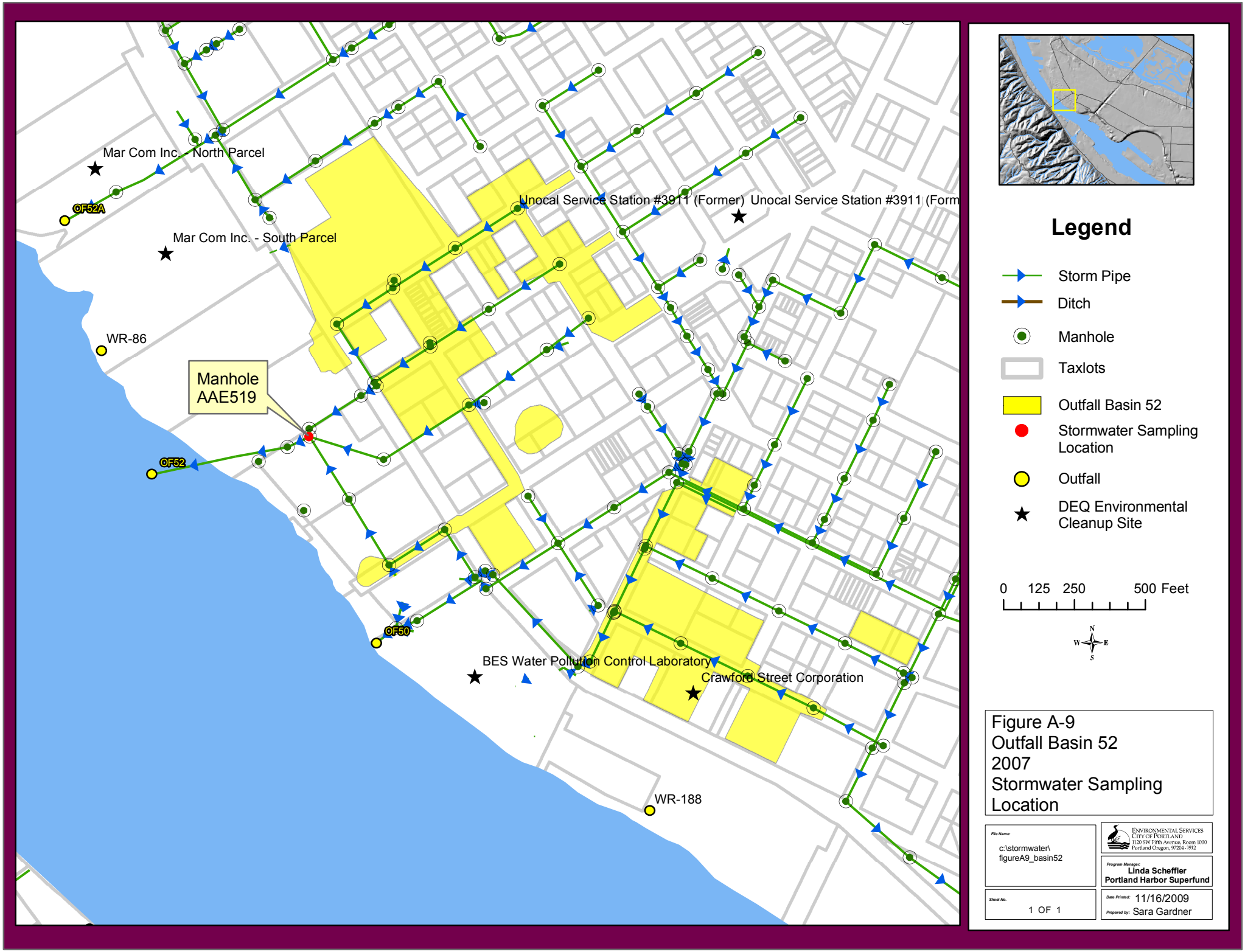

Figure A-9
Outfall Basin 52
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA9_basin52

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Figure A-10
Outfall Basin 52A
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA9_basin52

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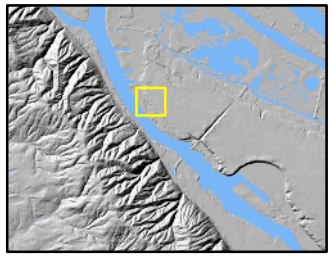

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin 53
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Sites
- NPDES Stormwater Permit

0 125 250 500 Feet

N W E S

Figure A-11
Outfall Basin 53
2008
Stormwater Sampling
Location

File Name: c:\stormwater\figureA12_basin53a

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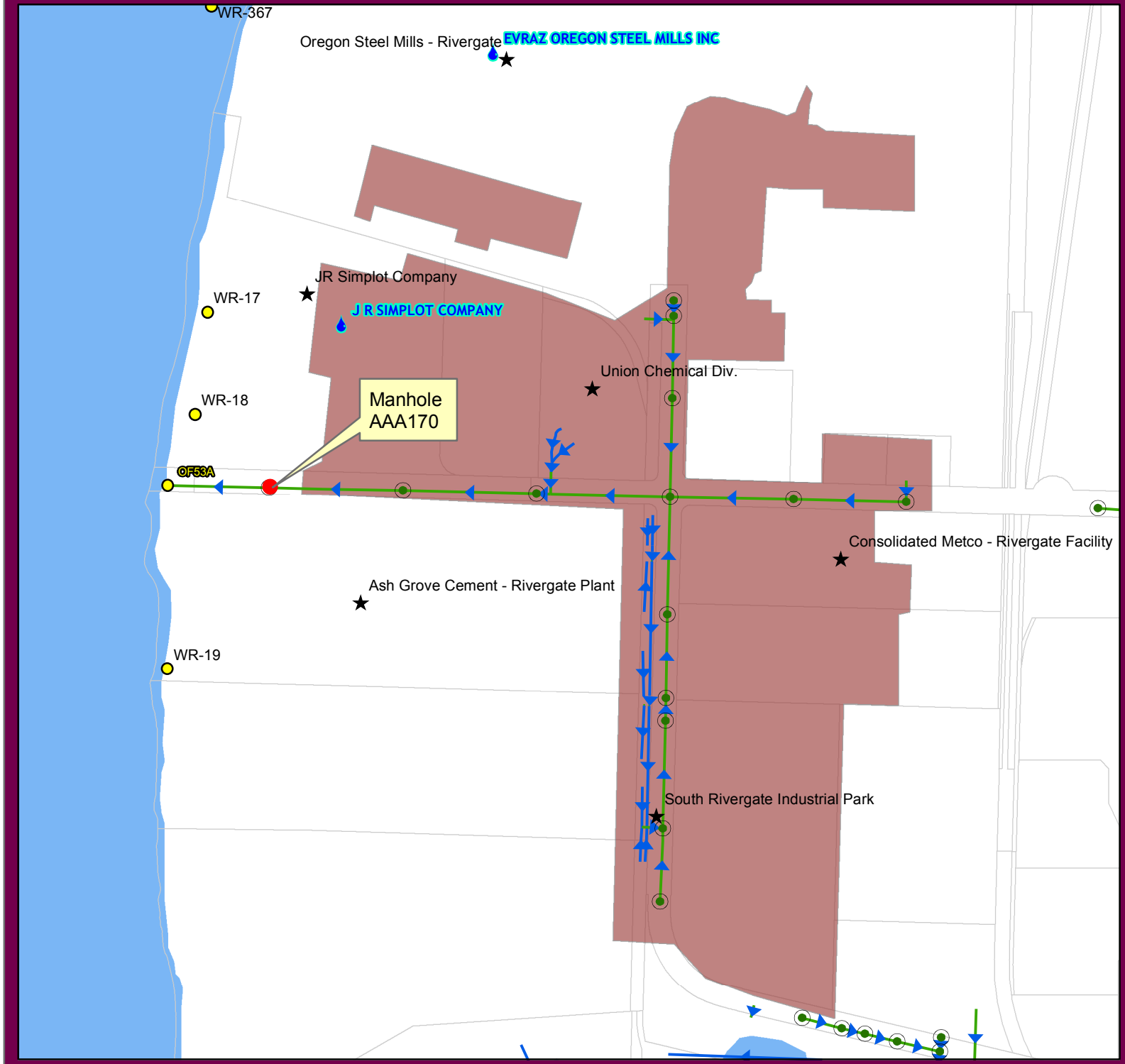

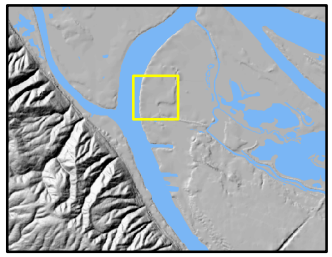

Legend

- Storm Pipe
- Ditch/Stream
- Manhole
- Taxlots
- Outfall Basin 53A
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

Note: The outfall basin boundary reflects the basin prior to recent drainage area system modifications at Oregon Steel Mills.

0 200 400 800 Feet

N W E S

Figure A-12
Outfall Basin 53A
2008
Stormwater Sampling Location

File Name: c:\stormwater\figureA12_basin53a

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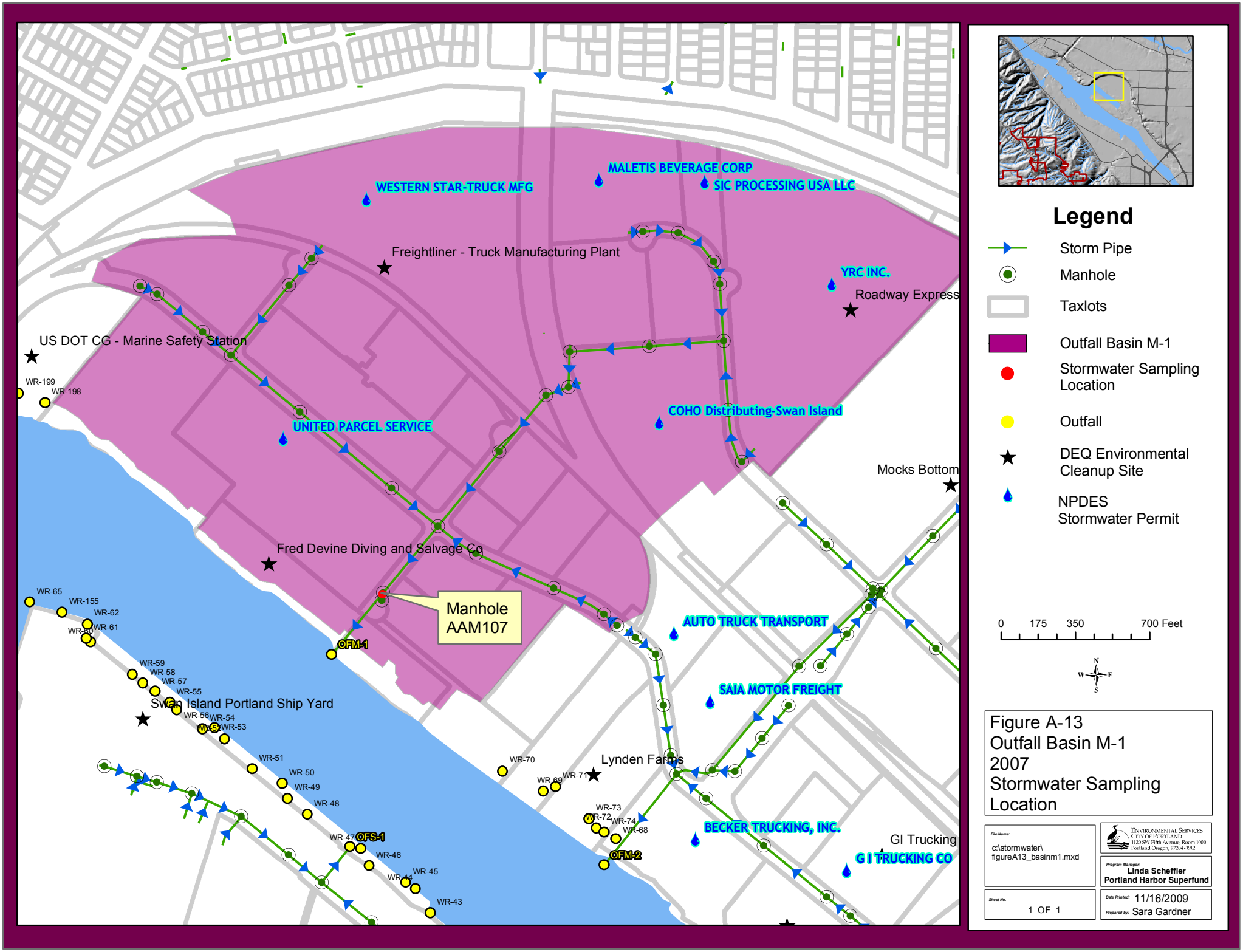

Figure A-13
Outfall Basin M-1
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA13_basinm1.mxd

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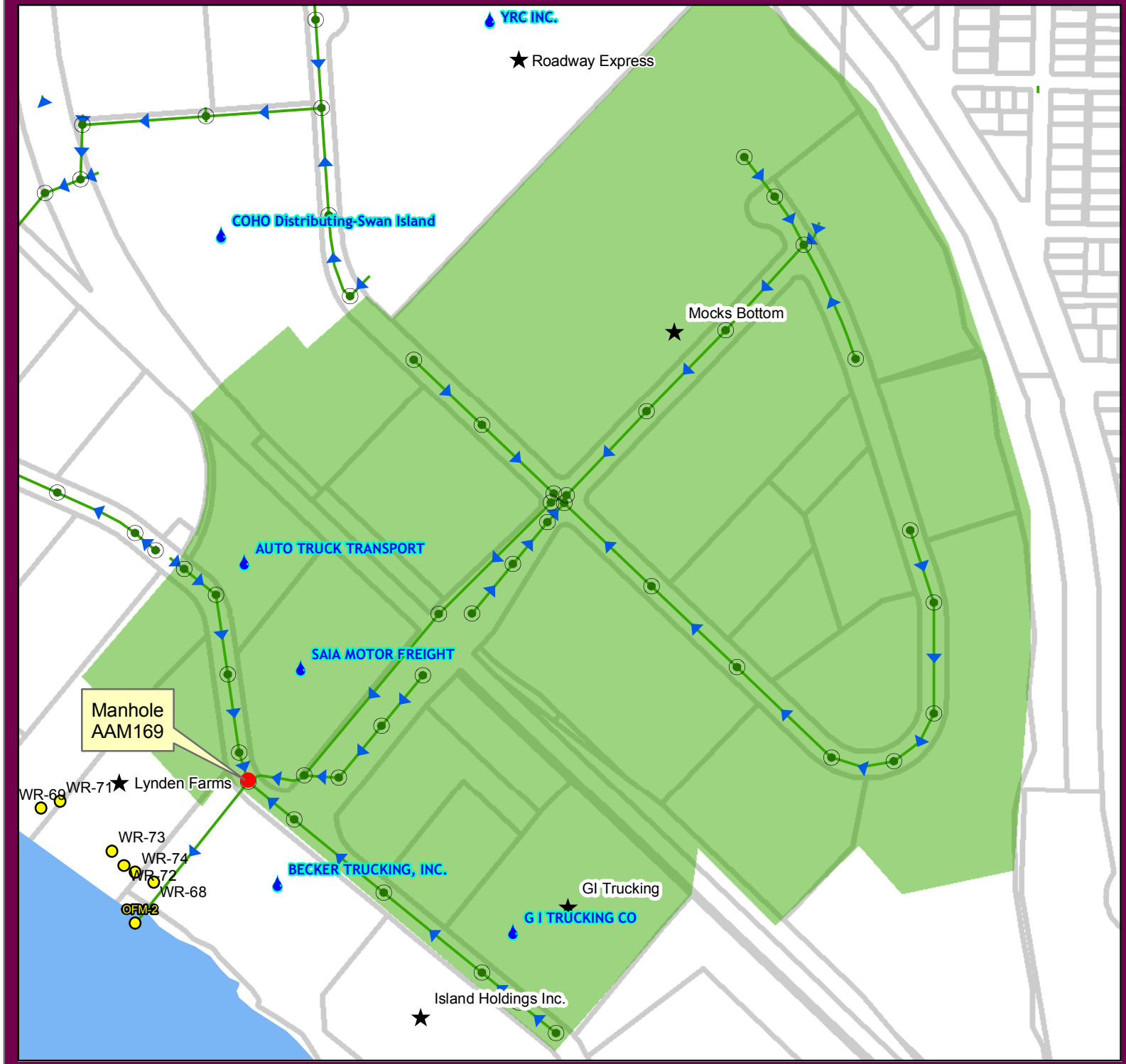

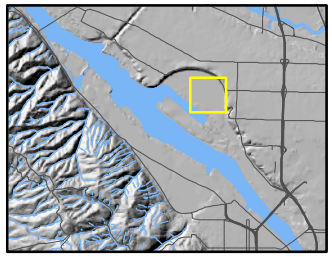

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin M-2
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 175 350 700 Feet

N W E S

Figure A-14
Outfall Basin M-2
2007
Stormwater Sampling Location

File Name: s:\gis\outfalls\outfalls_M2\ofM2_swsamp_0707.mxd

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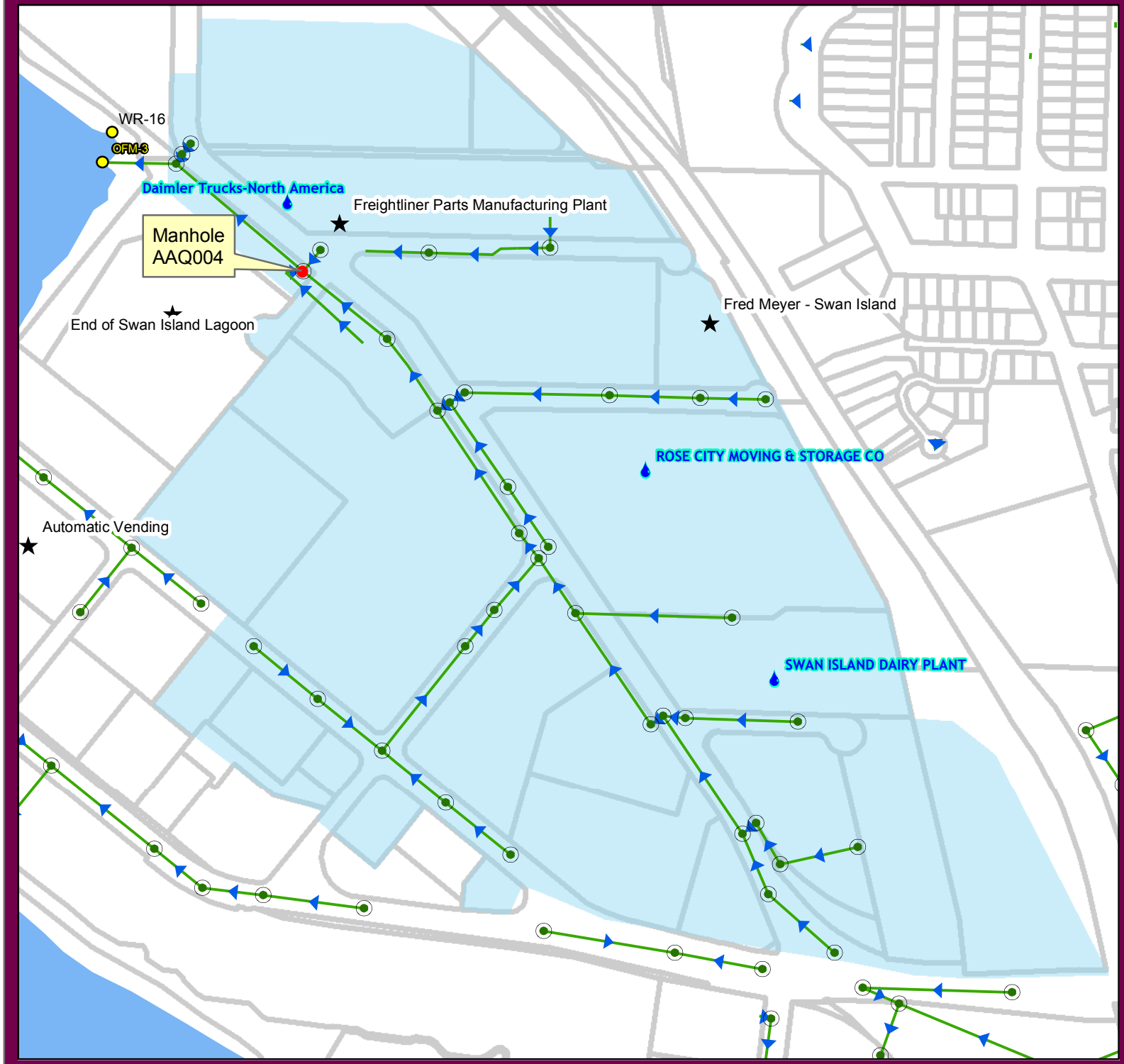

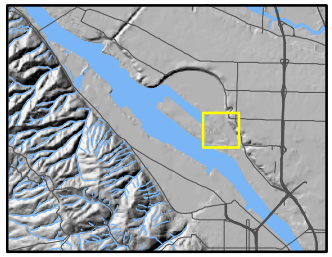

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin M-3
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 175 350 700 Feet

N W E S

Figure A-15
Outfall Basin M-3
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA15_basinm3.mxd

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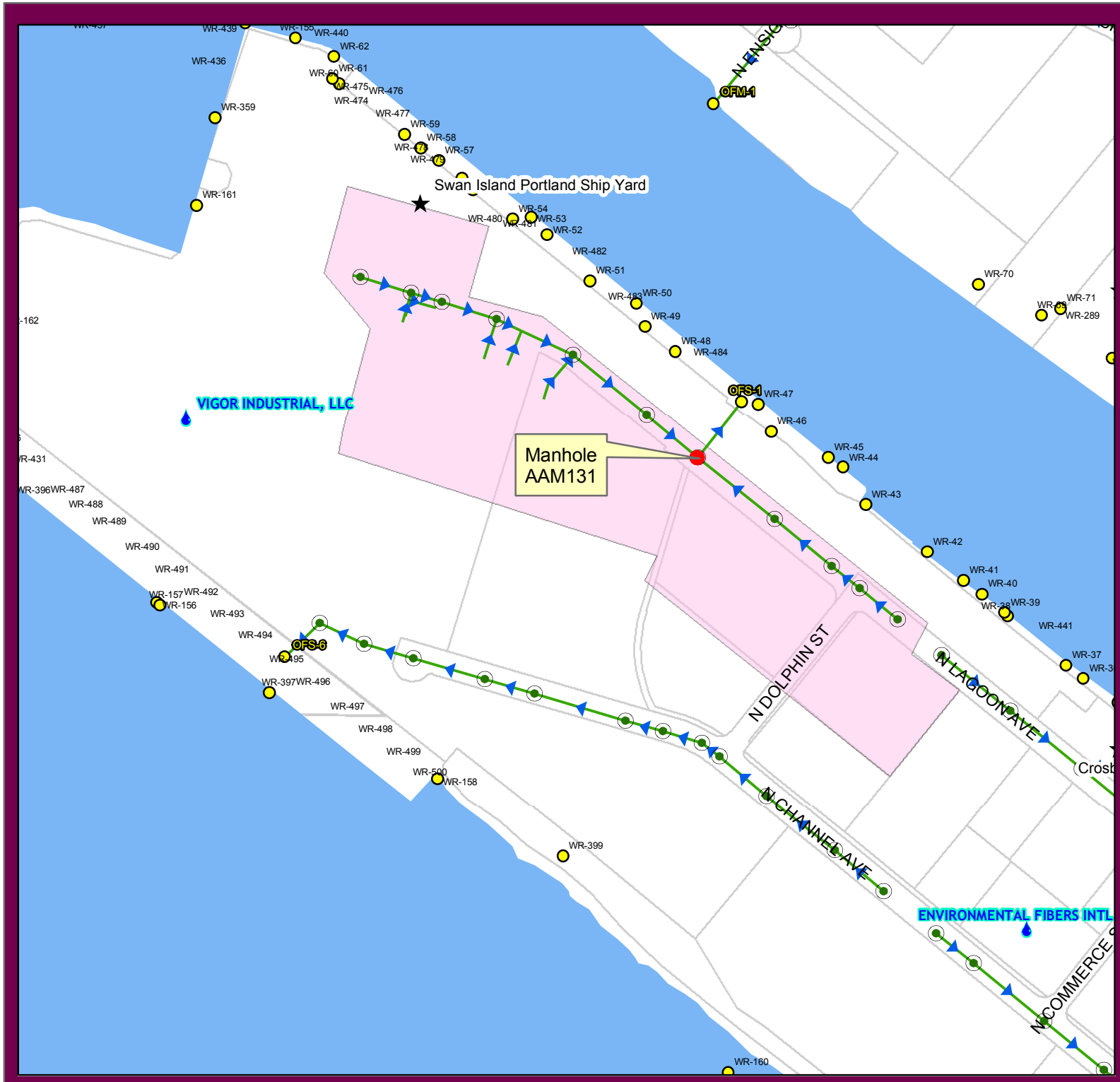

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin S-1
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Industrial Permit

Figure A-16
Outfall Basin S-1
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA16_basinmS1.mxd

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Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin S-2
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 125 250 500 Feet

N W E S

Figure A-17
Outfall Basin S-2
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA16_basinS2.mxd

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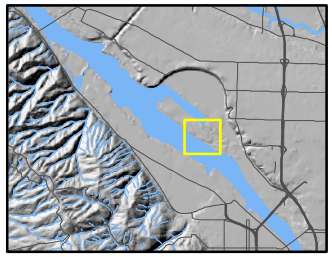

Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin S-5
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Sites
- NPDES Stormwater Permit

0 125 250 500 Feet

N
W E
S

Figure A-18
Outfall Basin S-5
2007
Stormwater Sampling Location

File Name:
c:\stormwater\figureA16_basinS2.mxd

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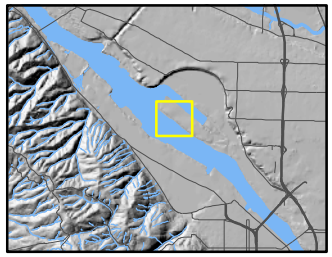
Portland Harbor Superfund

Date Printed: 11/18/2009
Prepared by: Sara Gardner



Legend

- Storm Pipe
- Manhole
- Taxlots
- Outfall Basin S-6
- Stormwater Sampling Location
- Outfall
- DEQ Environmental Cleanup Site
- NPDES Stormwater Permit

0 125 250 500 Feet

N W E S

Figure A-19
Outfall Basin S-6
2007
Stormwater Sampling Location

File Name: c:\stormwater\figureA16_basinS6.mxd

Environmental Services
City of Portland
1120 SW Fifth Avenue, Room 1000
Portland Oregon, 97204-3912

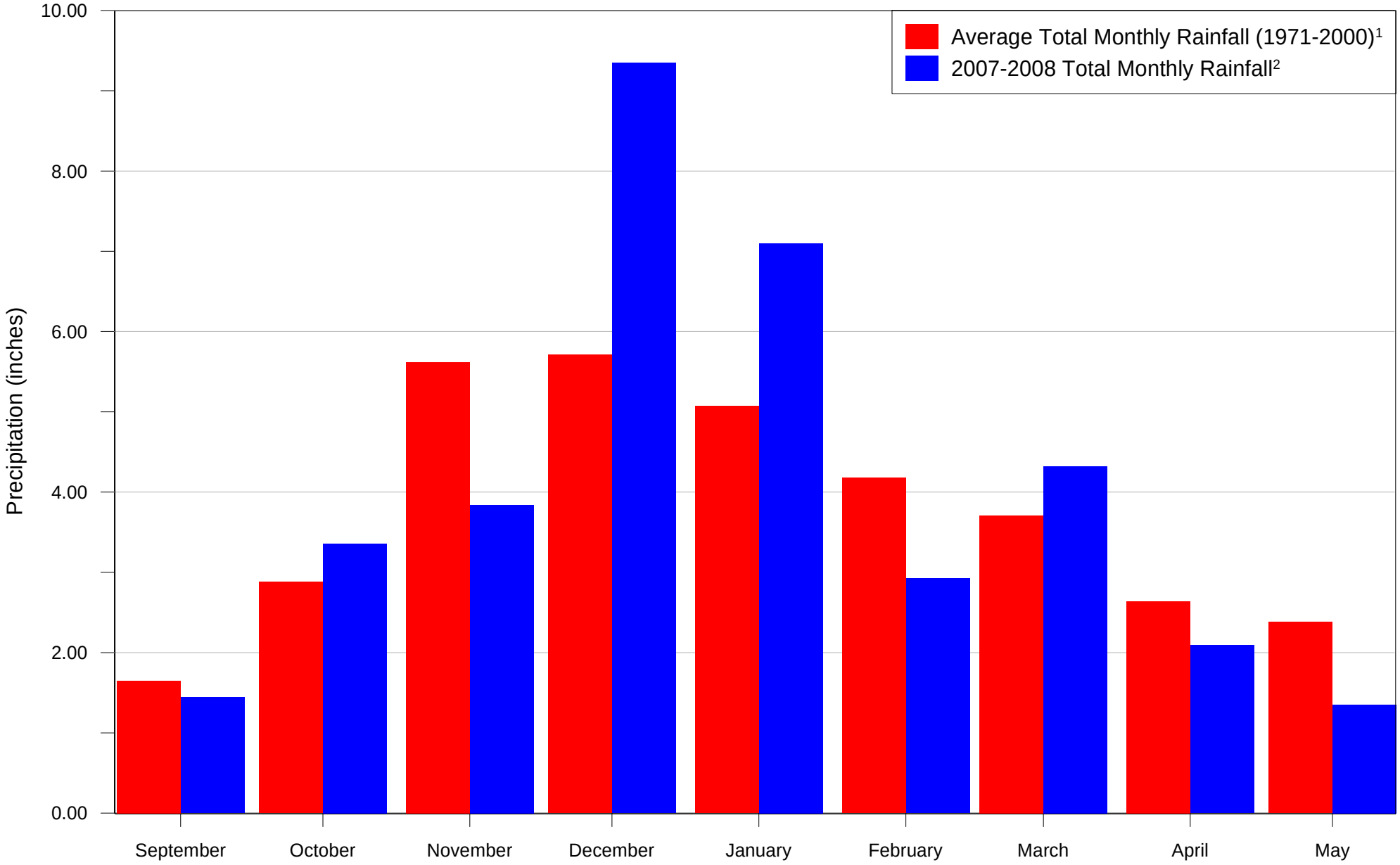
Program Manager: Linda Scheffler
Portland Harbor Superfund

Sheet No. 1 OF 1

Date Printed: 11/18/2009

Prepared by: Sara Gardner

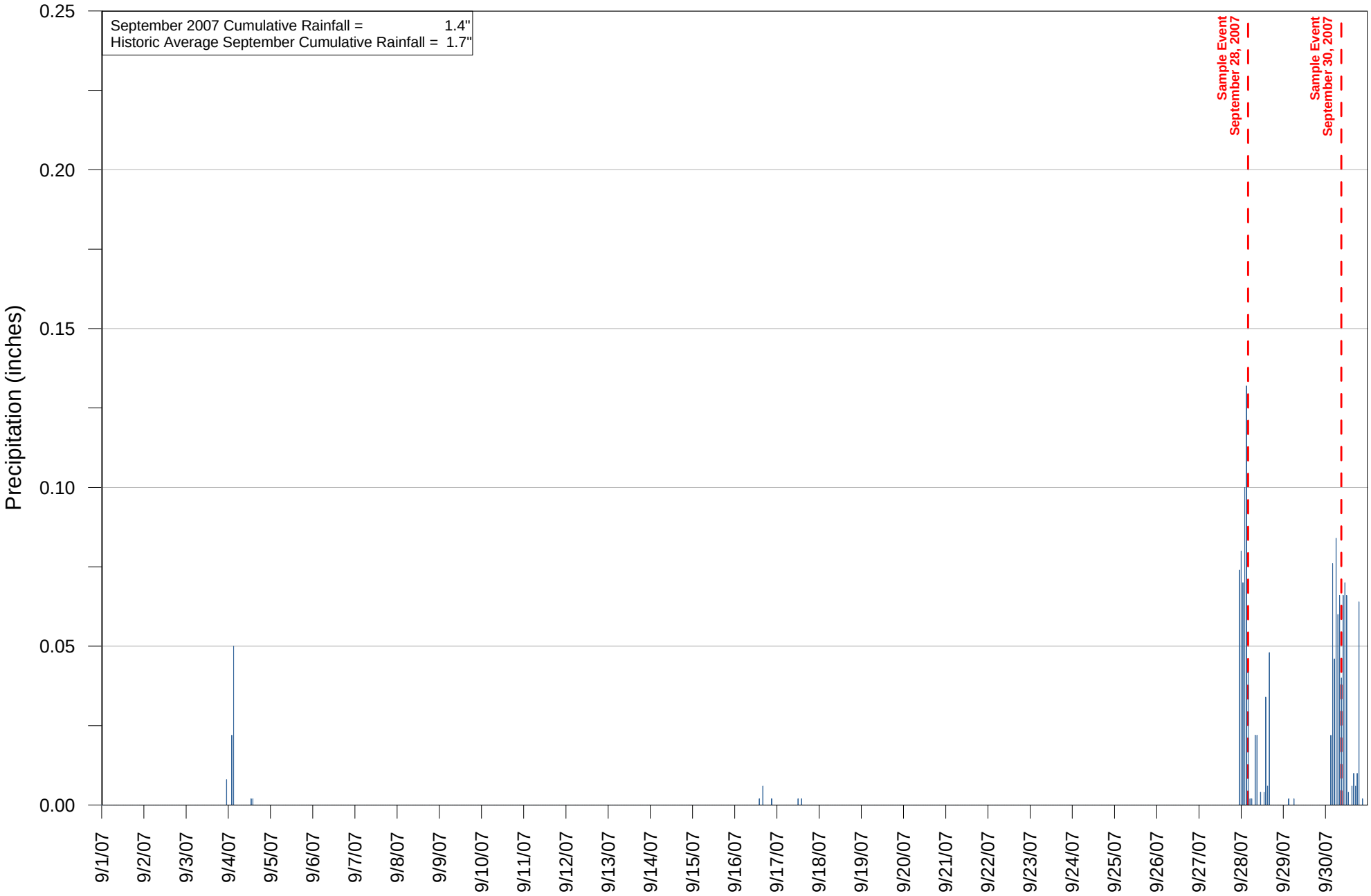
Monthly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-20

September 2007 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
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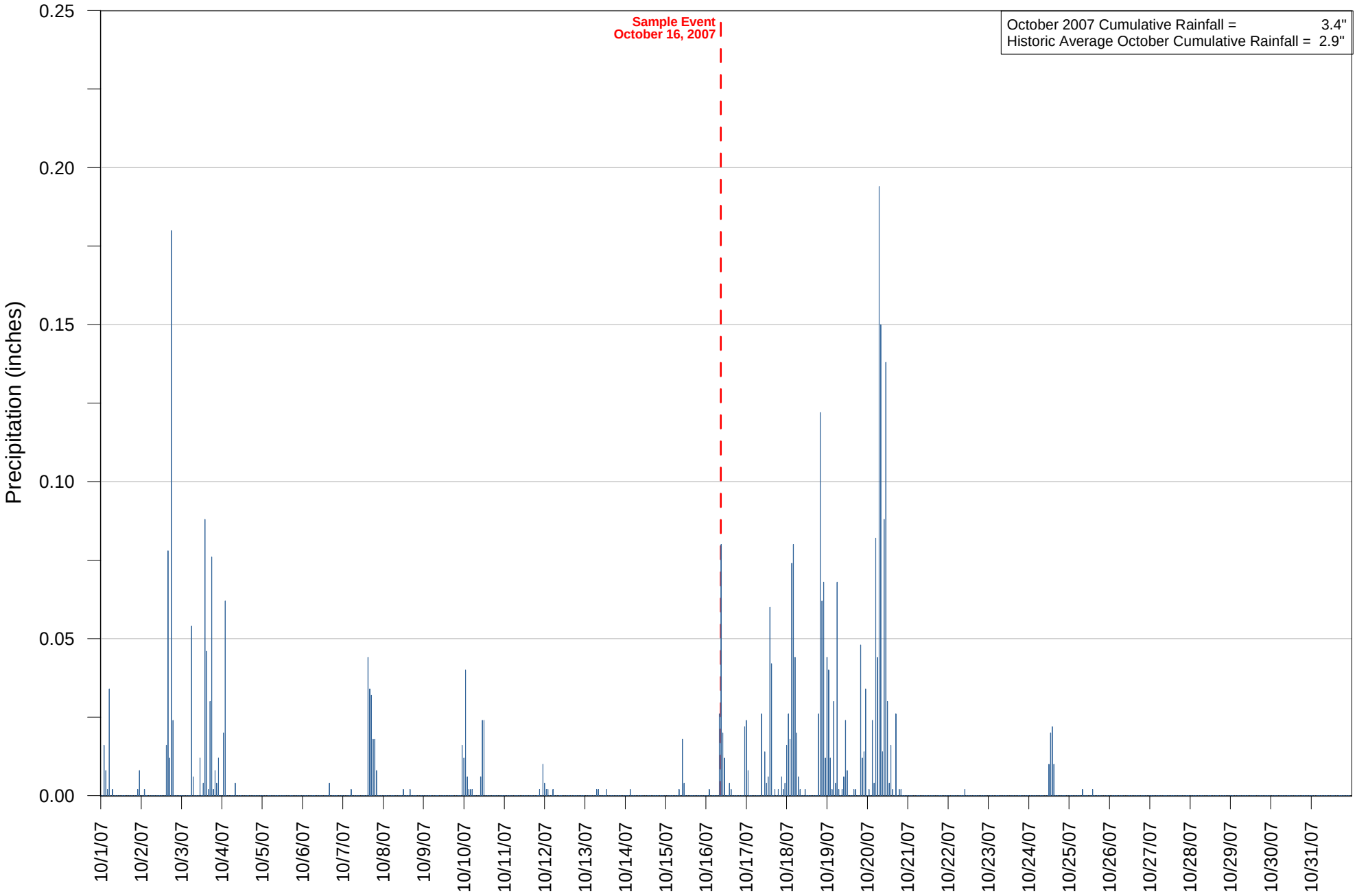
Figure A-21

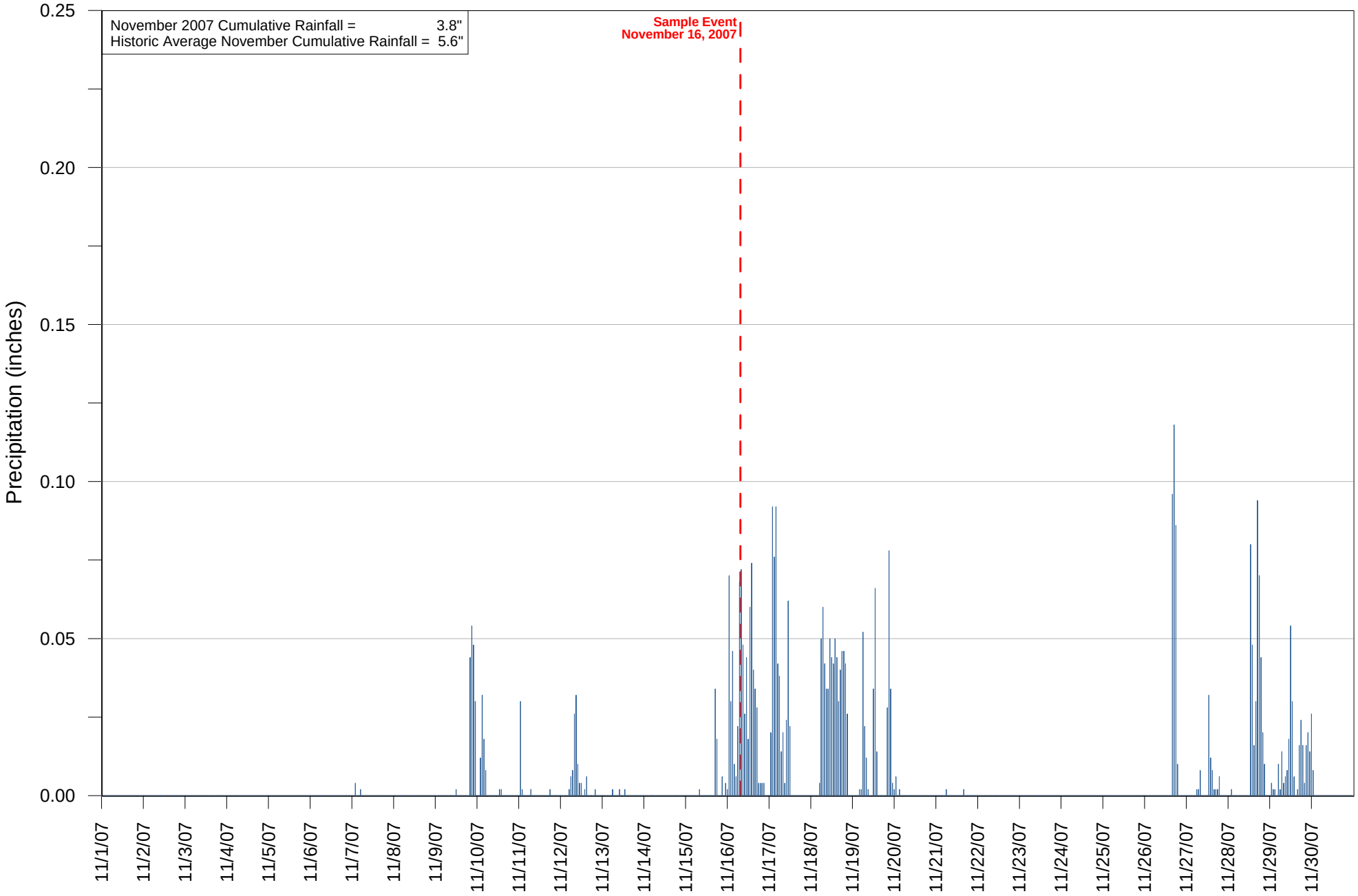
October 2007 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-22

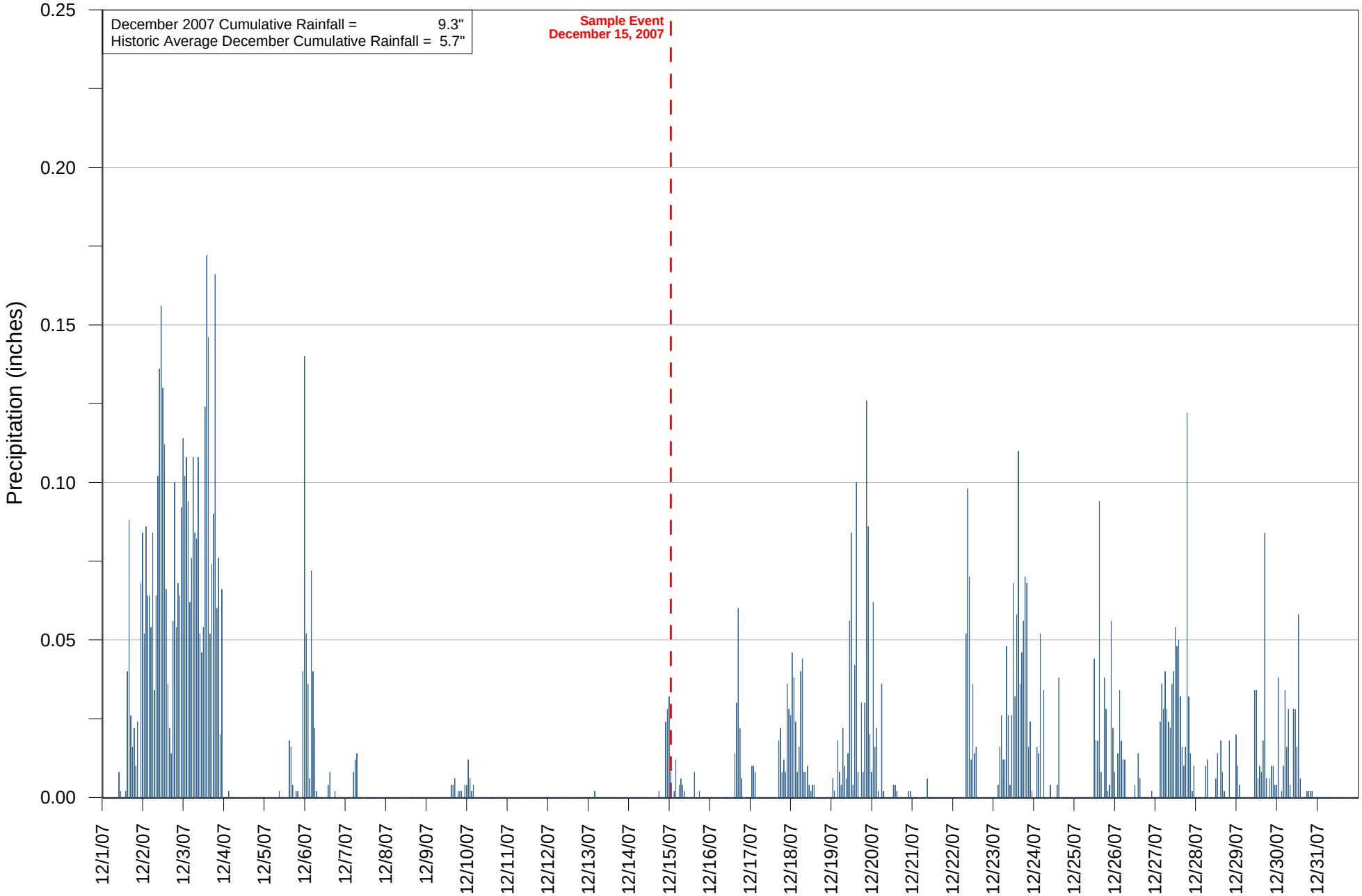
November 2007 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-23

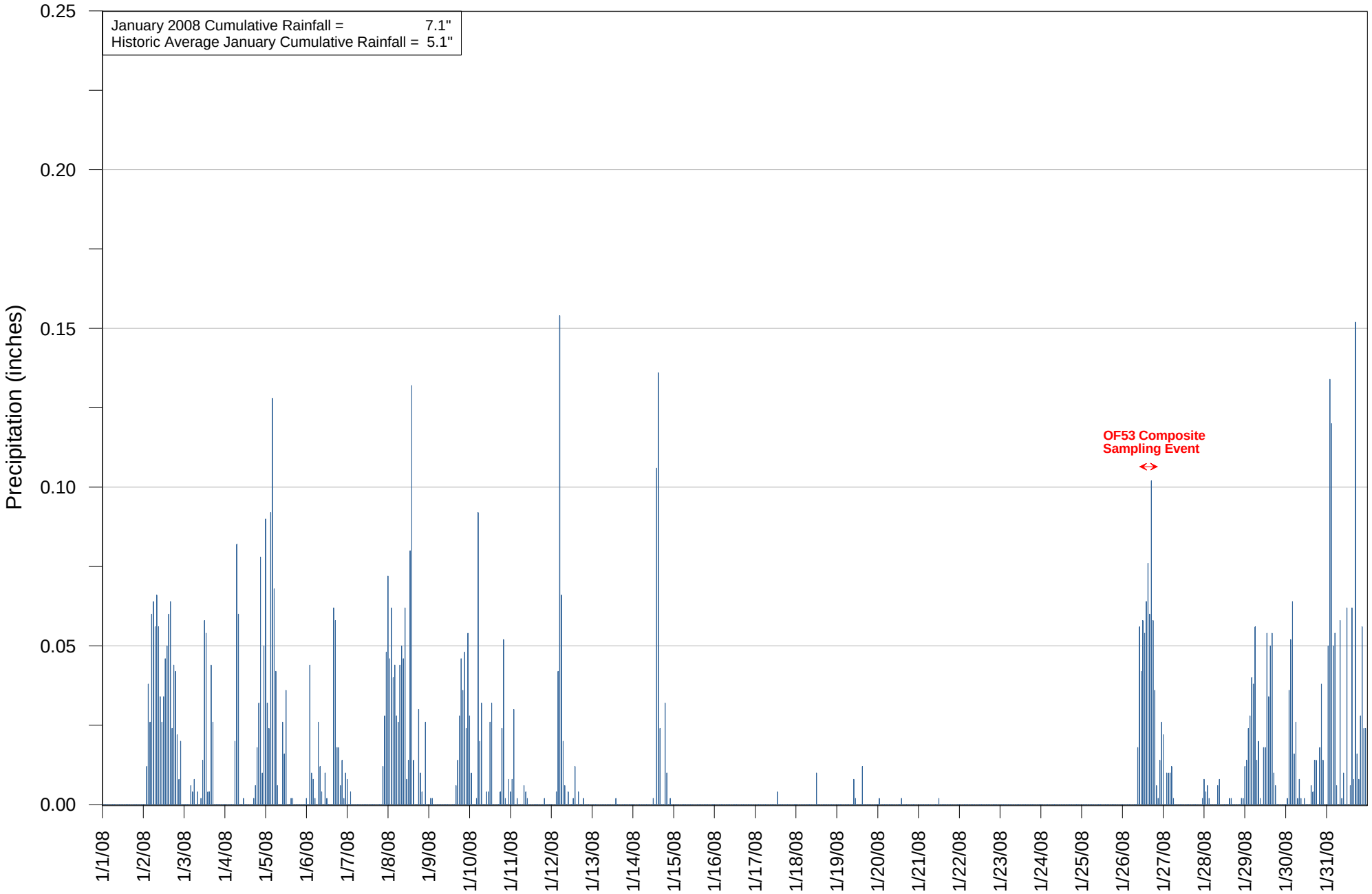
December 2007 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-24

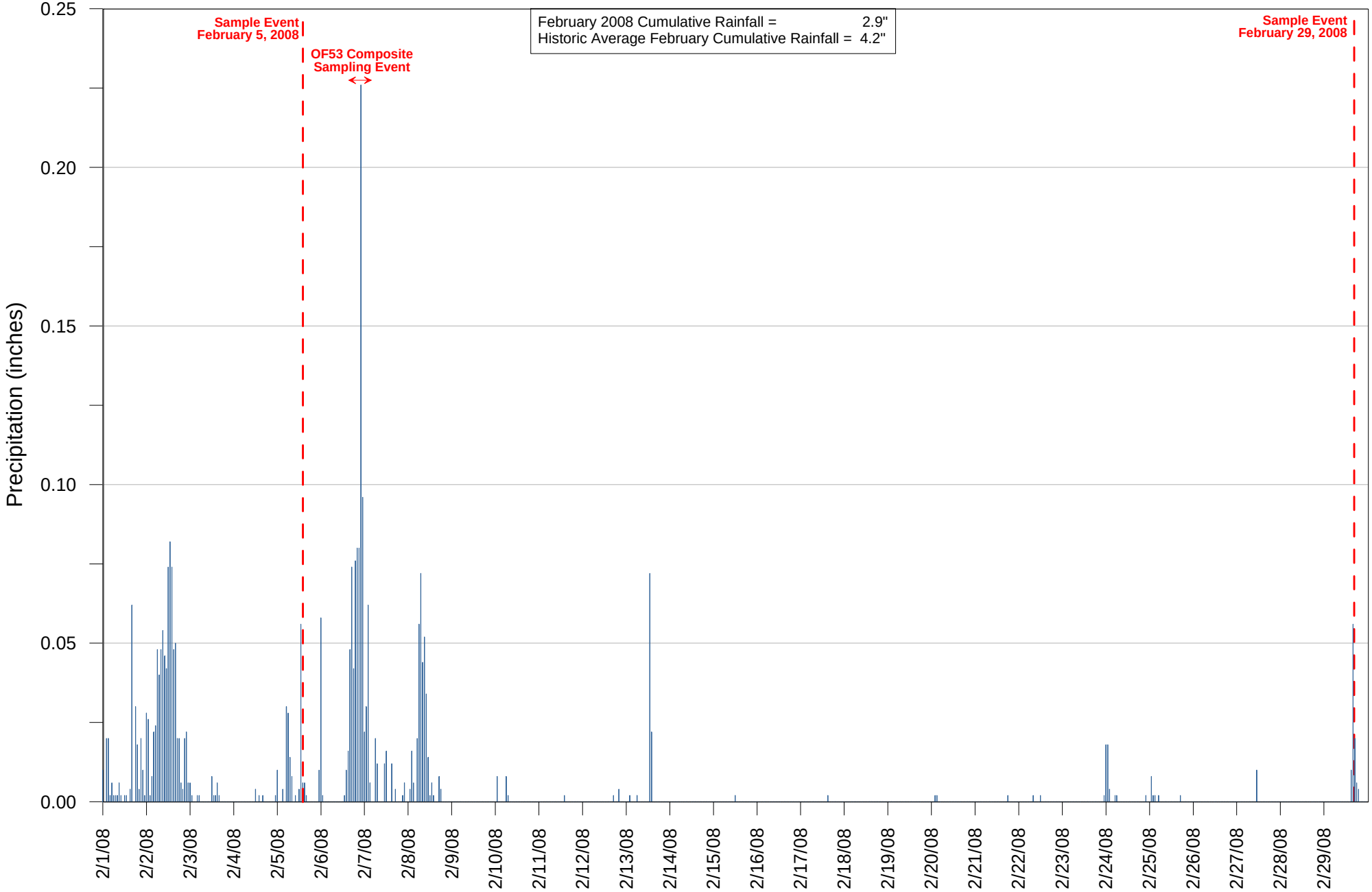
January 2008 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-25

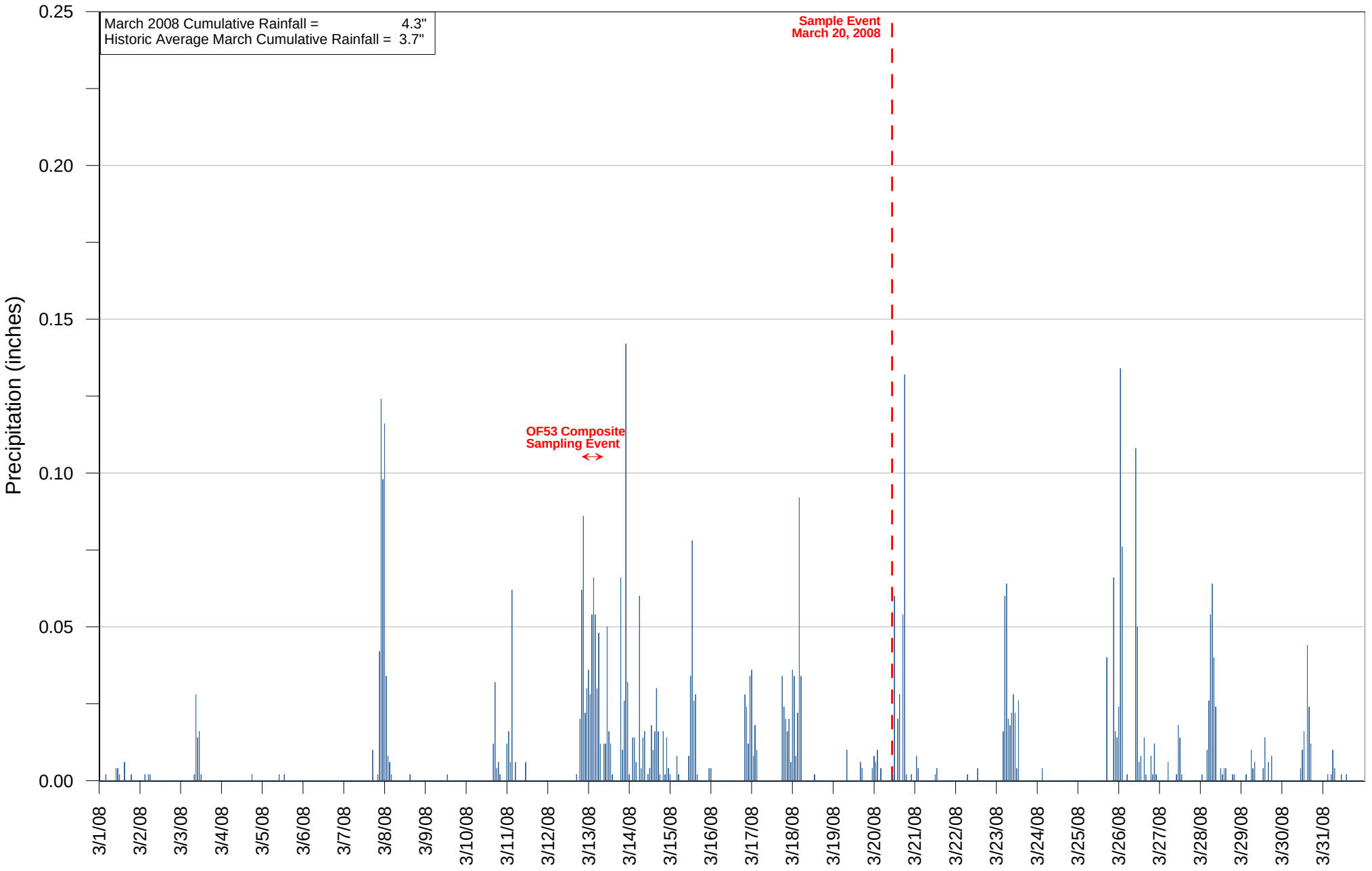
February 2008 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-26

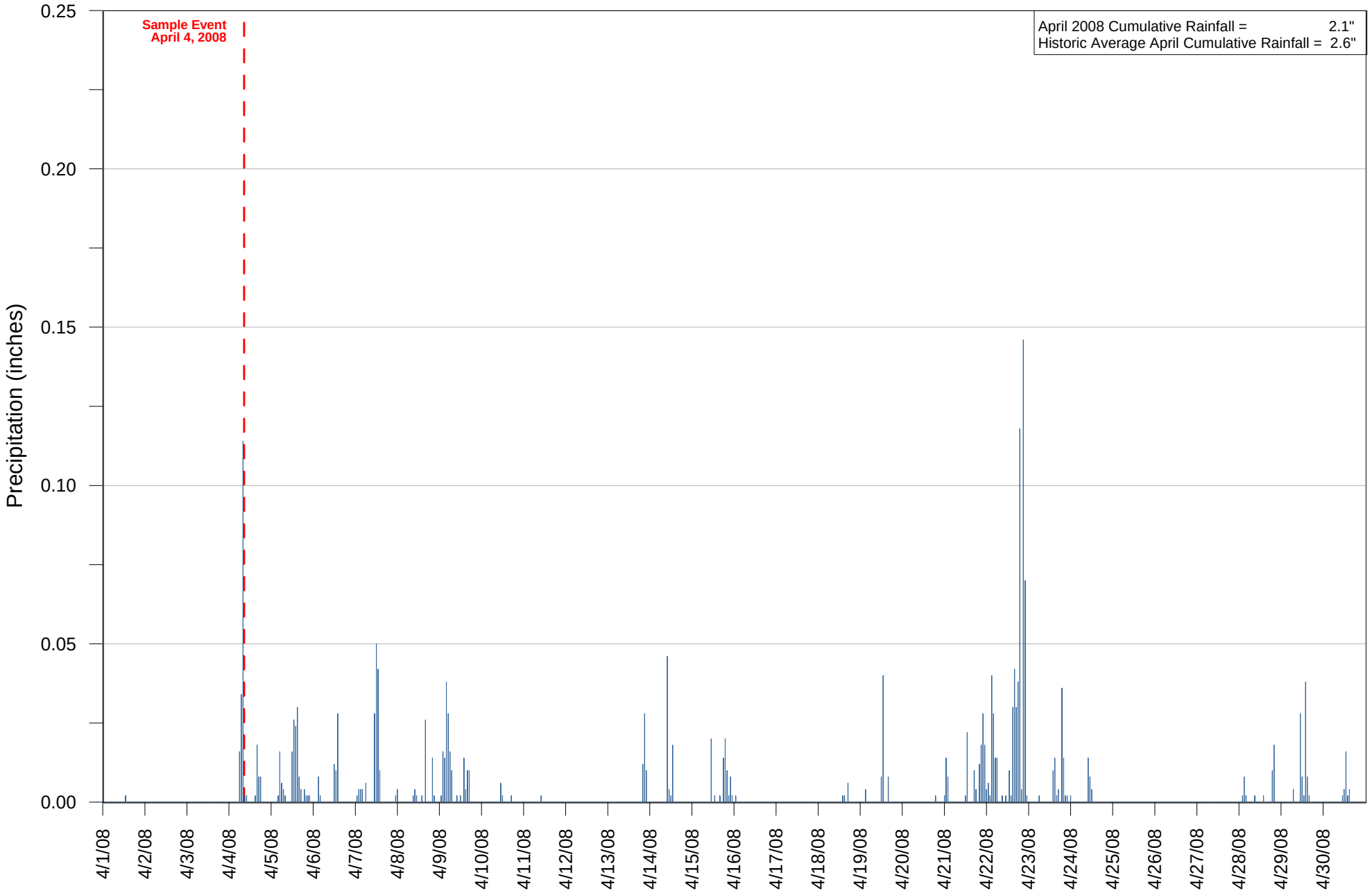
March 2008 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-27

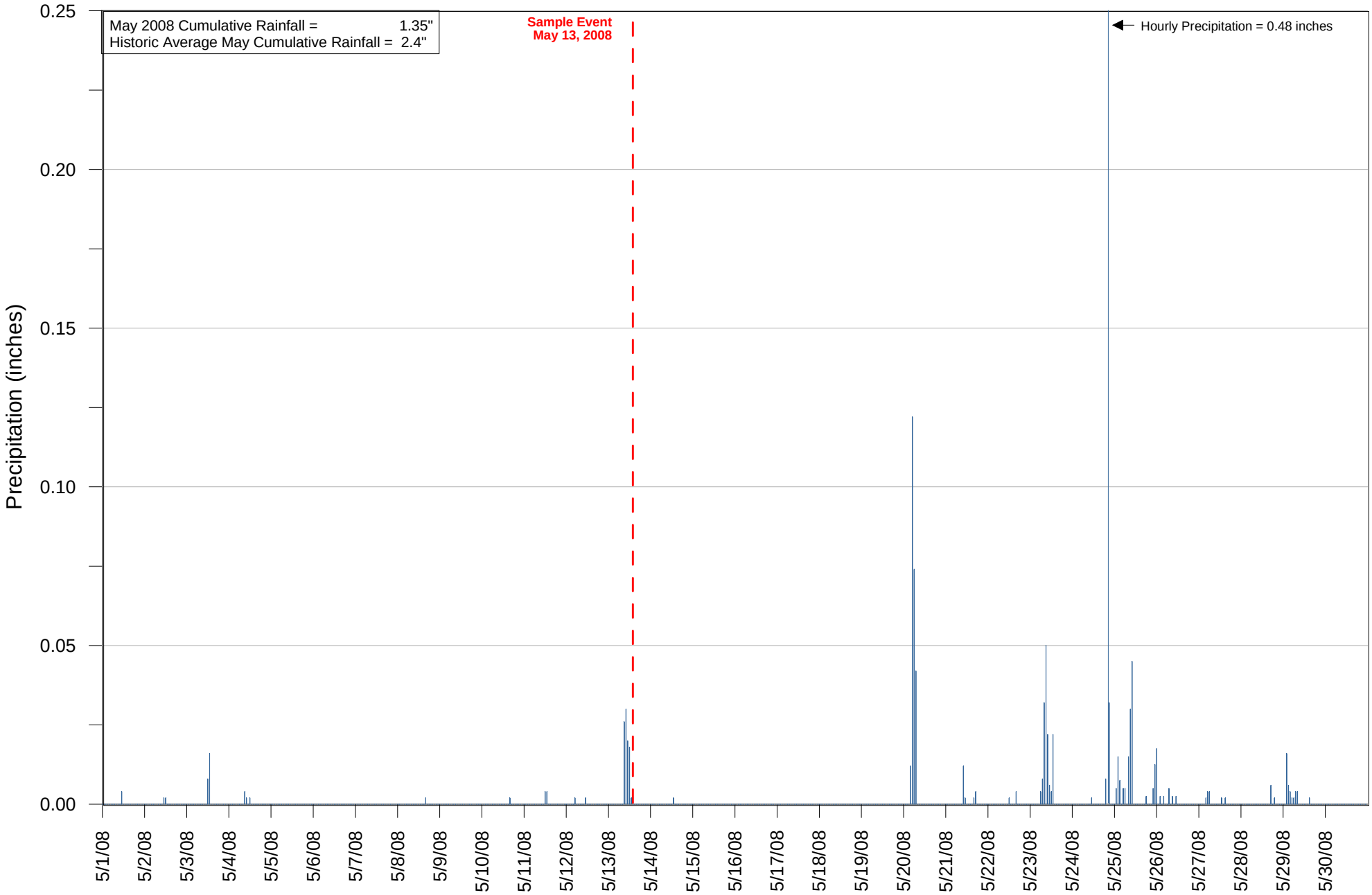
April 2008 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-28

May 2008 - Average Hourly Rainfall



Sources:
1. Portland International Airport, Period 1971 - 2000 from NOWData - NOAA Online Weather Data at http://nowdata.rcc-acis.org/PQR/pubACIS_results
2. Monthly data are based on hourly rainfall data for 2007-2008 obtained from the City of Portland Hydra Rainfall Network (http://or.water.usgs.gov/non-usgs/bes/) and averaged for the following five rain gages in the Portland Harbor: Swan Island, Albina, WPCL, Terminal 4, and Yeon

Figure A-29

Attachment A1

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Attachment A1
Field Documentation

Attachment A1
Field Documentation

Part 1: 2007 Stormwater Grab Sampling

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR STORMWATER Project No. 1020.005
Location _____ Date 9-28-07
Subject _____ By MJS, LAP

* TIME IN PST

0110: Arrive on-site @ M2-SW1 (5949 N. Basin Ave). Manhole is in left lane, not as indicated on map. Large truck traffic here. Moderate rainfall.

0120: Sample M2-SW1. Routine sampling.

0135: Arrive on-site @ M3-SW1 (N. Basin Ave & Emerson St).

0138: Sample M3-SW1. Routine.

0149: Arrive on-site @ M1-SW1 (6208 N. Ensign).

0155: Sample M1-SW1. Due To off-set channel, rails in manhole & laterals pouring down manhole it is difficult to obtain a representative sample @ This site. Debris from sidewall & rails cannot always be excluded from sample.

0220: Arrive on-site @ S1-SW1 (5555 N. Channel Ave).

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR STORMWATER
Location
Subject

Project No. 1020.005
Date 9-28-07
By MJS, LAP

0226: Sample S1_SW1. Routine sample.

0250: ~~Oracle~~ Arrive on-site @ 48_SW1 (5828 N. Van Houten Pl.)

0305: Sample 48_SW1 + DUP. Routine sample.

0317: Collected field decon blank.

0339: Arrive on-site @ 52_SW1 (Cathedral Park).

0345: Sample 52_SW1. Routine.

0354: Return to WPCL to relinquish samples.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater Samp | Project No. 1020.005
Location Various | Date 9/28/07
Subject Event 1 | By KCB

0103: Arrive @ WPCL. Start calibrating meters and preparing vans for sampling.

0115: MJS/JSM/LAP all here; depart WPCL to Swan Island TC sites.

0210: Arrive @ M2_SW1 to assist w TC for sample collection at this site. MJS/LAP collect sample.

0245: Collect sample from S2_SW1. No traffic on lagoon at this hour. Stainless bailer made contact w/ invert several times during sample collection, though excessive solids weren't noted in sample. Sample fairly clear; no sheen. pH meter acting weird; may have faulty probe connection.

0258: Collect sample from S5_SW1. Very little traffic on Channel; maybe 5-7 trucks during site visit. Banged beaker against invert a few times during sample collection. pH meter worked fine at this site.

0330: Collected sample from S6_SW1 at Cascade General. Flow turbulent at this site. Sample has low turbidity, no sheen. pH meter connection to pH probe definitely faulty. We have to hold connection while taking measurement to get accurate reading. Done w Swan Island.

0414: Collected sample from S2A-SW1. Had to wait for UP train to clear RR tracks to gain access. Flow here fairly laminar for such high volume. Sample quite turbid as compared to other samples. Could not get pH meter to work. MJS met us on site at 0435 to take pH measurement w/ his meter.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater Samp
Project No. 1020.005
Location Various
Date 9/28/07
Subject Event 1
By RLB

0454: Collect sample from [SO_SW1]. Flow here turbulent. Took several attempts to fill bailer. Some organic and inorganic solids in sample. Organics in flow. Inorganics likely from pipe invert. Sample does not appear to be turbid

0515: Arrive @ WPCL.

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9-28-07
Page: 1 of 1
Collected By: MJS, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

All times in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071148	5949 N. BASIN AVE	M2-SW1	9.28.07	0120	G							14.3	48	6.3
FO 071149	N. Basin Ave & Emerson St	M3 SW1	9/28/07	0138	G							13.8	31	6.5
FO 071150	6208 N Ensign	M1 SWT	9/28/07	0155	G							14.1	32	6.6
FO 071151	5555 N Channel	S1-SW1	9/28/07	0226	G							12.5	21	6.6
FO 071152	5828 N. Van Houten Pl.	48-SW1	9.28.07	0305	G							14.2	36	6.7
FO 071153	DUPLICATE	DUP	9.28.07	—	G							—	—	—
FO 071154	FIELD DECON BLANK	FDB	9.28.07	0317	G							—	—	—
FO 071155	CATHEDRAL PARK	52-SW1	9.28.07	0345	G							12.7	35	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Renee Chauvin Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EfD\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9/28/2007
Page: 1 of 1
Collected By: JJM, RCB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

All times in Pacific Daylight Time
PST = 1 hour earlier

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071156	5051 N Lagoon	S2-SW1	9/28/07	0245	G							14.2	36	6.4
FO 071157	4800 N Channel	S5-SW1	9/28/07	0258	G							13.8	47	6.6
FO 071158	5555 N Channel	S6-SW1	9/28/07	0330	G							13.1	44	6.5
FO 071159	8904 N Bradford	S2A-SW1	9/28/07	0414	G							13.4	28	7.0
FO 071160	6543 N Burlington	S0-SW1	9/28/07	0454	G							12.2	22	6.5

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Randy Beckston Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: RANDY BECKSTON Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Renee Chauvin Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project Portland Harbor stormwater Sam
Location M3_SW1
Subject Event 2.1

Project No. 1020.005
Date 9/30/07
By MJS, JXB

0800 - Arrive @ WPCL to light but consistent rain. Has been raining for several hours. Are planning to sample ~~only~~ only the 3 low elevation site that are at risk of having river back-up issues (i.e. M3_SW1, M1_SW1, and 52_SW1). We are allowing more time to elapse before repeating the other sites ~~for~~ per request of DEQ)

0835 on-site @ M3_SW1 to light but steady rain - heavy flow in manhole. No problems sampling.

0855 - Arrived on site @ M1-SW1 to light but steady rain - heavy flow in manhole & in overhanging laterals from CBs. Due to configuration of MH sampling teams could not exclude material along MH walls from entering sample

0935 - Arrived on site @ 52_SW1 to moderate rain & good flow in manhole Collected sample alongside Duplicate sample - FO 071164 = Duplicate

0957 - collected Field decon blank at 52_SW1 after collecting sample & duplicate FO 071165 FOB

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9/30/07
Page: 1 of 1
Collected By: MSS, JNB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Time in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071161	N. Basin + Emerson	M3-SW1	9/30/07	0843	G	•	•	•	•	•	•	12.9	14	6.5
FO 071162	6208 N Ensign St.	M1-SW1	↓	0855	G	•	•	•	•	•	•	13.0	17	6.6
FO 071163	Cathedral Park	52-SW1	↓	0950	G	•	•	•	•	•	•	13.1	49	6.9
FO 071164	Duplicate	Dup	↓	—	G	•	•	•	•	•	•	—	—	—
FO 071165	Field Decon Blank	FDB	↓	0957	G	•	•	•	•	•	•	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1119	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 9/30/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR STORMWATER Project No. 1020.05

Location _____ Date 10/16/07

Subject EVENT 2.5 By DJH

BACKGROUND - DRY FOR PAST 5+ DAYS EXCEPT <0.04" YESTERDAY. TODAY IS EXPECTED TO HAVE 5 OF RAIN

PRECIP BEGAN @ 0900 PST.

WILL USE TWO CREWS OF TWO/THREES WCR/RCB + ASA/ECH/DJH (T.C.)

0930 PST - ARRIVE AT M2 HAS BEEN RAINING STEADY + MODERATELY TO HEAVY FOR PAST HOUR

0950 PST - SAMPLE M2. FLOWING @ 3-4 fps AND @ 18" DEEP. VERY SOLID STORMWATER FLOW + GOOD SAMPLE.

1000 PST - ARRIVE AT S2 RAIN CONTINUES STEADY. FLOW IS V FAST = >5fps. THREE LATERALS IN M.H. ALL FLOWING

1020 PST SAMPLE S2

1030 PST ARRIVE AT S1. RAIN HAS DECREASED TO LIGHT BUT LOTS OF SHEET FLOW ACROSS ROAD DEEP + FAST FLOW, @ 4-5 fps

Attachments C.O.C ONLY

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR STORM
Location
Subject EVENT 2

Project No. 1020.005
Date 10/16/07
By DJH

(S1 CONTINUED) NO LATERALS ENTERING M.H.

1040 P.S.T. SAMPLE S1 SAMPLE MODERATELY TURBID.

1050 PST ARRIVE AT S6. SPRINKLES ONLY NOW BUT GOOD STORM FLOW IN PIPE = W3 fps

1055 PST SAMPLE S6 = (CASCADE CULVERT) SAMPLE IS MODERATELY TURBID

1105 PST ARRIVE AT S5 LIGHT DRIZZLE STARTED AGAIN. STORM FLOW IN PIPE BUT SHALLOW (W 2-3") AND W 1-2 fps

1110 PST SAMPLE S5 A LITTLE TRICKY TO SWING TRAILER INTO DOWNSTREAM PIPE BUT ABLE TO DO IT. RAIN INCREASES AS WE LEAVE

1125 PST OFF SWAN ISLAND

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater
Location Various
Subject

Project No. 1020.005
Date 10/16/07
By RCB

Attempting to sample following long dry period. Got permission to sample from Linda Schaffler prior to storm event. Rain forecasted to be 0.3" - 0.5" between mid-morning and midnight. Jon w/ERF said rain will be intermittent and unpredictable. Priority given to low elevation sites.

All times PST.

0945: Arrive at M1_SW1 to steady moderate rain. Sampled M1_SW1 at 0950. Very fast flow in pipe. CBs flowing into manhole during sample collection 1002 - offsite.

1004: Arrive at M3_SW1 to steady moderate rain. Good flow in pipe. Sample collected at 1006. Offsite @ 1015. We are (Jwer, RCB) going off of Swan Island to sample sites north of St. near WPCL.

1027 Arrive @ 48_SW1 to very light rain. Lower flow in this pipe as compared to S.I. sites. Sample collected @ 1031. Conductivity higher here than at other observed sites (180us/cm). There may be more GW I/I at this location. Offsite @ 1044.

1100 Arrive @ Cathedral Park location, 52-SW1 to very light rain, which stopped for ~ 20' minutes during sample collection. Samples [4 DUP] collected at 1105. Good flow in pipe, despite decreasing rain. Offsite @ 1127.

NEXT page →

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater
Location various
Subject

Project No. 1020.005
Date 10/16/07
By RCB

1132 Arrive at 52A-SW1. Not raining upon arrival, but began to pick up after 5 min or so. Field Decon Blank (FDB) collected using ultrapure DI at 1137. Water in manhole flowing slowly, but ~4" in depth - Collected sample @ 1140. Offsite @ 1157. DJH called via radio - His crew (ECH, DJH, [illegible]) finished sampling remainder of Swan Island sites; now going to lunch.

1208 Arrive at 50-SW1 to no rain. Low flow in pipe coming from WPCL as stormwater pond outlet as well as line draining parking lot and swales - Sample collected @ 1212. Offsite @ 1222, heading to WPCL to relinquish samples.

1319 Relinquished samples.

1400 Checked rain gages @ WPCL and Swan Island. 0.12" of rainfall on S.I. during sampling event, 0.14" at WPCL

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 10/16/07
Page: 1 of 1
Collected By: DSU ASA ECH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

X Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) (COMBO ?)	Field: Conductivity (umhos/cm) (COMBO ?)	Field: pH (pH units) (COMBO ?)
FO 071253	5949 N. BASIN	MJ-SW1	10/16/07	0950	G	•	•	•	•	•	•	12.3	51	6.5
FO 071254	5051 N. LAGOON	SJ-SW1		1020	G	•	•	•	•	•	•	11.8	25	6.7
FO 071255	5555 N. CHANNEL	S1-SW1		1040	G	•	•	•	•	•	•	12.0	24	6.8
FO 071256	5555 N. CHANNEL	S6-SW1		1055	G	•	•	•	•	•	•	12.3	42	6.7
FO 071257	4800 N. CHANNEL	S5-SW1	↓	1110	G	•	•	•	•	•	•	13.2	48	7.0

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1407	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Andrew Arnsberg Date: 10/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
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Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 10/16/07
Page: 1 of 1
Collected By: WCR/RCB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071258	6208 N. KAISER CT.	M1-SW1	10/16/07	0950	G	✓	✓	✓	✓	✓	✓	12.0	30	6.6
FO 071259	N. BASIN & EMERSON	M3-SW1		1006	G	✓	✓	✓	✓	✓	✓	12.0	27	6.7
FO 071260	5828 N. VAN HOUTEN PL.	48-SW1		1031	G	✓	✓	✓	✓	✓	✓	12.4	188	7.1
FO 071261	CATHEDRAL PARK	52-SW1		1105	G	✓	✓	✓	✓	✓	✓	12.6	67	7.0
FO 071262	8940 N. BRADFORD	S2A-SW1		1140	G	✓	✓	✓	✓	✓	✓	13.6	35	6.9
FO 071263	6543 N. BURLINGTON AVE	SO-SW1		1212	G	✓	✓	✓	✓	✓	✓	13.8	127	6.7
FO 071264	—	FDB		1137	G	✓	✓	✓	✓	✓	✓			
FO 071265	—	DUP	↓	/	G	✓	✓	✓	✓	✓	✓			

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: PDT 1419	Time:	Time:	Time:
Printed Name: WILL ROMANELLI	Printed Name:	Printed Name:	Printed Name:
Date: 10/16/07	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater Samp
Project No. 1020.005
Location
Date 11/16/07
Subject
By MJS, DJH

0521 On-site @ M3_SW1 Currently there is only light drizzle but there is still flowing water in gutters from earlier rain and pipe has heavy flow. Collected sample @ 0524. VELOCITY IS ~+3 fps, DEPTH ~ 6"

0540 - on site @ M2_SW1. Heavier drizzle/light rain w/ good flow in the pipe ~ 4-5fps w/ ~ 4" of depth w/ water actively entering adjacent catch basins. Sample is notably turbid.

0600 - on site @ M1_SW1. Heavy drizzle is falling w/ some flow entering catch basins, however b/c this site has significant base flow will wait for ~~better~~ heavier rain.

0605 - collected FDB @ M1_SW1 although did not sample site at this time

0630 - on site @ S2_SW1. Heavy drizzle has been consistently falling w/ good flow in curbs actively entering adjacent catch basins. All laterals in manhole are actively discharging w/ good amount of flow in pipe w/ ~ 4" of depth and 3-4 fps. Sample is slightly turbid.

0700 - SAMPLE S6-SW1 / RAINING STEADY (MODERATE) FOR LAST ~20 MINUTES STANDING WATER OVER MUCH OF PARKING LOT. LATERALS GUSHING / FLOWS IN PIPE 8-10 fps + ~ 3". EXCELLENT STORMWATER SAMPLE!

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR Study
Project No. 1020.005
Location
Date 11/16/07
Subject
By DJH, MSS

0720 - on site @ MI. Steady rain has been falling for ~ ½ hour and there is heavy flow in curbs and entering catch basins. All laterals are discharging heavily. Flow in the pipe is very fast ~ 8 fps MH and 4-3" deep. Samples are very turbid.
Due to configuration of site, it is not possible to retrieve bailer w/o contacting pipe sides and/or manhole walls.

FO 071398 FO 071401

0745 - SAMPLE [S5-SW1] AND [DUP1] MODERATE AND STEADY RAIN CONTINUES! GUTTERS FULL AND LATERALS ALL FLOWING FAST. FLOW = 4 FPS AND 6" DEEP. GREAT SAMPLE + DUP!

0800 - SAMPLE [S1-SW1] STILL RAINING V. STEADY. HEAVY FLOW ALONG CURBS FLOW = 4-6 FPS, 5" DEEP. SOLID FLOW IN BOTH PIPES. NO LATERALS VISIBLE HIGHER IN THIS M.H.

0900 - SAMPLE [S8-SW1] - LIGHT DRIZZLE LAST 15 MINUTES BUT FLOW REPRESENTS STORM FLOW. FLOW 5 FPS, 1.2" DEEP. RAIN BEGINS AGAIN AS WE FINISH SAMPLING

0915 - OFF TO WPCL EVENT 3 (AND 3.5.23 FOR 4) DONE!

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PDX Harbor
Project No. 1020.005
Locations OF 52, 52A & 50
Date 11/16/07
Subject Event 3
By RCB

All times PST.

0535 Depart WPCL after talking to DJH about weather. ERF says that today will be rainy at times w/ some breaks, perhaps even sun breaks. Approx 0.2" of rain last night and early this morning.

0539 Arrive @ OF 52 to very light rain & Decent flow in pipe, but not high volume. Flow in pipe is approx 1" deep / 2 fps. Sample collected successfully @ 0545. Sample is clear w/ no distinct odor.

0606. Arrive @ OF 52A. Light rain slightly increasing. Approx 2" of flow in pipe @ ~ 2 fps. River is not backing up line. Sample collected @ 0609. Sample is slightly turbid and brownish in color. No odor.

0630 Arrive @ OF 50 to light, steady rain. Flow entering mh from all sources but flow in invert downstream of mh is only ~ 1" deep. Halfway through sample collection, RCB dropped bailer string and bailer into mh, then spent the next 10 minutes fishing it out. Resumed sampling. Sample collected @ 0635. Sample is slightly turbid and brownish in color. No odor.

0641 En route to CRWTP Storm.

Attachments

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Date: 11-16-07
Page: 1 of 1
Collected By: RCB, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071389	Cathedral Park	52_SWI	11-16-07	0545	G	o	o	o	o	o	o	12.5	74	6.8
FO 071390	8904 N Bradford St	52A-SWI	11-16-07	0609	G	o	o	o	o	o	o	12.5	30	7.3
FO 071391	6543 N. Burlington Ave	50_SWI	11-16-07	0635	G	o	o	o	o	o	o	11.4	54	6.9
4														
5														
6														
7														
8														
9														
10														

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Lauren Patton Time: 0804	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: LAUREN PATTON Date: 11-16-07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0804	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: KRIS DENNIS Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Date: 11/16/07
Page: 1 of 1
Collected By: DJH/MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

X Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) COMBO #3	Field: Conductivity (umhos/cm) COMBO #3	Field: pH (pH units) COMBO #3
FO 071392	N. Basin Ave + Emerson St.	M3-SW1	11/16/07	0524	G	X	X	X	X	X	X	12.8	31	6.3
FO 071393	5949 N Basin Ave	M2-SW1	11/16/07	0542	G	X	X	X	X	X	X	12.9	163	6.6
FO 071394	FIELD DECON BLANK	FDB	11/16/07	0605	G	X	X	X	X	X	X	—	—	—
FO 071395	6051 N Lagoon	S2-SW1	11/16/07	0633	G	X	X	X	X	X	X	12.6	36	7.1
FO 071396	5555 N. CHANNEL CASCADE GEN	S6-SW1	11/16/07	0700	G	X	X	X	X	X	X	12.0	22	7.2
FO 071397	6208 N. Ensign	M1-SW1	11/16/07	0723	G	X	X	X	X	X	X	11.7	29	6.9
FO 071398	4800 N. CHANNEL	S5-SW1	11/16/07	0745	C	X	X	X	X	X	X	12.1	38	7.0
FO 071399	5555 N. CHANNEL (N. LAGOON)	S1-SW1	11/16/07	0820	G	X	X	X	X	X	X	11.8	20	7.2
FO 071400	5828 N. VAN HOUTEN PL	48-SW1	11/16/07	0900	G	X	X	X	X	X	X	10.8	134	6.8
FO 071401	DUPLICATE	DUP	11/16/07	~	G	X	X	X	X	X	X	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0957	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0957	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: KRES BENNER Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project PORTLAND HARBOR STORMWATER Project No. 1020.005

Location

Date 12/14-15/07

Subject EVENT 42 By MSS

2240 - Rain begins

2347 - onsite at OF52A-SW1 - good flow - no river back-up collected sample 2352-2358 - rain is intensifying, sample is slightly turbid

12/15/07 0014 onsite @ 48-SW1 to steady rain site has good flow, shallow but fast sample collected 0025-0031, sample is slightly turbid

0046 onsite @ 51-SW1 - rain has let up but there is still heavy flow in pipe. Collected samples @ 0049 samples are slightly turbid

0108 onsite @ 36-SW1 to light but steady rain. Good flow in pipe. Sample collected @ 0112 and has slight turbidity

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater
Location
Subject

Project No. 1020.005
Date 12-14-07
By LAP

2300 hrs: Arrive WPCL; review sites load equipment & get weather update. Rain arrived PDX approx 2240.

2335: Sample to 50_SW1 (6543 N. Burlington Ave). Good flow. Routine sampling. Moderate rainfall currently.

12-15-07

0012: Arrive @ S2_SW1 (5051 N Lagoon Ave).

0018: Sample S2_SW1. Routine sample. Rain continues.

0038: Arrive @ S5_SW1 (4800 N Channel Ave).

0041: Sample S5_SW1. Routine sample. Rain has subsided.

0120: on site @ M2_SW1 to light rain. - good flow

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
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Bureau of Environmental Services

Date: 12-14-07
Page: 1 of 1
Collected By: RCB, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

Requested Analyses

Sample Time recorded in PST

Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071581 6543 N Burlington Ave	50_SW1	12-14-07	2335	G	0	0	0	0	0	0	7.0	66	6.5
FO 071582 5051 N Lagoon Ave	52_SW1	12-15-07	0018	G	0	0	0	0	0	0	5.9	83	7.5
FO 071583 4800 N Channel Ave	55_SW1	12-15-07	0041	G	0	0	0	0	0	0	7.4	73	8.7
FO 071584 5949 N Basin	M2_SW1	12-15-07	0131	G	0	0	0	0	0	0	8.1	170	6.6

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0253	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

Water Pollution Control Laboratory
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(503) 823-5696

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Date: 12/14-15/07
Page: 2 of 2
Collected By: MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	MJS Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071585	~~8904~~ N Bradford 8940	52A-SW1	12/14/07	2352	G	•	•	•	•	•	•	8.0	56	6.2
FO 071586	5828 N Van Houten Pl	48-SW1	12/15/07	0025	G	•	•	•	•	•	•	6.3	86	6.6
FO 071587	5555 N. Channel Ave	S1-SW1	12/15/07	0049	G	•	•	•	•	•	•	6.8	45	6.8
FO 071588	5555 N Channel @Cascade General	56-SW1	12/5/07	0112	G	•	•	•	•	•	•	7.3	50	6.8

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0253	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0720	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Daniel L. VanMeter Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Attachment A1
Field Documentation

Part 2: 2008 Stormwater Grab Sampling

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor SW Samp
Location
Subject Six OF goals - Event 1

Project No. 1020.005
Date 2/5/08
By MJS, AJA

Some light rain this morning between 0500 and 0800, ranging from 0.04" to 0.11". Prior to that only ~0.03" in the previous 24 hours.

1145 some light rain has started. ERF reports that heavier rain should be starting soon, with periods of alternating heavy + light rain from now until 2100, with totals in that period ranging from 0.35 to 0.50".

1200 on site at 47-SW1 - there is a small amount of base flow, but it appears that much of the basin is not yet flowing

1235 47-SW1 rain increasing, then decreasing (1245)
~1330 - off site - spoke w/ Dan from ERF and he reports that we should expect more of the same.
1340 - Rain intensifying - will return to site
1350 - back on site to moderately heavy rain and good flow in manhole with all 4 totes flowing. Waiting for Linda and Karen to ~~[illegible]~~ sample
1401 - begin sampling - rain is continuing
1407 Concluded sampling
photo 1 downmanhole, photo 2 - basin photo of cattle wash off site proceeding to 45-SW1 - rain is continuing

1417 - on site @ 45-SW1 - rain has let up but still good flow, 1420 - started sampling

Attachments photos 3-5. Rain has let up to light rain

City of Portland
Environmental Services

DAILY FIELD REPORT

Karen - (503) 577-0665

Project Portland Harbor stormwater Samp

Project No. 1020.005

Location

Date 2/5/08

Subject Event 1

By MJS, AJA

1441 - on site @ 46-SW1 - rain has stopped but there is still heavy, turbid and turbulent flow in the manhole - Began sampling @ 1445. Took photos 6+7. Offsite @ 1450.

1456 - rain has ceased, so will not sample 53A-SW1, 22C-SW2, or 22D-SW1

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
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Bureau of Environmental Services

Date: 2/5/08
Page: 1 of 1
Collected By: MJS, ATA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080220	4299 N. Port Center Way	47-SW1	2/5/08	1401	G	0	0	0	1	0	1	7.4	31	6.7
FO 080221	N Essex + River	45-SW1	2/5/08	1420	G	0	0	0	1	0	1	7.5	59	7.1
FO 080222	Union Pacific Railyard	46-SW1	2/5/08	1445	G	0	0	0	1	0	1	7.4	116	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1517	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/5/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Ronald Kluck Time: 1517	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Ronald Kluck Date: 2/5/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\...\Portland Harbor Stormwater Samp\Samples\Portland Harbor Stormwater COC Feb 08.xls

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stmwtr. Project No. 1020.005

Location NW, N Portland Date 2/29/08

Subject By JTM, WCR

1650 Arrive @ 47_SW1 after ample rain. Curbs are free flowing wl depths ~1.0". Water pooling ground CB adjacent to node - took photo. Captured additional photos of flow in node and curb flow. Cut fresh rope for stainless, decon'd beaker.

1704 Collected standard bottle set without deviation from protocol.

1708 Left Site

1732 Arrive @ 53A_SW1. Rain has subsided to very light showers. Topside of node flow estimation is ample. Captured photos of pooling stormwater along driveway, two depicting flow in pipe.

1745 Collected grabs without deviation from protocol.

1748 Left Site

1800 Arrive @ 72C_SW2. Rain and showers have ceased yet streets are still wet. Ample EOP flow, so collected grabs and captured photos of outfall flow.

1830 Left site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor
Location 45_SW1
Subject 2/29/08 Event

Project No. 1020.005
Date 2/29/08
By MJS, KHF

1530 - on set of very light rain
1600 - very light rain continuing - some slight runoff
1620 - rainfall intensifying and run-off increasing - begin mobilizing to first sites.
1707 - on site @ 45_SW1 to moderate steady rain and good flow in the manhole w/ active flow into catch basins and laterals are discharging took 4 photos (1-4)
1712 collected sample which is very turbid.
1721 - off site

1734 - on site @ 46_SW1 to light rain but still very heavy flow and heavy runoff currently on lot.
1738 - collected sample - flow is moderately turbid took 3 photos
1748 - off site

1814 - on site at 22D_SW1. Rain has ceased for ~15 minutes. There is flow in manhole but has low turbidity, may be baseflow -
1820 collected sample and duplicate - sample is slightly turbid

1834 Collected field blank at 22D_SW1.
1841 off site - rain has stopped

Attachments

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Date: 2/29/08
Page: 1 of 1
Collected By: TJM, WCB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080313	4799 N Portland Rd	47SW1	2/29/08	1704	G	•	•	•	•	•	•	12.1	32.4	6.7
FO 080314	13939 N Rivergate Blvd	53A-SW1	2/29/08	1745	G	•	•	•	•	•	•	10.8	129	7.4
FO 080315	6350 Front Ave.	22C-SW2	2/29/08	1810	G	•	•	•	•	•	•	9.5	147	7.1

Relinquished By: 1.
Signature: [signature] Time: 1937
Printed Name: WILL ROMAHELLI Date: 2/29/08

Received By: 1.
Signature: Time:
Printed Name: Date:

Relinquished By: 2.
Signature: Time:
Printed Name: Date:

Received By: 2.
Signature: Time:
Printed Name: Date:

Relinquished By: 3.
Signature: Time:
Printed Name: Date:

Received By: 3.
Signature: Time:
Printed Name: Date:

Relinquished By: 4.
Signature: Time:
Printed Name: Date:

Received By: 4.
Signature: Time:
Printed Name: Date:

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Bureau of Environmental Services

Date: 2/29/08
Page: 1 of 1
Collected By: MS, KHE

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080316	N Essex + River	45_SW	2/29/08	1712	G	○	○	○	○	○	○	11.7	56	6.7
FO 080317	Union Pacific Railyard	46_SW	2/29/08	1738	G	○	○	○	○	○	○	11.5	74	7.1
FO 080318	9030 NW St. Helens Rd	22D_SW	2/29/08	1820	G	○	○	○	○	○	○	8.5	97	7.1
FO 080319	Duplicate	DUP	2/29/08	—	G	○	○	○	○	○	○	—	—	—
FO 080320	Field Decon Blank	FDB	2/29/08	1834	G	○	○	○	○	○	○	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1941	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/29/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\ESD\WQ\WQ_PP - Portland Harbor Stormwater Comp\Templates\Portland Harbor Stormwater DF Lab COC FY07-08.xls

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater Samp
Project No. 1020.005
Location 22C_SW2, 22D_SW1, 46-SW1
Date 3/20/08
Subject grab sampling
By MJS

Some rain earlier in the day (~0.04") from 1200-1300 then some lighter rain 1400-1600. Went out to sample but did not appear to be good flow from entire basin so decided to wait for additional showers
1715 heavy showers moving Through the area which last for ~15 minutes followed by light rain
1750 rainfall intensifying slightly
1805 on site @ 22C_SW2 to continuous moderate rainfall Collected sample from end of pipe, flow was very heavy and slightly turbid.
1814 - off site - rain is intensifying
1826 - on site @ 22D_SW1 to very heavy rain that has been falling for ~15 minutes. Collected sample from manhole which is flowing heavily. Sample is extremely turbid.
1835 - off site to continued heavy rain

1908 - on site @ 46_SW1, heavy rain has ended for ~10 min but there is still light rain and heavy runoff throughout the facility and in the manhole. Sample is very turbid.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project Portland Harbor Stormwtr Samp
Location NPDX, ~~AIWP~~ JJM Swan Island
Subject
Project No. 2030.005
Date 3/20/2008
By JJM, LAP

All times in PST

1757 Arrive @ 53A-SW1. Currently heavy showers which are expected to turn to rain. About 30 min. ago, intense rain for about 20 min. Flow is clearly elevated in pipe. Captured photo. Showers quickly turned to steady rain
1810 Collected standard bottle set without deviation from protocol
1820 Captured photo of pooling stormwater and ample curb runoff along Rivergate. Then departed site. Rain is very heavy upon departure.
1840 Arrive @ 47-SW1 to very heavy rain. Street flooding and ample curb runoff. Captured photos of basin and pipe flow.
1848 Collected standard bottle set without deviation from protocol. *
1853 Departed site, still very heavy rain.
* 47-SW1 sample has visable surface sheen.; is slightly turbid/brown.
1859 Arrive @ 45-SW1. Rain has turned to showers, yet ample street pooling and runoff. Captured photos of site conditions and flow in pipe. Sample is milky, very turbid with visable surface sheen.
1910 Collected standard bottle set without deviation from protocol.
1916 Left site, still showering.

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/20/08
Page: 1 of 1
Collected By: MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080435	6330 NW Front	22C-SW2	3/20/08	1805	G	0	0	0	0	0	0	8.2	115	7.2
FO 080436	9030 NW St Helens	22D-SW1	3/20/08	1826	G	0	0	0	0	0	0	7.5	64	7.5
FO 080437	Union Pacific Railyard	46-SW1	3/20/08	1908	G	0	0	0	0	0	0	7.6	33	7.4

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0748	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 3/21/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/20/08
Page: 1 of 1
Collected By: JJM, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) Combo #5	Field: Conductivity (umhos/cm) Combo #5	Field: pH (pH units) Combo #5
FO 080438	13939 N. Rivergate	53.5 SW1	3/20/08	1810	G	●	●	●	●	●	●	9.2	189	7.3
FO 080439	4299 N. Portcentral	47.5 SW1	3/20/08	1848	G	●	●	●	●	●	●	6.6	12	7.4
FO 080440	N. Essex : N. River	45 SW1	3/20/08	1910	G	●	●	●	●	●	●	6.9	43	7.5

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan	Signature:	Signature:	Signature:
Time: 0748	Time:	Time:	Time:
Printed Name: Matt Sullivan	Printed Name:	Printed Name:	Printed Name:
Date: 3/21/08	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project PDX Harbor Stormwtr | Project No. 1020.005

Location N. PDX | Date 4/4/09

Subject EVENT 3.2/4.1 SAMPLING (All times recorded in PST) | By VJTM, DJH

0722 Arrive @ 53A-SW1 after moderate rainfall within previous 45min. Rain currently has subsided to light showers, however flow in pipe is elevated due to previous rain today. Topside estimate of flow depth ~ 4.0"

0730 Collected standard bottle set. Sample was very turbid, brownish. Conductivity was high possibly due to iron precipitate in sample that was likely scoured from line due to elevated storm flow. Rain increased intensity since arrival. Captured photos of pipe flow, site.

0745 Left site.

0802 Arrive @ 22C-SW2. Rain has been steady and heavy at times since departing previous site. Captured photos of site depicting rain intensity, storm flow on streets.

0810 Collected standard bottle set. Flow from outfall is elevated, sample is slightly turbid. Flow in pipe was ~8.0" (topside estimation). Captured photos of EOP flow.

0824 Left site.

0839 Arrive @ 47-SW1. Rain has increased intensity and has been continuous since departing previous site. Streets are flooded, captured photos of basin depicting storm flow/runoff. Flow in pipe is fast & deep. ~6.0"

0845 Collected standard bottle set. Captured photo of flow in pipe. Sample is very turbid with slight surface sheen. Some organics and larger sediment. Landscaping activity opposite side of cul-de-sac from node

0850 Departed site, FOR WPCL TO RELINQUISH SAMPLES

Attachments C.O.C (1x)

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater Samp
Location 22D-SW1,
Subject 4/4/08 sampling event

Project No. 1020.005
Date 4/4/08
By MJS, JKB

0615 PST - light rain beginning. Forecast calls for rain to continue for most of the morning then turning to showers.

0705 - Mobilized to sites - rain is light but continuing. runoff is currently visible in lab parking lot
0742 - On-site @ 22D_SW1 to consistent light rain and good runoff visible in parking area. collected sample @ 0750. Sample was moderately turbid and appears to ~~be~~ contain storm flow. Took photos of flow in manhole and runoff at adjacent catch basin. Off site @ 0802

0824 - on site @ 45_SW1 to heavy rain and heavy runoff w/ heavy flow in the manhole. Collected sample and duplicate @ 0832 as rain intensified. Very heavy flow during sampling, sample is very turbid

0850 - on site @ 46_SW1 to rain subsiding, but still heavy runoff.
0855 - collected Field Decon Blank using a new decon bailer and ultrapure water.
0901 - collected sample for 46_SW1 - very heavy flow, sample is extremely turbid

Attachments

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 4/4/08
Page: 1 of 1
Collected By: JXB/MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080510	9030 NW St. Helens Rd	22D-SW1	4/4/08	0750	G							7.1	313	7.1
FO 080511	N. Essex & River	45-SW1	4/4/08	0832	G							7.6	38	7.1
FO 080512	Union Pacific Railyard	46-SW1	4/4/08	0901	G							7.8	50	7.4
FO 080513	duplicate	DUP	4/4/08	—	G							—	—	—
FO 080514	Field degn blank	FDB	4/4/08	0855	G							—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1059	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 4/4/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Bureau of Environmental Services

Date: 4/4/08
Page: 1 of 1
Collected By: DSH JSM

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☒ Sample Time recorded in PST

FO 080507
FO 080508
FO 080509

Requested Analyses

Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) ORION Conga°C	Field: Conductivity (umhos/cm) ORION CONDA 6	Field: pH (pH units) ORION CONDA 6
13939 N. RIVERGATE	53A-SW2	4/4/08	0730	G	●	●	●	●	●	●	9.7	229	6.8
6330 N.N. FRONT	22C-SW2	↓	0810	G	●	●	●	●	●	●	7.5	116	7.0
4199 N. POST CENTER	47-SW2	↓	0845	G	●	●	●	●	●	●	7.7	21	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Douglas Hutchinson Time: 1016	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: DOUG HUTCHINSON Date: 4/4/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor SW sampling
Project No. 1020.005
Location 53A-SW1
Date 5/13/08
Subject 5/13/08 Sampling
By MDS, LAP

12:53 PST: on site at 53A-SW1 to light but steady rain. It has been raining lightly for several hours and there is visible runoff throughout the drainage basin, although quite light volume. Flow in manhole is slightly elevated but is very turbid. Collected sample

1355: on site @ 22D-SW1. Light rain continues, although it has decreased in intensity. Flow is slightly turbid. Collected sample.

1419: on site @ 22C-SW2. Rain has ended. Still puddles in gutters adjacent to site but are no longer actively flowing. Flow has only very slight turbidity. Collected sample.

Attachments

Water Pollution Control Laboratory
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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/13/08

Page: 1 of 1

Collected By: MJS, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP

File Number: 1020.005 Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080652	13939 N. Rivergate Rd	53A_SW1	5/13/08	1257	G	●	●	●	●	●	●	13.2	321	~~9~~ 7.0 MJS
FO 080653	1030 NW St. Helens Rd	22D_SW1	5/13/08	1358	G	●	●	●	●	●	●	9.8	82	6.9
FO 080654	5330 NW Front Ave,	22C_SW2	5/13/08	1425	G	●	●	●	●	●	●	12.4	168	7.0

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1601	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 5/13/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

Attachment A1
Field Documentation

Part 3: 2008 Outfall Basin 53 Composite Stormwater Sampling

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project Portland Harbor Stormwater — Project No. 1020-005
Location 53_SW1 (N. Decatur + Rena) — Date 1/25/08
Subject Event 1 setup / Blank collection — By MJS, AJA

- @ 1118 onsite for storm event setup, decon, and collection of blank sample.
- Removed tubing from hand and pumped solutions from surface via an extension of peristaltic tubing connected to distribution arm. Performed decons/ the following solutions soapy, tap, nitric, acetone, DI, ultrapure DI. Collected blank sample by lowering Carboy and deconed 1-8L glass bottle into manhole and filling glass bottle w/ ultrapure DI and inserting intake tubing and pumping into analysis bottles.

Reinstalled sample intake tubing on board + installed downstream of manhole after calibrating ~~the~~ Sample volume.

Programmed flowmeter and sampler for a 0.5" storm anticipated this weekend.
See ~~addit~~ Green sheet for storm/comp info

@ 1/28/08 1150 onsite - retrieved sampler program is complete and all bottles are full. Uploaded flow data. It appears that the majority of the storm was captured.

012809S1.GHU - File name
Relinquished samples to lab where they will be composited in a large glass jar for sub sampling into analyte bottles

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project Portland Harbor Stormwater
Location OF53 (N. Decatur + Reno)
Subject Successful Storm Sampling

Project No. 1020.005
Date 1/28/08
By AJA

Background: Set Sampler up for Hail Mary Last chance weekend automated sampling of forecast storm (forcast originally for Sun 1/27/08). Storm came on Saturday. We did not have an opportunity to check the Sampler over the weekend.

On Monday 1/28/08, MJS & AJA found the sampler program had completed. All 8 bottles had been filled, the flow mon file showed nearly perfect storm capture. The storm was very defined between the hours of 1100 & 1930 (PST)

Field Parameters were not taken as the site was not visited during the storm.

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Project#: 1020.005

Station ID 53_SW1
Date 1/26/08
Grab Sample Date and Time N/A

Field Sampling Crew MJS, AJA
Time —

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
1	Full; moderately turbid	3 triggers
2	Full;	
3	Full;	
4	Full;	
5	full; slightly turbid	
6	Full;	
7	Full;	
8	full; very slightly turbid	

Trigger Data

Trigger #	24 Hour Time	Time, Date, Missed Triggers
1	1110	1/26/08
2	1142	
3	1234	
4	1300	
5	1311	
6	1320	
7	1330	
8	1349	
9	1437	
10	1451	
11	1517	
12	1539	

Trigger #	24 Hour Time	Time, Date, Missed Triggers
13	1554	1/26/08
14	1610	
15	1634	
16	1656	
17	1714	
18	1725	
19	1744	
20	1755	
21	1805	
22	1820	
23	1836	
24	1901	

Comments PROGRAM COMPLETE ~~BK~~ AND ~~DATA~~ ALL BOTTLES FILLED AT TIME OF SAMPLE (25 @ 20:35) * PICKUP. AUTO SAMPLER CAPTURED STORM WELL. MAY HAVE MISSED 1-2 SUBSAMPLES AT VERY END OF STORM (AFTER 1900 ON 1/26/08) BUT STORM CAPTURE EXCEEDED 95% *

CREATED COMPOSITE BY USING EQUAL PORTIONS OF ALL SAMPLES COLLECTED (SAMPLES 1-24).

* MISSED ONE SAMPLE WHICH SHOULD HAVE BEEN COLLECTED @ 20:35.

DJA

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet
(for a basin of unknown area, with flow data from multiple test storms)

Project Name: Ptld Harbor Stormwater **Project #:** 1020.005 **Storm Event Date:** 1/25/2008

Step 1: Enter flow and rainfall data for 3 discrete storm events in which flow d has been collected, to establish a rainfall to flow ratio.

Step 2: Enter forecasted rainfall amount for targeted storm event.

	PRE-EVENT				STORM EVENT					
Monitoring Site	Sample Storm Date	Sample Storm Measured Rainfall Amount (inches)	Sample Storm Measured Flow Volume (cubic feet)	Flow to Rainfall Ratio (cubic feet/inch)	Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
53_SW1	1/2/2008	0.84	51499	61308.5714	0.5	77910	38955	8	3	1623
	1/3/2008	0.22	16507	75031.8182						
	1/4-5/2008	0.9	108890.7	120989.667						
	1/14/2008	0.37	37810.2	102189.73						
	1/26/2008	0.71	46938.3	66110.2817						
				Average Ratio						
				77910.1239						

Water Pollution Control Laboratory
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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 1/25/08
Page: 1 of 1
Collected By: MJS, AJA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 - **Matrix:** STORMWTR

OF 53 Stormwater Composite COC

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	PCB Aroclors (WPCL)	PAH + Phthalates (TA)	SVOC's (CAS)	TSS	TOC	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Total Mercury	Field
FO 080171	N DECATUR & RENO SW-53-AAC614	FDB ~~53-SW1~~	1/25/08	1230	G	1	1	1	1	1	1	1	1	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1353	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 1/25/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5225

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 1/28/08
Page: 1 of 1
Collected By: MJS, ASA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Composite COC

☑ Sample Time recorded in PST

Sample time 1110 – 1901 on 1/26/08

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PCB Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field
FO 080172	N DECATUR & RENO SW-53-AAC614	53_SW1	1/26/08	1110	C	6	6	6	6	6	6	6	6	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1043	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 1/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature: Rona Unch Time: 1043	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Unch Date: 1/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 2

Project Portland Harbor Stormwater | Project No. 1020.005
Location OF53 - N Decatur + Reno | Date 2/6/08
Subject aborted event clean-up, Event 2 set-up | By MJS, GCH

2/6/08 1305 - on-site to take down yesterday's attempt. There were 4 full bottles upon arrival and it appears that sampler worked correctly. There is barely sufficient sample volume to run samples, but we missed the initial portion of the storm and the portion that we did catch was much smaller than anticipated, so we will most likely not analyze samples. Will hang onto samples, though, until we confer w/ LAS.

was forecasted to begin at noon but came in at 0500

Trigger times:
bottle 1: 1115, 1347, 1354 (2/5/08)
2: 1359, 1405, 1414 (2/5/08)
3: 1449 (2/5/08), 0024 (2/6/08), 0031
4: 0039, 0045, 0130 (2/6/08)

} discarded samples 2/6/08

- Pulled bottles and installed 4 new bottles in their place. Deconned tubing w/ soapy water, tap water, DI water, Ultrapure DI water (did not perform nitric + acetone solution rinse this time due to inability to make CSE to capture spent solutions b/c entry vehicle is being repaired)
- Changed sampler pacing on flowmeter to 3246 cf which represents a storm of 1".
- Iced sampler base, removed lids from bottles and placed in Ziplock bag.
- Currently there is no flow in the pipe and the meter is reading those conditions accordingly

1332 - started sampler program + left site

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Stormwater — Project No: 1020.005
Location OF 53 - N. Decatur + Reno — Date 2/6/08
Subject Event 2 - grabs — By MJS, ECH

2/6/08 1600 on-site to steady heavy rain. Rain has just started and it appears that this is the leading edge of the storm. Currently the level in the pipe is 2.5", velocity = 5 fps and flow = 1.0 cfs. There are no samples yet, but there is heavy flow in the pipe.

1604 collected grab samples (field parameters) temperature = 6.8°C, cond = 56, pH = 6.7

1605 flow is picking up as rainfall continues. When leaving site level = 4.2", velocity = 7.0 fps, flow 2.5 cfs

2/6/08 2340 - on-site for bottle change. Rain had become very intense over the past hour and was concerned that bottles are becoming filled. Uploaded meter remately from the lab and it appears that all bottles have been filled recently. Still very heavy flow. - Pulled sampler which was displaying that the program is complete. Capped and pulled the eight full bottles and refilled w/ clean empty bottles labelled 9-16. Recorded sample times and restated the sampler program at 2352.

2/7/08 0858 - on site to retrieve samples for end of storm event. Sampler reports that there are 3 full bottles and program is running. Pulled the 3 full bottles, recorded the sample times and shut down sampler.

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Project#: 1020.005

Station ID OF53
Date ~~2/6-7/08~~ 2/6-7/08
Grab Sample Date and Time 1604 2/6/08

Field Sampling Crew MJS
Time

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
1	full, very turbid	3 triggers
2	full, turbid	
3	full, turbid	
4	full, slightly turbid	
5	↓	
6		
7	full, turbid	
8	full, turbid	

Trigger Data

bottle#

	Trigger #	24 Hour Time	Time, Date, Missed Triggers
1	1	1621	2/6/08
	2	1637	
	3	1654	
2	4	1719	
	5	1739	
	6	1750	
3	7	1805	
	8	1820	
	9	1849	
4	10	1934	
	11	1949	
	12	2001	

	Trigger #	24 Hour Time	Time, Date, Missed Triggers
5	13	2010	2/6/08
	14	2021	
	15	2034	
6	16	2049	
	17	2115	
	18	2136	
7	19	2155	
	20	2209	
	21	2215	
8	22	2225	
	23	2234	
	24	2244	

Comments included equal portions of all samples collected in composite sample (bottles 1 – 11)

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Project#: 1020.005

Station ID # OF53 Field Sampling Crew MJS

Date _____ Time _____

Grab Sample Date and Time 1604 8/6/08

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
9	full, very slightly turbid	3 triggers
10	full, turbid	↓
11	full, turbid	
12		
13		
14		
15		
16		

Trigger Data

Trigger #	24 Hour Time	Time, Date, Missed Triggers
25	0109	2/7/08
26	0131	↓
27	0234	
28	0246	
29	0254	
30	0304	
31	0312	
32	0629	
33	0646	
34		
35		
36		

3rd event

Trigger #	24 Hour Time	Time, Date, Missed Triggers
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		

Comments included equal portions of all samples ([redacted] bottles 1 – 11) in the final composite.

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet
(for a basin of unknown area, with flow data from multiple test storms)

Project Name: Ptld Harbor Stormwater **Project #:** 1020.005 **Storm Event Date:** 2/6-7/08

Step 1: Enter flow and rainfall data for 3 discrete storm events in which flow d has been collected, to establish a rainfall to flow ratio.

Step 2: Enter forecasted rainfall amount for targeted storm event.

	PRE-EVENT				STORM EVENT					
Monitoring Site	Sample Storm Date	Sample Storm Measured Rainfall Amount (inches)	Sample Storm Measured Flow Volume (cubic feet)	Flow to Rainfall Ratio (cubic feet/inch)	Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
53_SW1	1/2/2008	0.84	51499	61308.5714	1	77910	77910	8	3	3246
	1/3/2008	0.22	16507	75031.8182						
	1/4-5/2008	0.9	108890.7	120989.667						
	1/14/2008	0.37	37810.2	102189.73						
	1/26/2008	0.71	46938.3	66110.2817						
				Average Ratio						
				77910.1239						

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-7573

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/6/08
Page: 1 of 2
Collected By: MS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Grab COC

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General	Metals	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080263	N DECATUR & RENO SW-53-AAC614	53_SW1	2/6/08	1604	G			6.8	56	6.7

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1422	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/7/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\FID\1000\1020.005 - Portland Harbor Stormwater Samp\Samples\Portland Harbor Stormwater OF 53 Samp COC FY07-08.xls

Water Pollution Control Laboratory
6543 N [illegible] Ave.
Portland, Oregon 97203-4552
(503) 823-5596

City of Portland Chain-of-Custody

au of Environmental Services

Date: 2/7/08
Page: 2 of 2
Collected By: MJJ

PROJECT: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

Requested Analyses

OF 53 Stormwater Composite COC

☑ Sample Time recorded in PST

Composite sample time 2/6/08 1621 – 2/7/08 0646

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB 209 Congeners (Pace)	General: PCBWLL Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC (TA)	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn, Mn)	Metals: Total Mercury	Field
FO 080264	N DECATUR & RENO SW-53-AAC614	53_SW1	2/6/08	1621	C	•	•	•	•	•	•	•	•	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1422	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/7/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	Received By: 2.	Received By: 3.	Received By: 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\ED\1000\1020.005 - Portland Harbor Stormwater Samp\Samples\Dataset Name\Summary of FR Runs 2007 FWR.xls

City of Portland
Environmental Services

DAILY FIELD REPORT

Project Portland Harbor Storm Composite
Location N. Reno + Decatur, OF53
Subject Background + Set up notes for 3/12/08

Project No. 1020.005
Date 3/12/08
By AJA / DJH

Background Sampler recently set to capture previous weekend and Monday (3/10/08) storms. Attempts were unsuccessful due to insufficient rainfall. Sampler tubing was deconed prior to these attempts.

1140 ~~AM~~ (PST)

~~1040~~ (PST) DJH/AJA on site to re-set sampler for 3rd attempt at storm event predicted for late weds 3/12 and early Thurs, ~~3/13~~ 3/13/08. Forcasters predicting upwards of 0.5" or more, but in a showery pattern Thurs, trigger volume still set for only 0.35" (1136 cf) with the idea that we will perform a bottle swap if much greater rainfall occurs.

Renewed used bottles (from Monday 3/10 failed attempt) and re-iced sampler. Checked programming and refreshed batteries. Program running.

3/13/08 0620 PST - DJH ARRIVES FOR FIRST CHECK DURING A PERIOD OF HEAVY SHOWERS

PROGRAM COMPLETE AND ALL BOTTLES FILLED UPON ARRIVAL, BUT LAST SAMPLE WAS ~~0620~~ 0610 PST AJA

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project PORTLAND HARBOR STORM
Location N. RUNOFF DECATUR / OF 53
Subject FIRST SWAP

Project No. 1020.003
Date 3/13/08
By DJH

SO JUST ENDED 10 MINUTES AGO.

REPLACED ALL BOTTLES AND RESTARTED PROGRAM @ 0635 PST, WITH NEXT SAMPLE TAKEN AT @ 0642 PST

0640 PST - TOOK GRAB

SUMMARY - MAY HAVE MISSED 1-2 SAMPLES FROM @ 0620-0630 BUT EVERYTHING IS WORKING WELL.

~~0800~~ 0700 PST - OFFSITE TO OF 19

RAIN BASICALLY CEASED FROM @ 0720-0900 PST AND FLOW DROPPED TO 0 CFS.

0900 PST - DJH/PHA ONSITE TO SWAP BOTTLES BECAUSE WE WILL PROBABLY END STORM WITH TRIGGER #26 SINCE FLOW HAS DROPPED TO ZERO AND WE CAUGHT ANY PROLONGED SHOWERY EVENT FROM @ 3/12/08 2100 PST TO 3/13/08 0620 PST

REMOVED BOTTLE 9 W/ TWO TRIGGERS AND RESTARTED SAMPLER W/ BOTTLE 10

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 3 of 3

Project PORTLAND HARBOR STORM
Location N. RENO + DECATUR / OF 53
Subject SECOND SWAP / END

Project No. 1020805
Date 3/13/08
By DJH

IN BOTTLE 1 POSITION WILL PROBABLY NOT USE ANY SAMPLES COLLECTED FROM NOW ON, BUT WILL KEEP OPTIONS OPEN.

0915 PST - OFF SITE TO SAMPLE UICs

STOPPED SAMPLING / EVENT AFTER #26
EVENT = SUCCESS

Attachments

PH STORM - OF 53 - EVENT 3

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Station ID OF 53
Date 3-13-08
Grab Sample Date and Time 3/13/08 0640

Field Sampling Crew DJH
Time

Project#: 1022.005

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
1	FULL - TURBID	NONE
2		
3		
4		
5		
6		
7		
8		

Trigger Data

Trigger #	24 Hour Time	Time, Date, Missed Triggers
1	3/12/08	2101
2		2129
3		2139
4		2148
5		2158
6		2229
7	3/13/08	0015
8		0044
9		0104
10		0141
11		0239
12		0256

Trigger #	24 Hour Time	Time, Date, Missed Triggers
13	3/13/08	0308
14		0325
15		0347
16		0356
17		0401
18		0408
19		0416
20		0423
21		0446
22		0547
23		0605
24		0610

MISSED 1-2 TRIGGERS? STOPPED FROM 0610 - 0635

Comments ARRIVED AT 0620 FOR FIRST SWAP, 10 MINUTES AFTER PROGRAM ENDED. ADDED BOTTLES 9-16 AND RESTARTED AT 0635 PST.

* MAY HAVE MISSED 1-2 TRIGGERS BETWEEN LAST SAMPLE AT 0610 AND RESTART AT 0635 = AFTER REVIEWING HYDROGRAPH, IT APPEARS THAT THE TIMING OF TRIGGER 25 WAS DELAYED 5-10 MINUTES DUE TO PROGRAM COMPLETE, BUT NO SAMPLES "MISSED" = 100 CAPTURE

PH STORM - OF 53 - EVENT 3

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Station ID # OF 53
Date 3-13-08
Grab Sample Date and Time _____

Field Sampling Crew DSH
Time _____

Project#: 1020.005

2ND SWAP (END?) #2

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
9	TURBID	NONE = 2/3 FULL
10		
11		
12		
13		
14		
15		
16		

Trigger Data

2ND SWAP (END)

Trigger #	24 Hour Time	Time, Date, Missed Triggers
25	3/13/08	0641
26	"	0735
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		

Trigger #	24 Hour Time	Time, Date, Missed Triggers
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		

Comments SECOND SWAP AT 0900 PST ON 3/13/08. REMOVED BOTTLE 9 W/ TWO TRIGGERS SINCE FLOW DROPPED TO ZERO BECAUSE OF NO RAIN FOR OVER PAST HOUR PLUS.

THIS WILL PROBABLY BE END OF EVENT, BUT TO BE SAFE, MOVED BOTTLE 10 TO BOTTLE 1 POSITION, ADDED BOTTLE 17 (TO POS. #8) AND RESTARTED W/ NEW BATTERY. PROBABLY WILL NOT USE BOTTLE 10 + BEYOND = YES! STOPPED AT #26

COMPOSITE NOTES: CREATED COMPOSITE USING ALL 26 TRIGGERS IN TEFLON CHURN + GENERATED DUPLICATE SAMPLE.

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet
(for a basin of unknown area, with flow data from multiple test storms)

Project Name: Ptld Harbor Stormwater **Project #:** 1020.005 **Storm Event Date:** 3/12-13/09

Step 1: Enter flow and rainfall data for 3 discrete storm events in which flow d has been collected, to establish a rainfall to flow ratio.

Step 2: Enter forecasted rainfall amount for targeted storm event.

	PRE-EVENT				STORM EVENT					
Monitoring Site	Sample Storm Date	Sample Storm Measured Rainfall Amount (inches)	Sample Storm Measured Flow Volume (cubic feet)	Flow to Rainfall Ratio (cubic feet/inch)	Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
53_SW1	1/2/2008	0.84	51499	61308.5714	0.35	77910	27269	8	3	1136
	1/3/2008	0.22	16507	75031.8182						
	1/4-5/2008	0.9	108890.7	120989.667						
	1/14/2008	0.37	37810.2	102189.73						
	1/26/2008	0.71	46938.3	66110.2817						
				Average Ratio						
				77910.1239						

Water Pollution Control Laboratory
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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/13/08
Page: 1 of 1
Collected By: DJH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Composite COC

☒ Sample Time recorded in PST

COMP TIME = 3/12/08 2101 TO 3/13/08 0735

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB 209 Congeners (Pace)	General: PCBWLL Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC (TA)	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn, Mn)	Metals: Total Mercury	Field
FO 080409	N DECATUR & RENO SW-53-AAC614	53_SW1	3/12/08	2101	C	●	●	●	●	●	●	●	●	
FO 080414	DUPLICATE	DUP	3/12/08	2101	C	●	●	●	●	●	●	●	●	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1455	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Dale Hutchison Date: 3/13/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
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City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 3/13/08
Page: 1 of 1
Collected By: DJH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Grab COC

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General	Metals	Field: Temperature (Deg C) ORION #4	Field: Conductivity (umhos/cm) ORION #4	Field: pH (pH units) ORION #4
FO 080384	N DECATUR & RENO SW-53-AAC614	53_SW1	3/13/08	0640	G			8.3	30	6.6

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Time: 0851	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: 3/13/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Attachment A2

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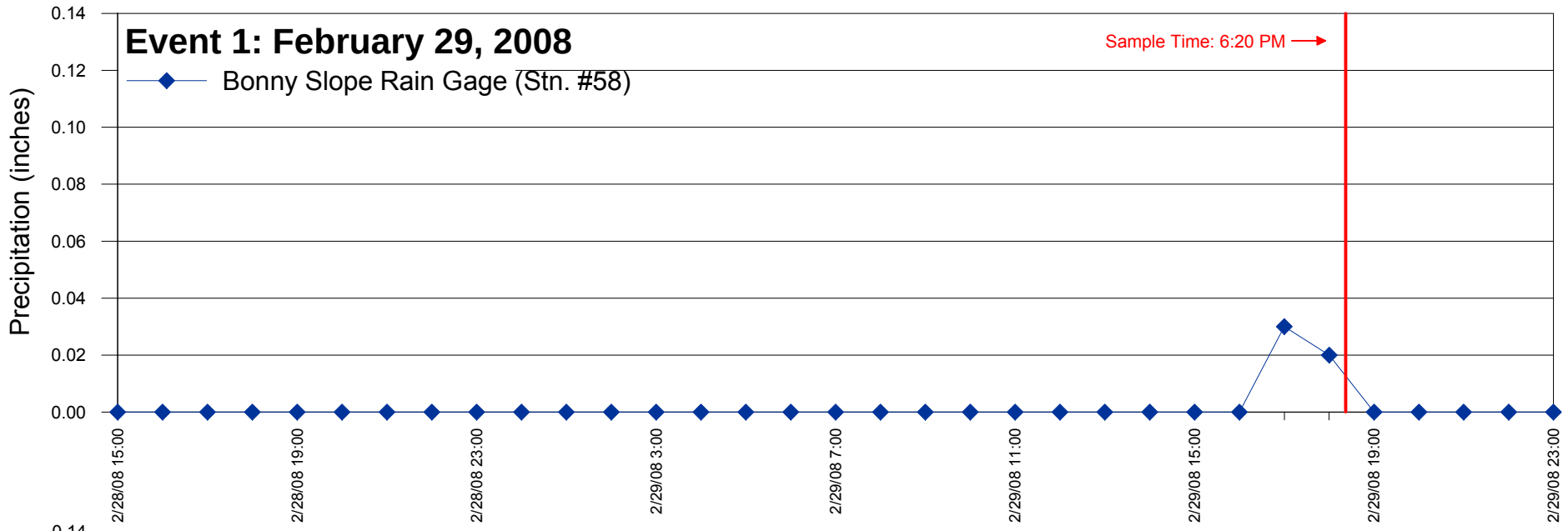
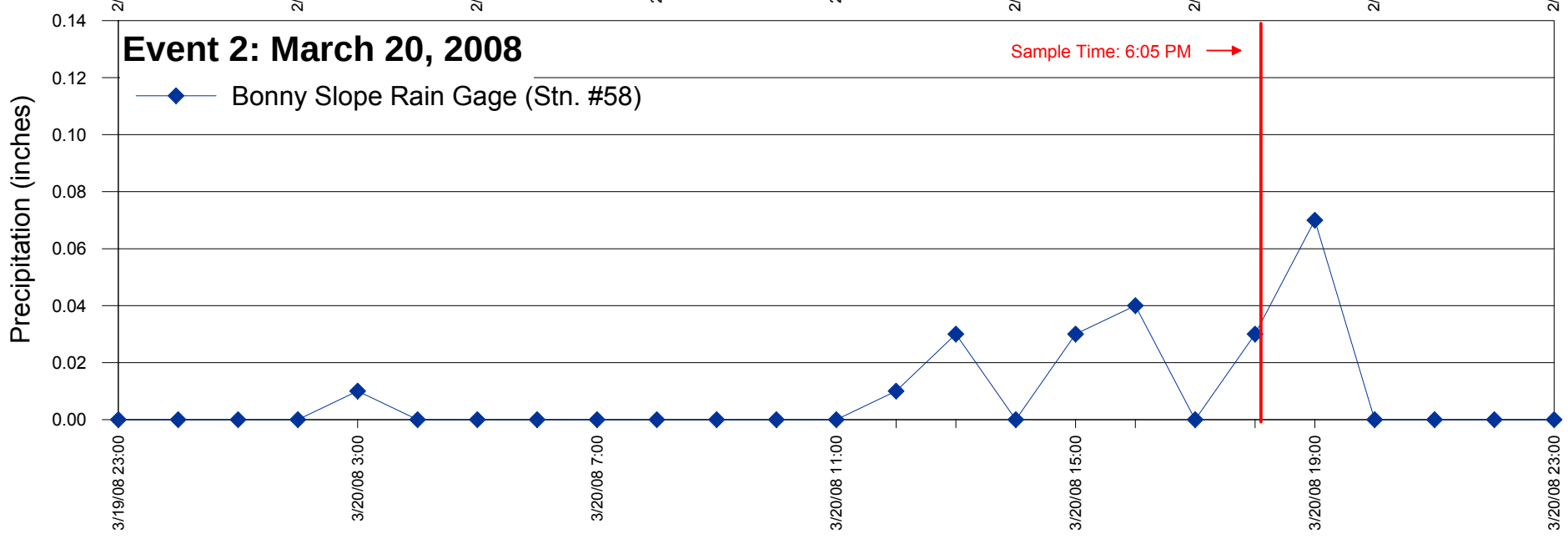
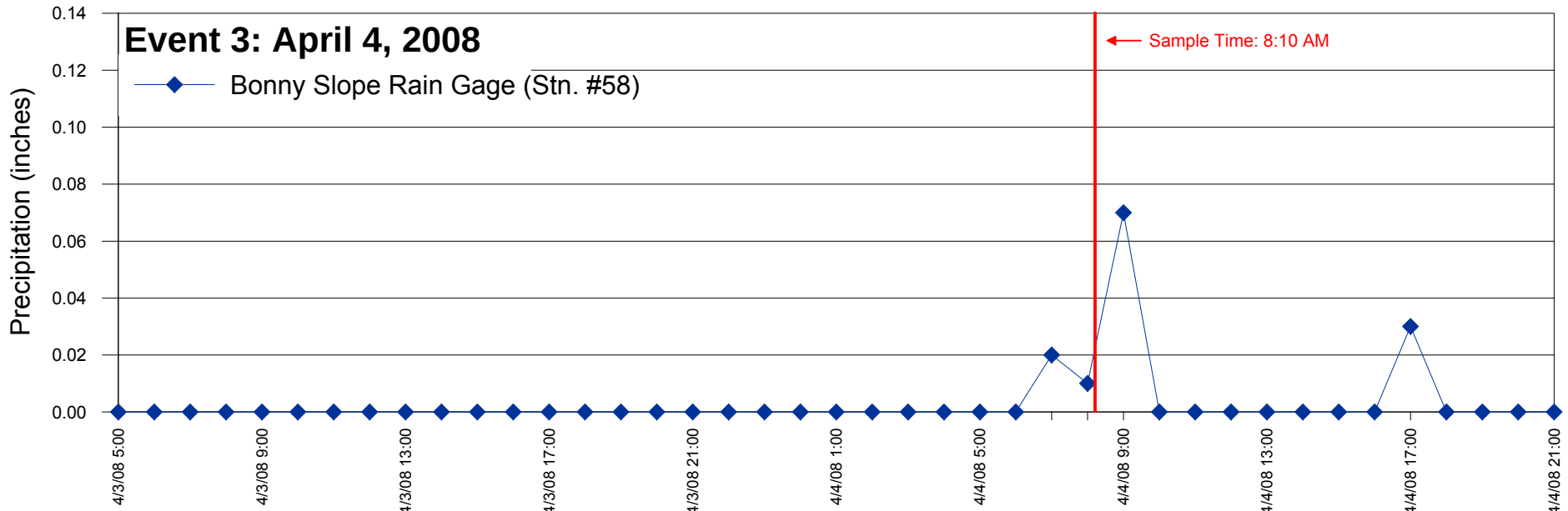
Attachment A2
Storm Event Precipitation Graphs

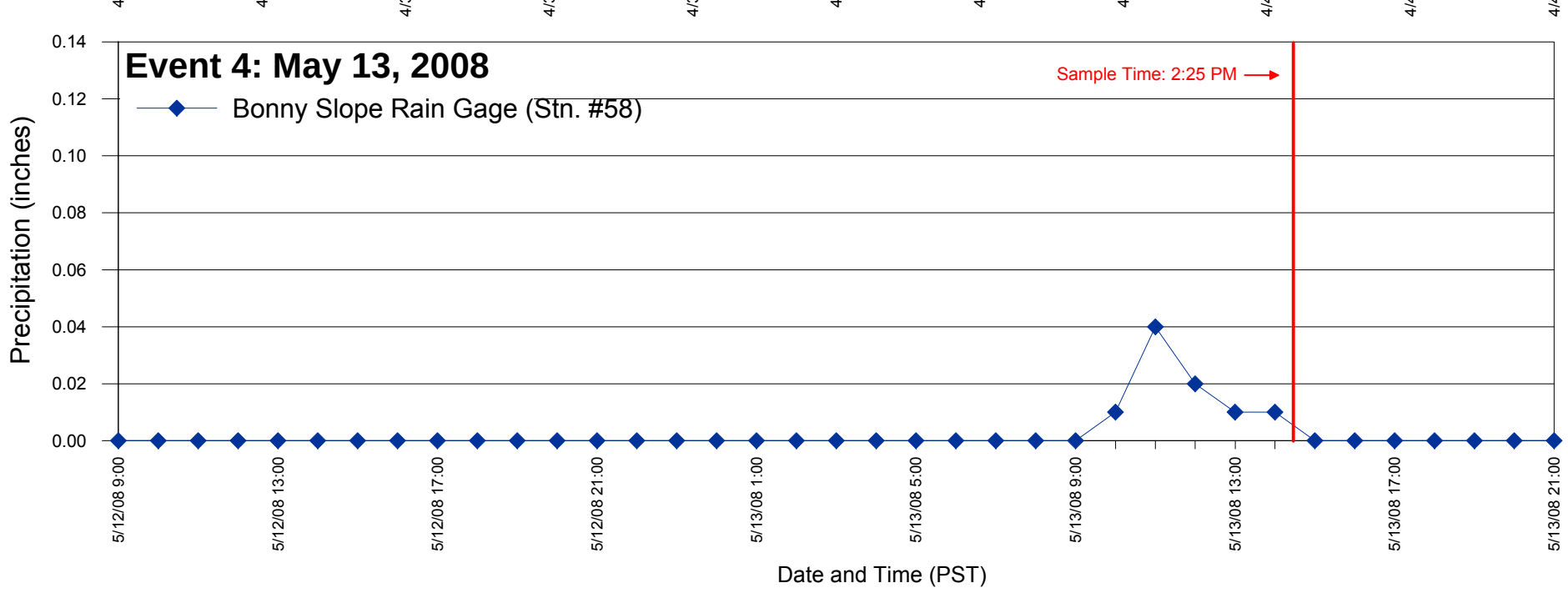
(2007 - 2008 Stormwater Grab Sampling)

Outfall Basin 22C
Stormwater Event Data





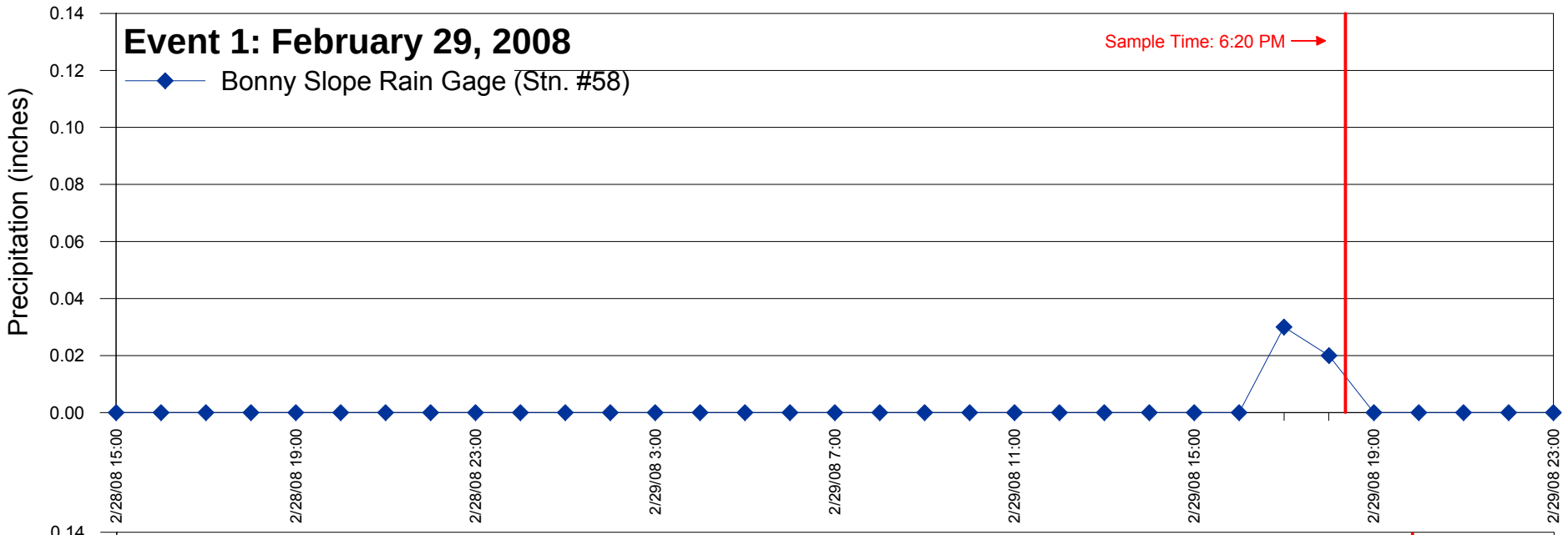


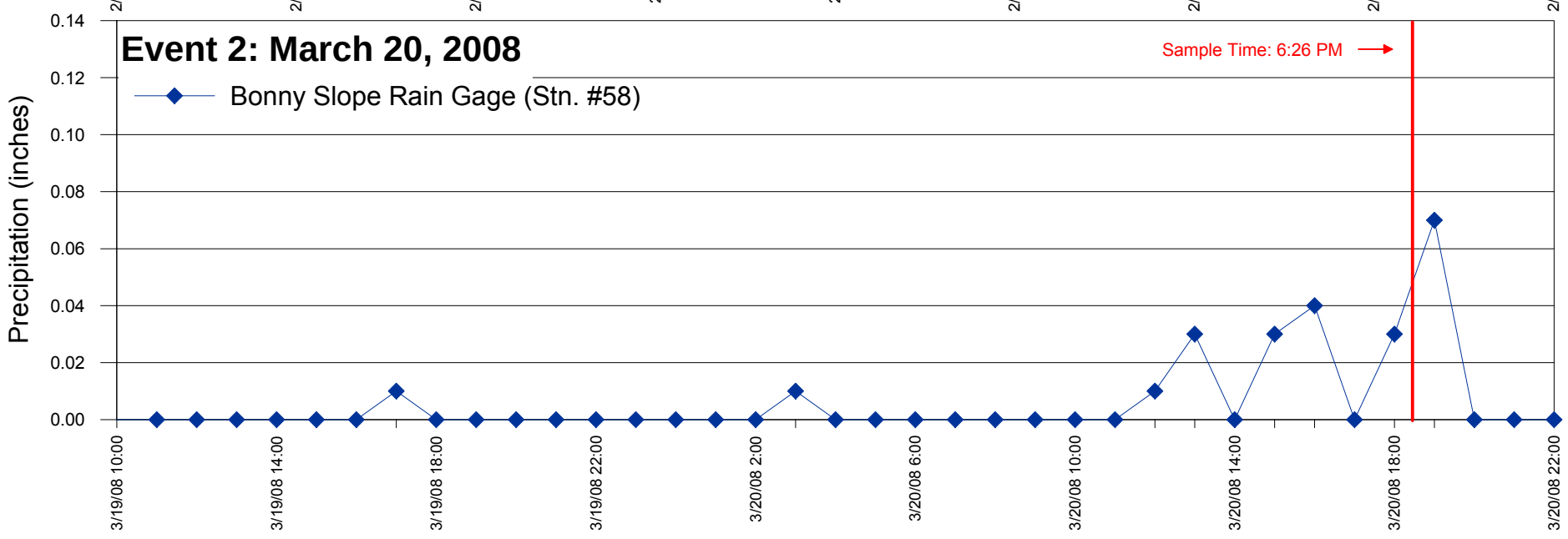


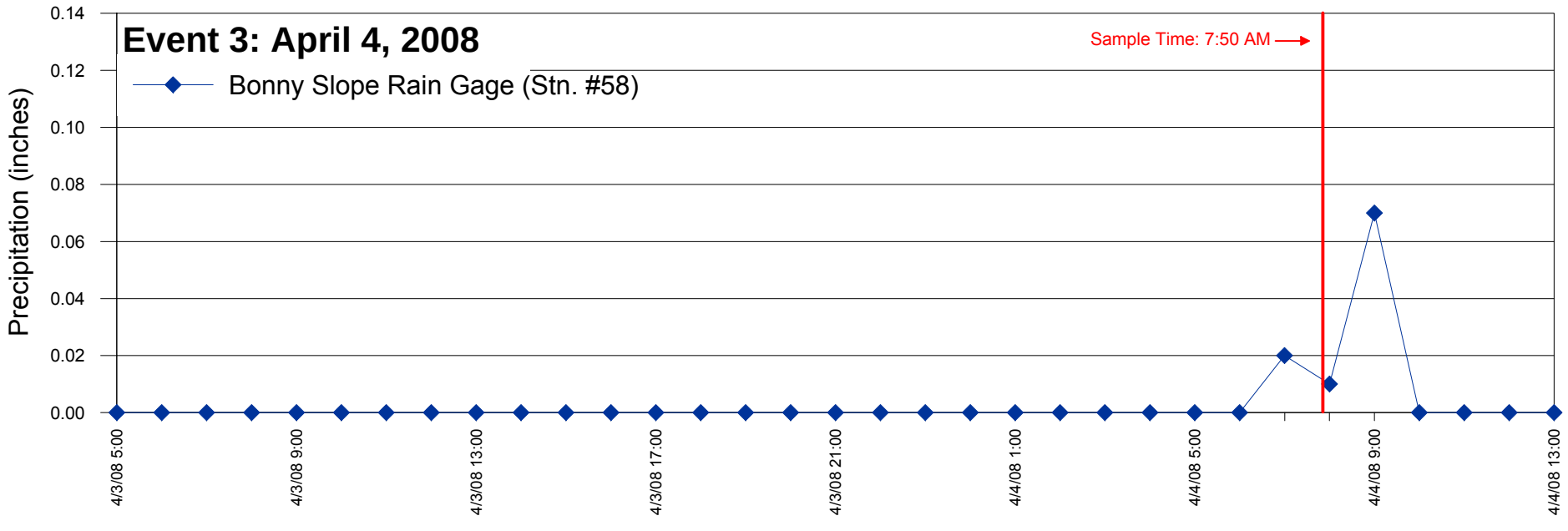
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 22C	1	2/29/2008 18:20	Grab	>24	0.3	Yes
OF 22C	2	3/20/2008 18:05	Grab	>24	0.2	Yes
OF 22C	3	4/4/2008 7:50	Grab	>24	0.2	Yes
OF 22C	4	5/13/2008 14:25	Grab	>24	0.1	No

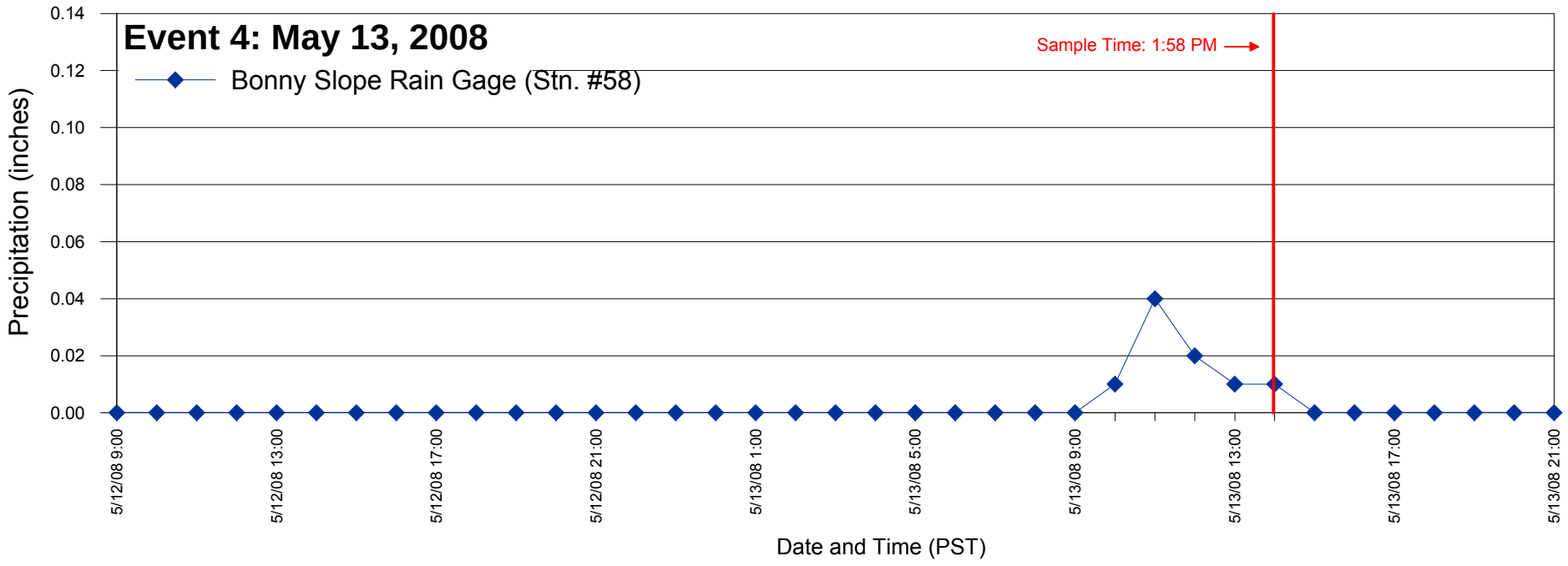
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 22D
Stormwater Event Data





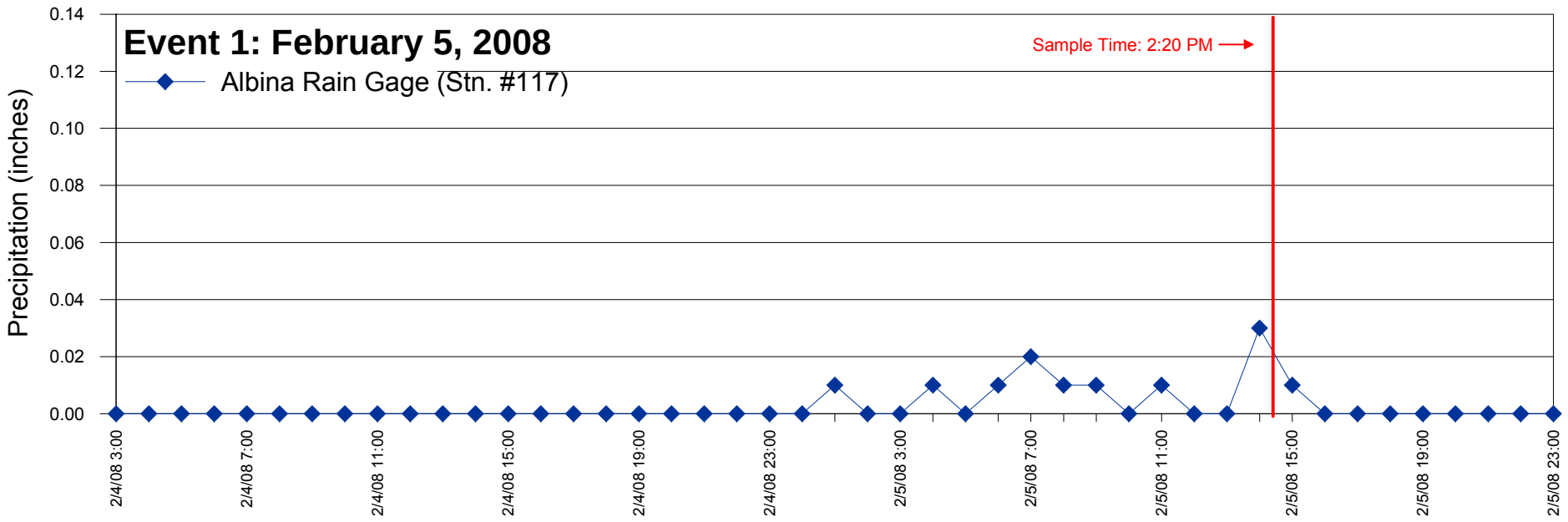


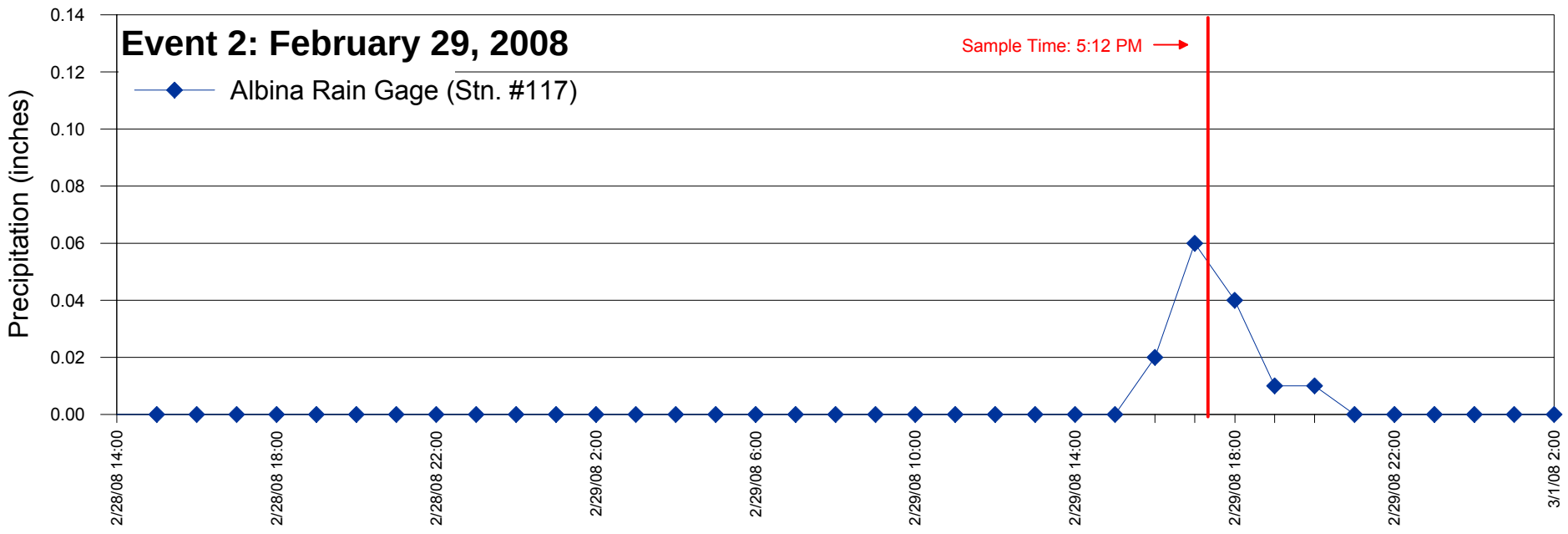


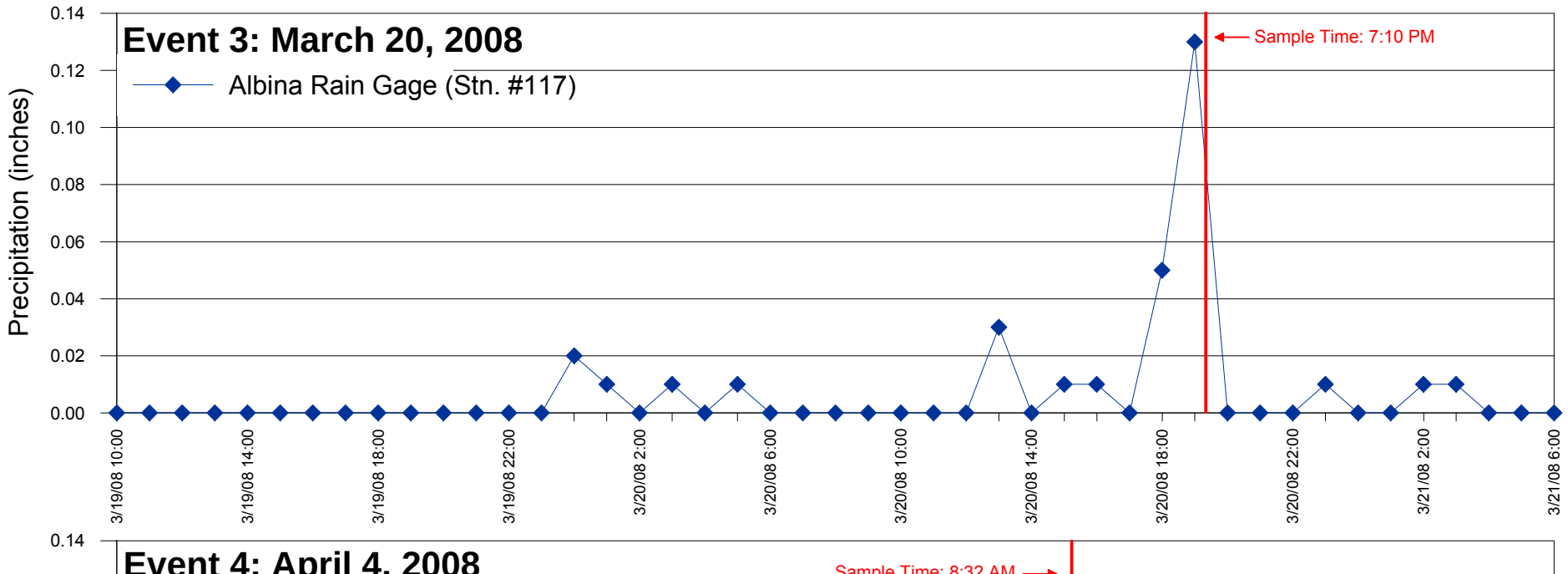
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 22D	1	2/29/2008 18:20	Grab	>24	0.3	Yes
OF 22D	2	3/20/2008 18:26	Grab	>24	0.2	No
OF 22D	3	4/4/2008 7:50	Grab	>24	0.2	Yes
OF 22D	4	5/13/2008 13:58	Grab	>24	0.1	No

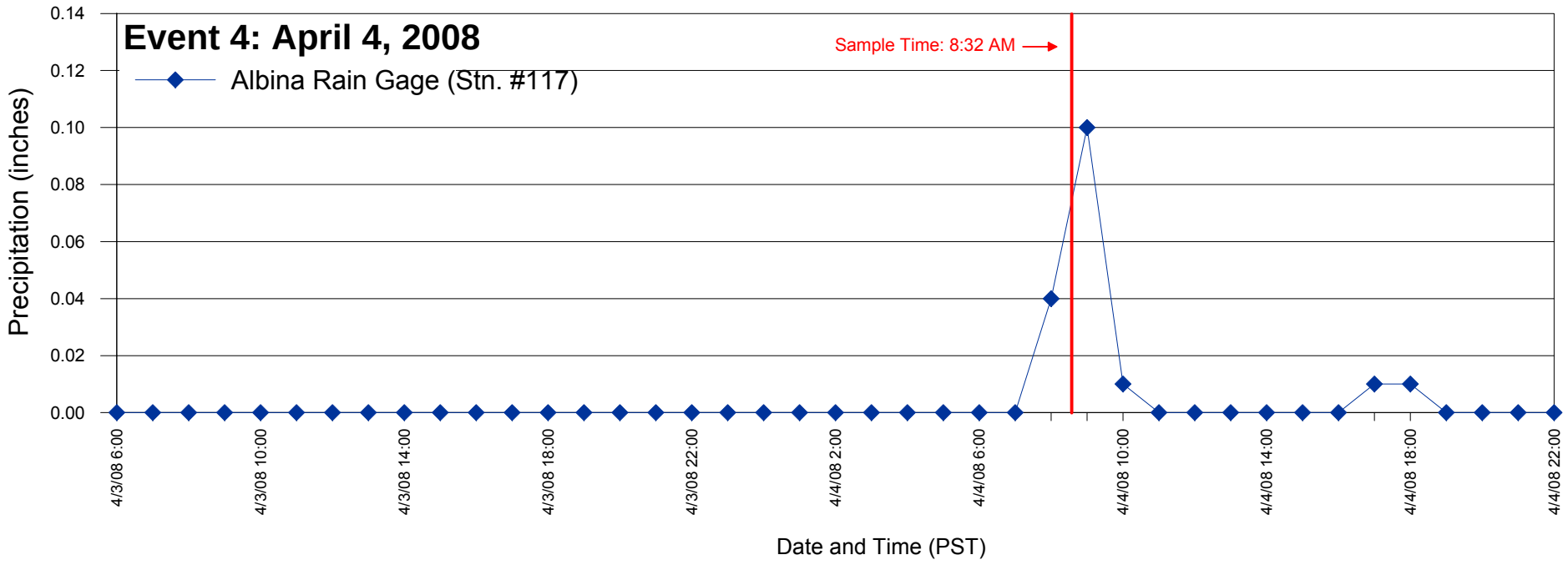
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 45
Stormwater Event Data





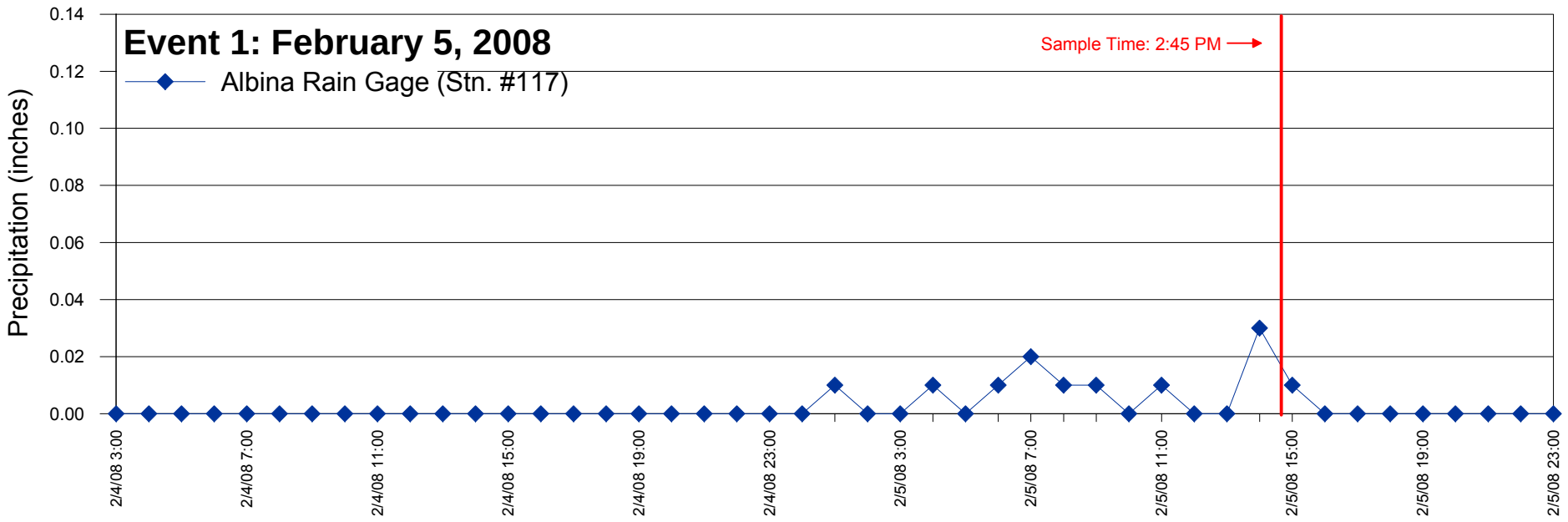


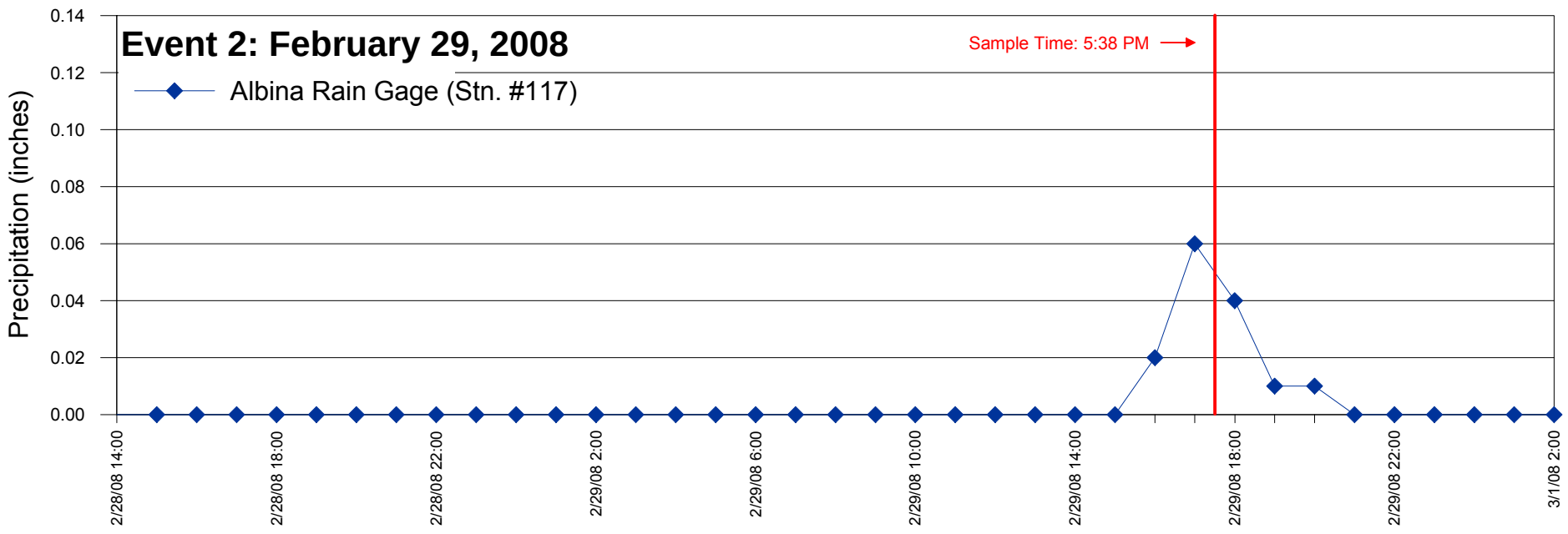


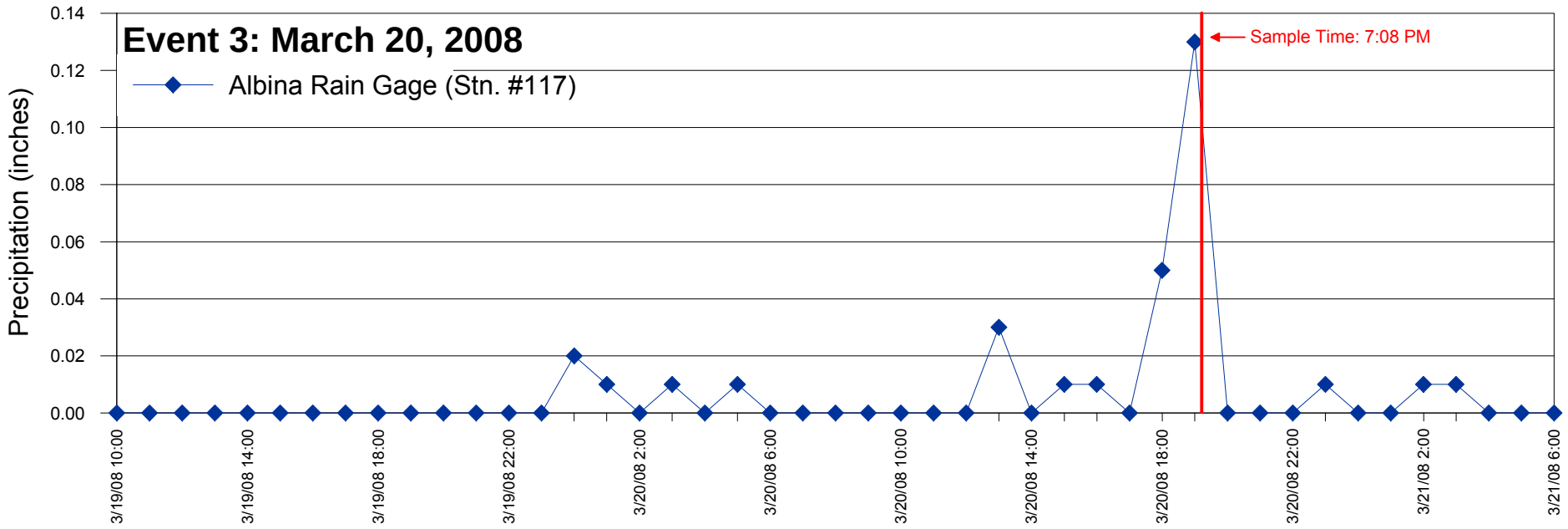
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 45	1	2/5/2008 14:20	Grab	>24	0.4	No
OF 45	2	2/29/2008 17:12	Grab	>24	0.3	Yes
OF 45	3	3/20/2008 19:10	Grab	>24	0.2	No
OF 45	4	4/4/2008 8:32	Grab	>24	0.2	Yes

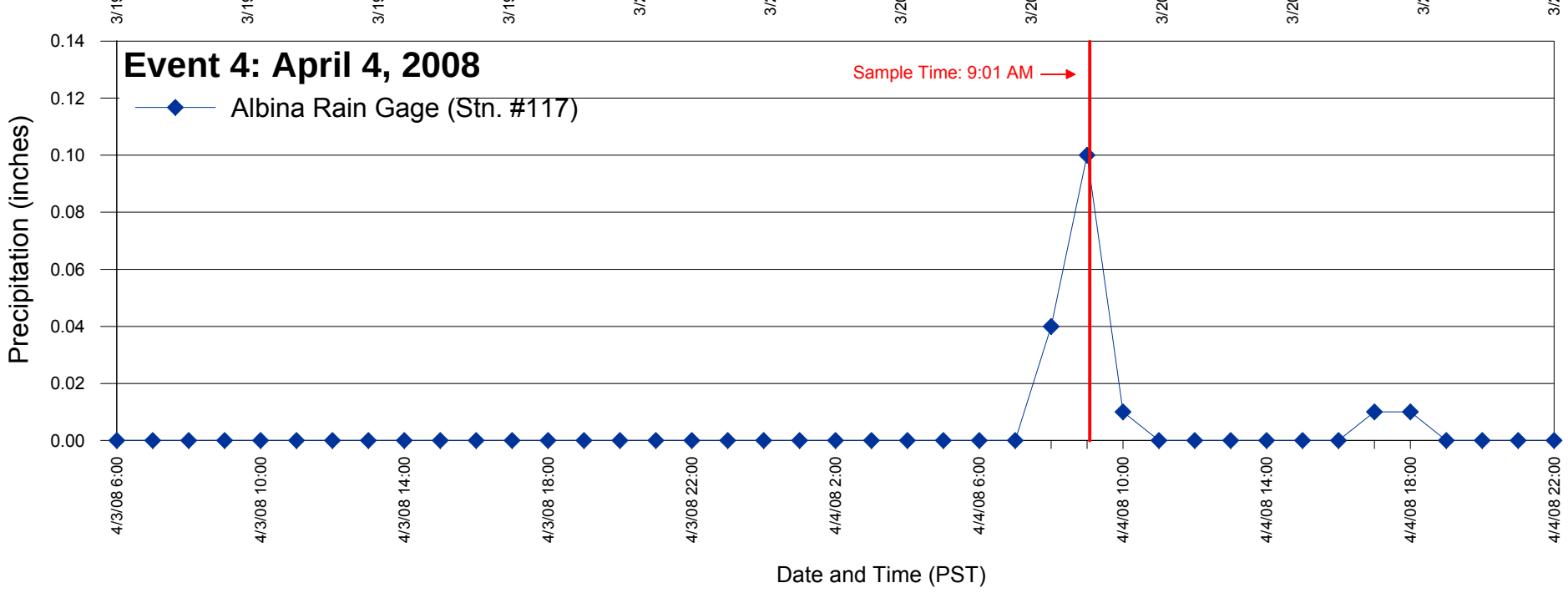
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 46
Stormwater Event Data





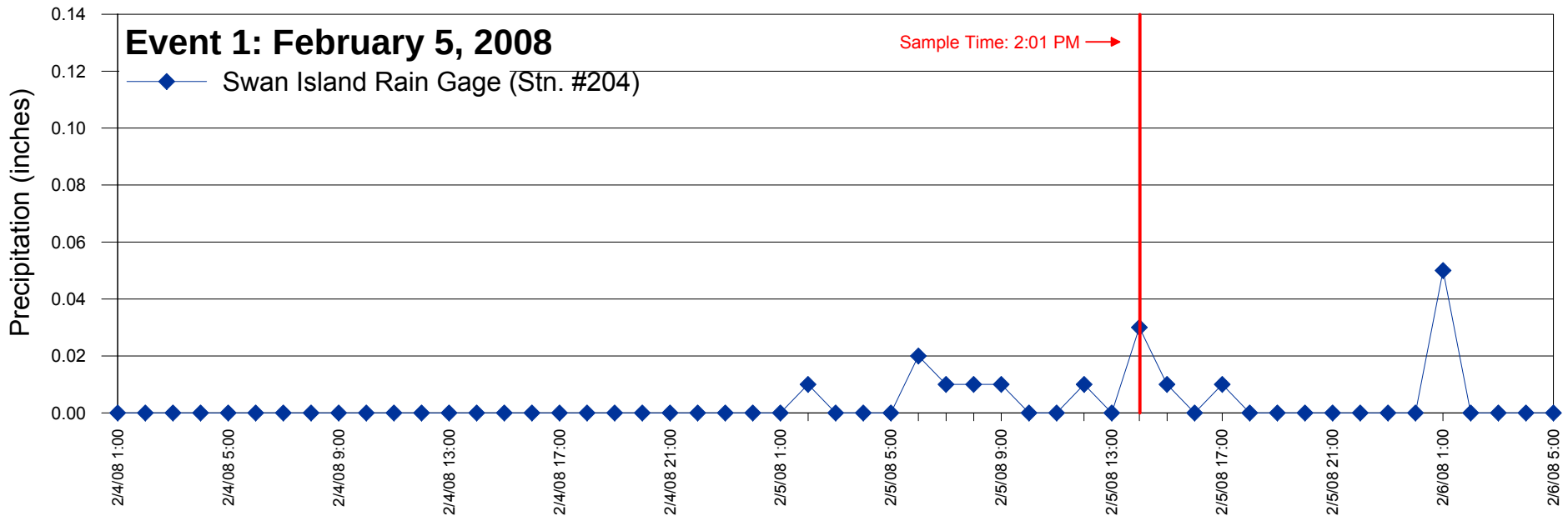


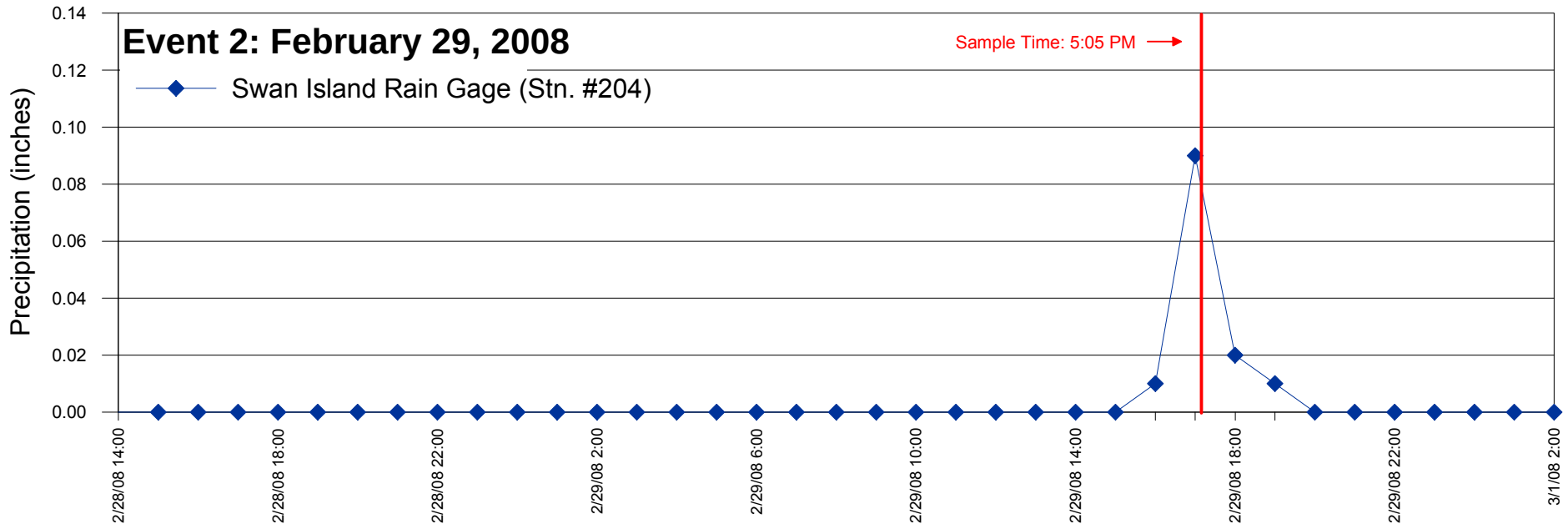


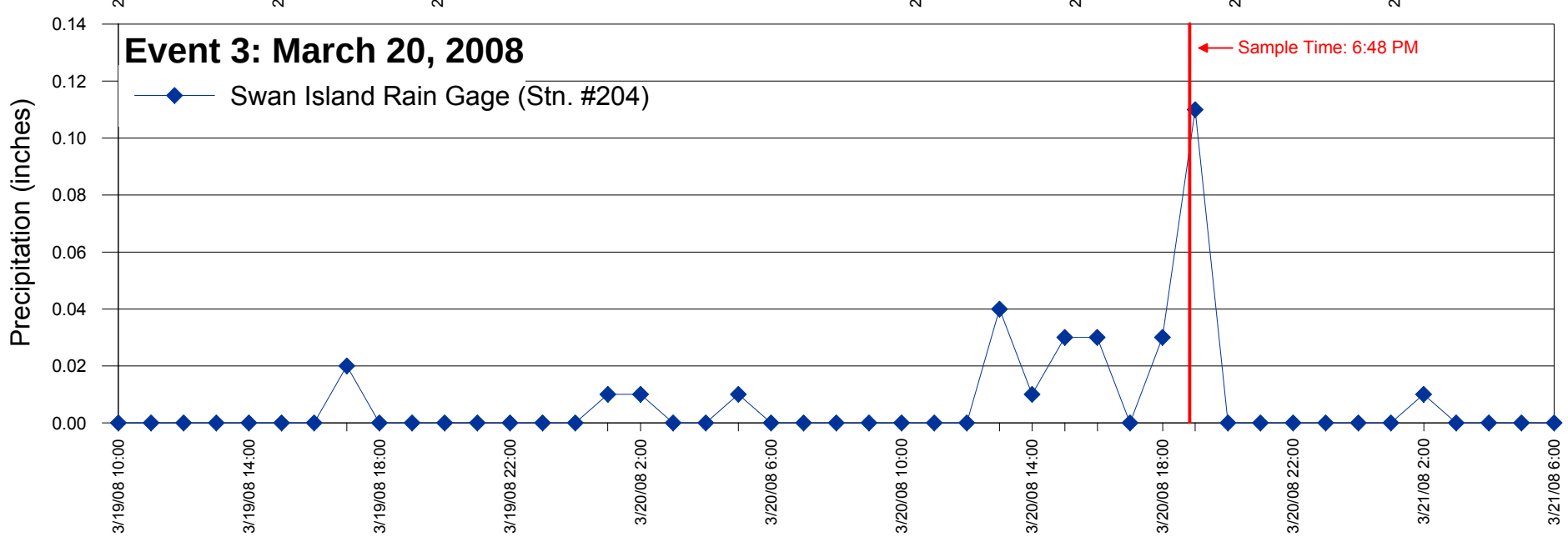
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 46	1	2/5/2008 14:45	Grab	>24	0.4	No
OF 46	2	2/29/2008 17:38	Grab	>24	0.3	Yes
OF 46	3	3/20/2008 19:08	Grab	>24	0.2	No
OF 46	4	4/4/2008 9:01	Grab	>24	0.2	Yes

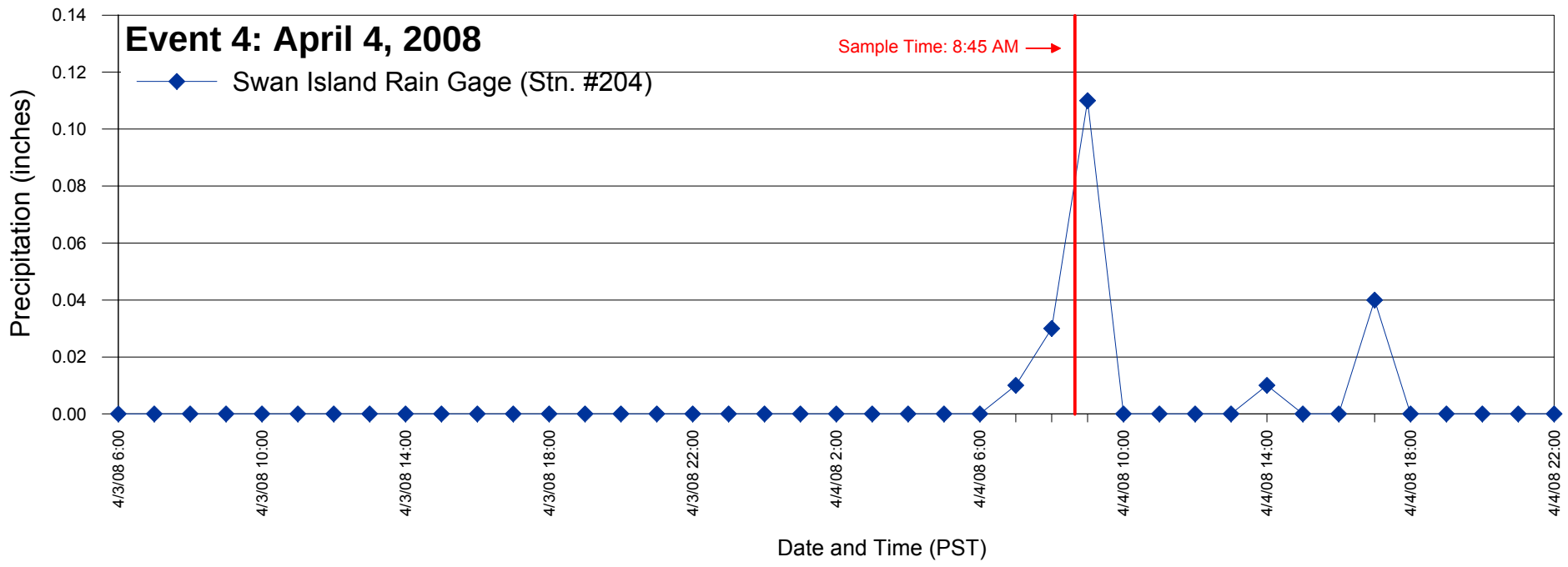
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 47
Stormwater Event Data





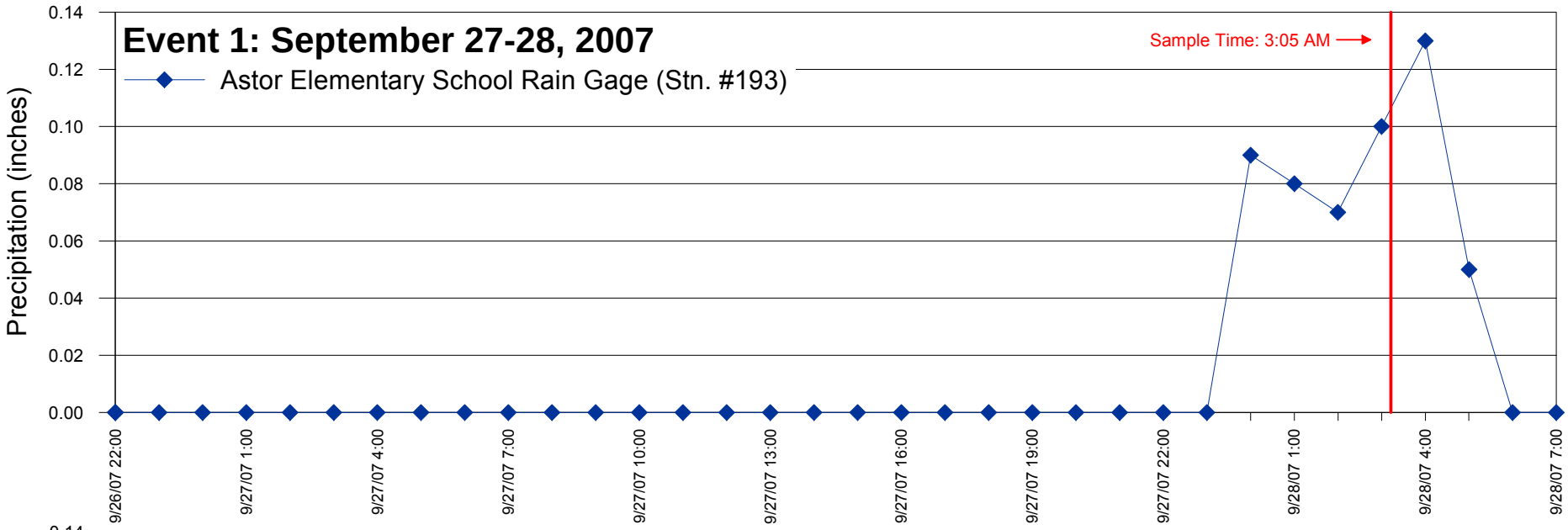


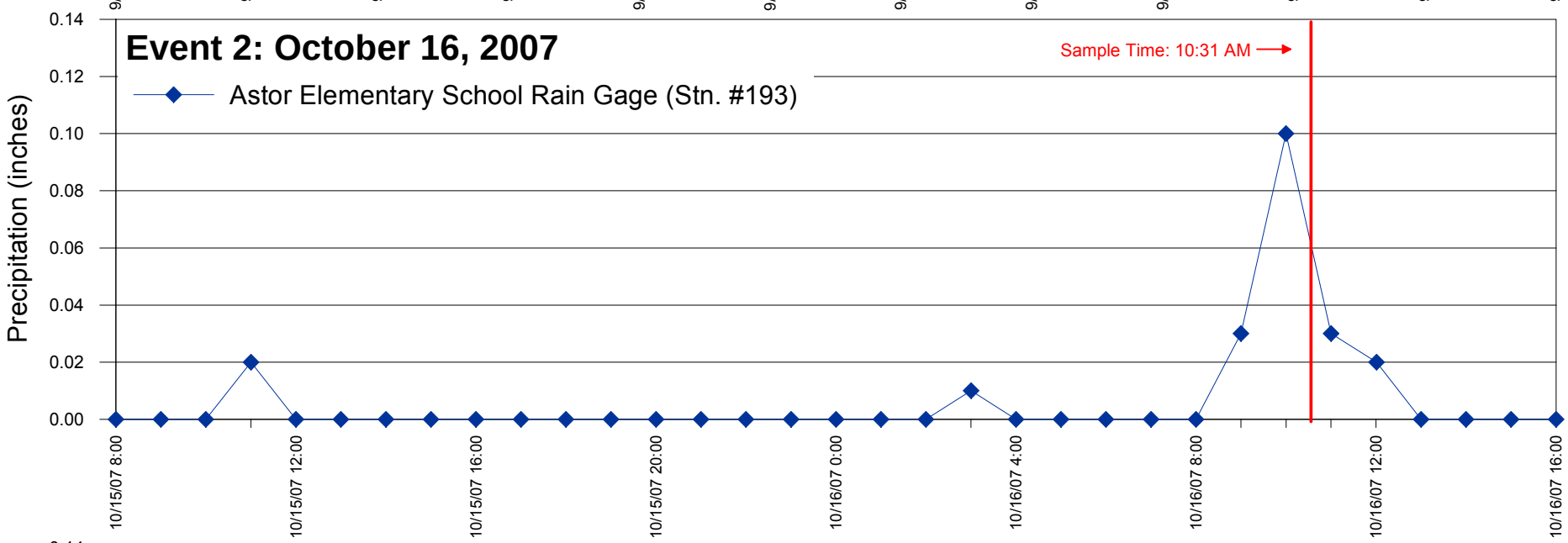


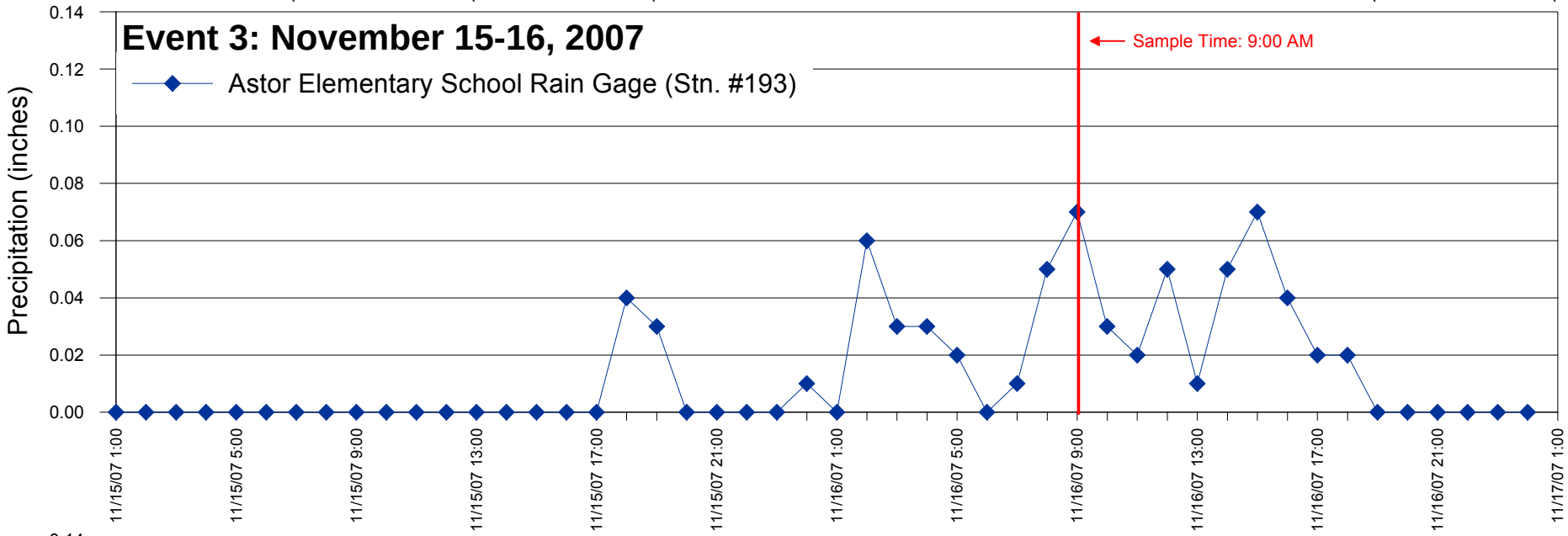
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 47	1	2/5/2008 14:01	Grab	>24	0.4	No
OF 47	2	2/29/2008 17:05	Grab	>24	0.3	Yes
OF 47	3	3/20/2008 18:48	Grab	>24	0.2	No
OF 47	4	4/4/2008 8:45	Grab	>24	0.2	Yes

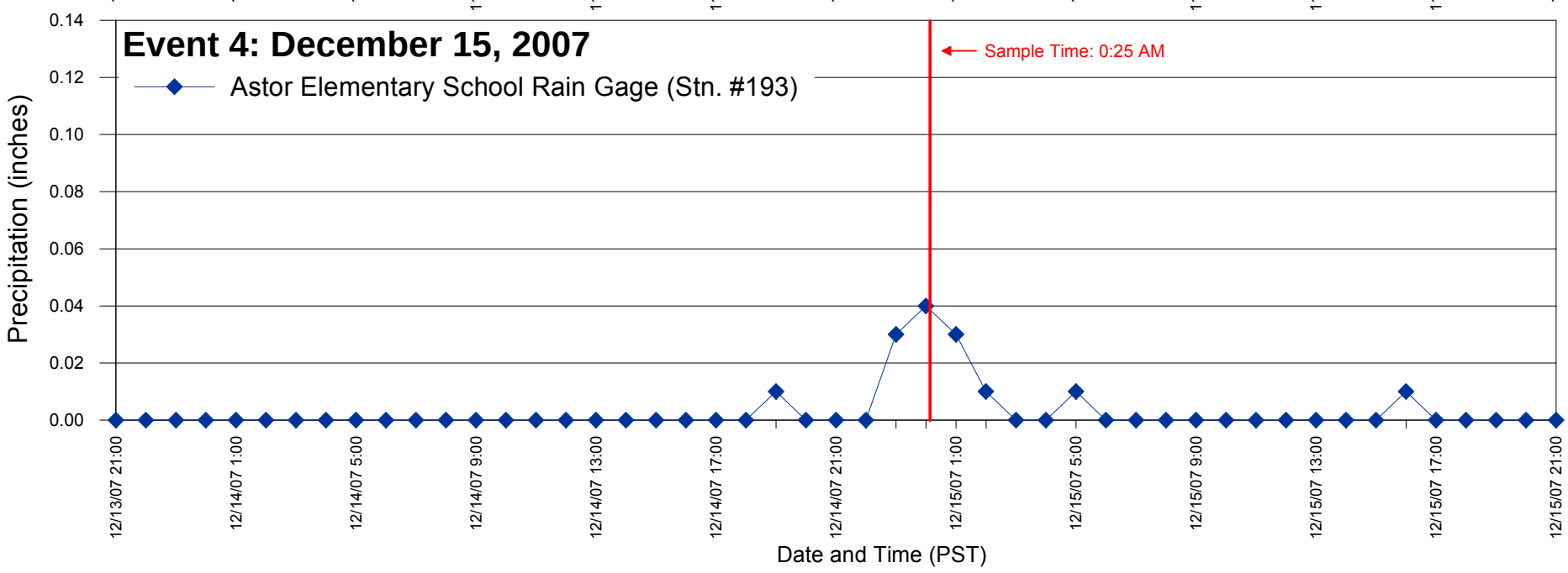
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 48
Stormwater Event Data





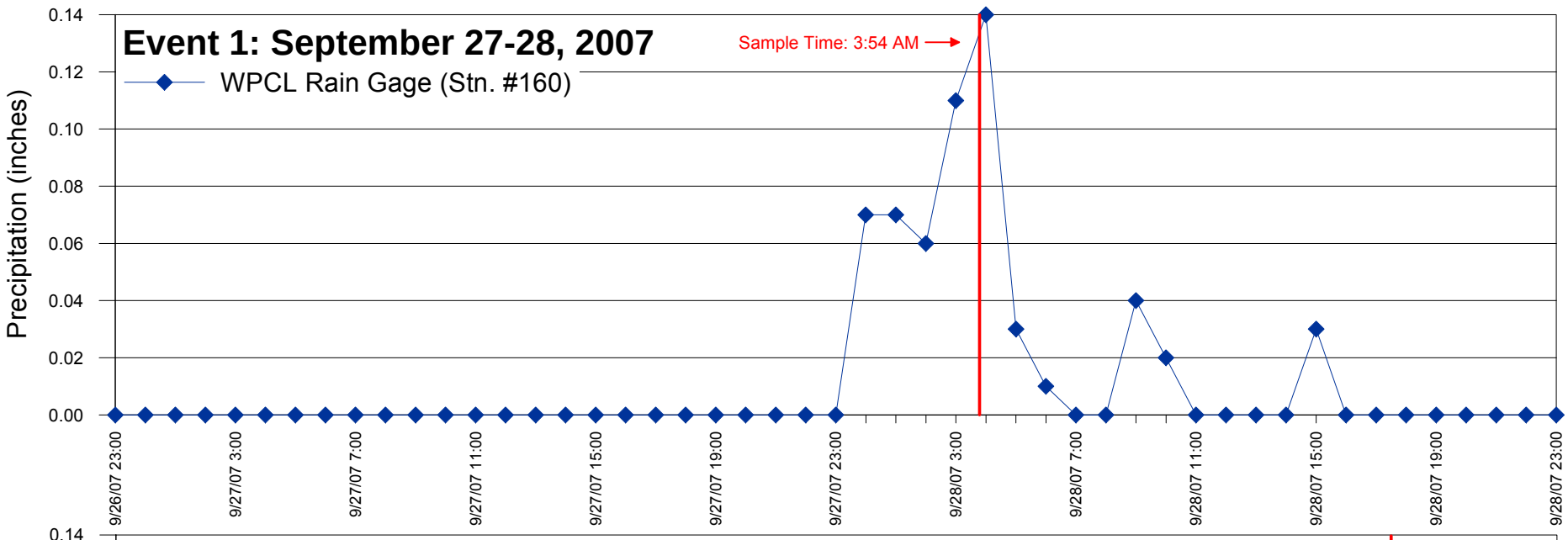


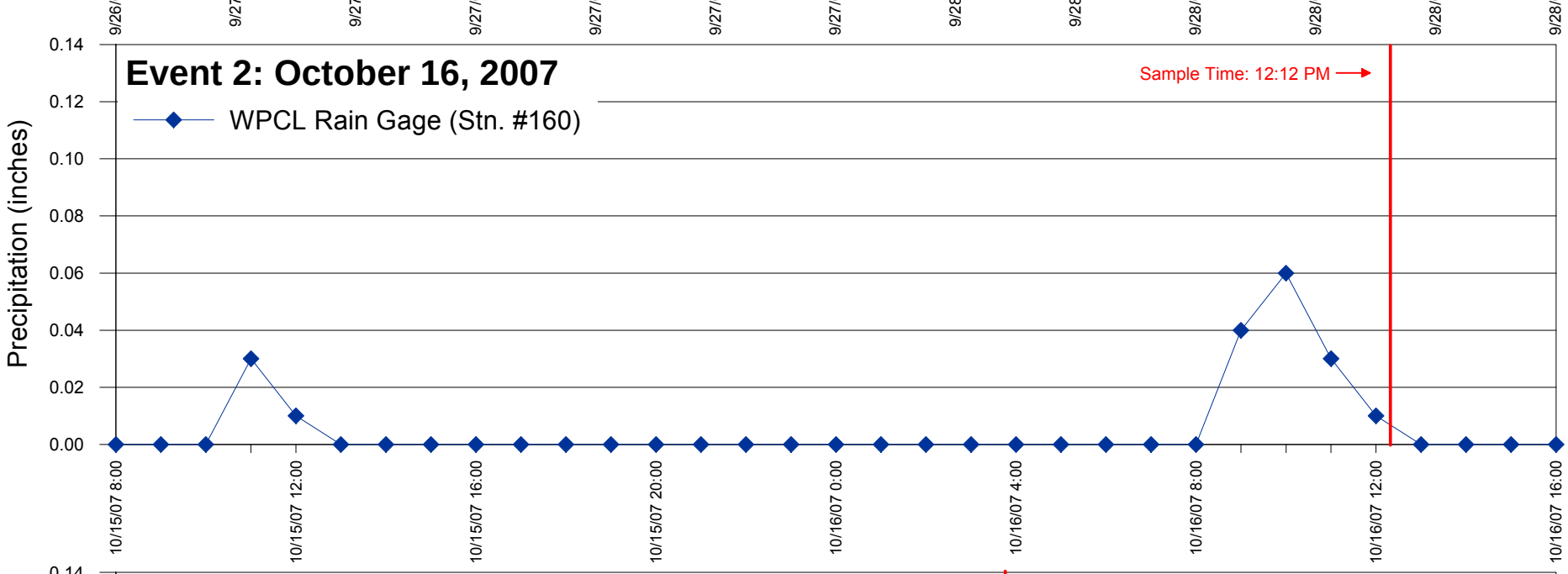


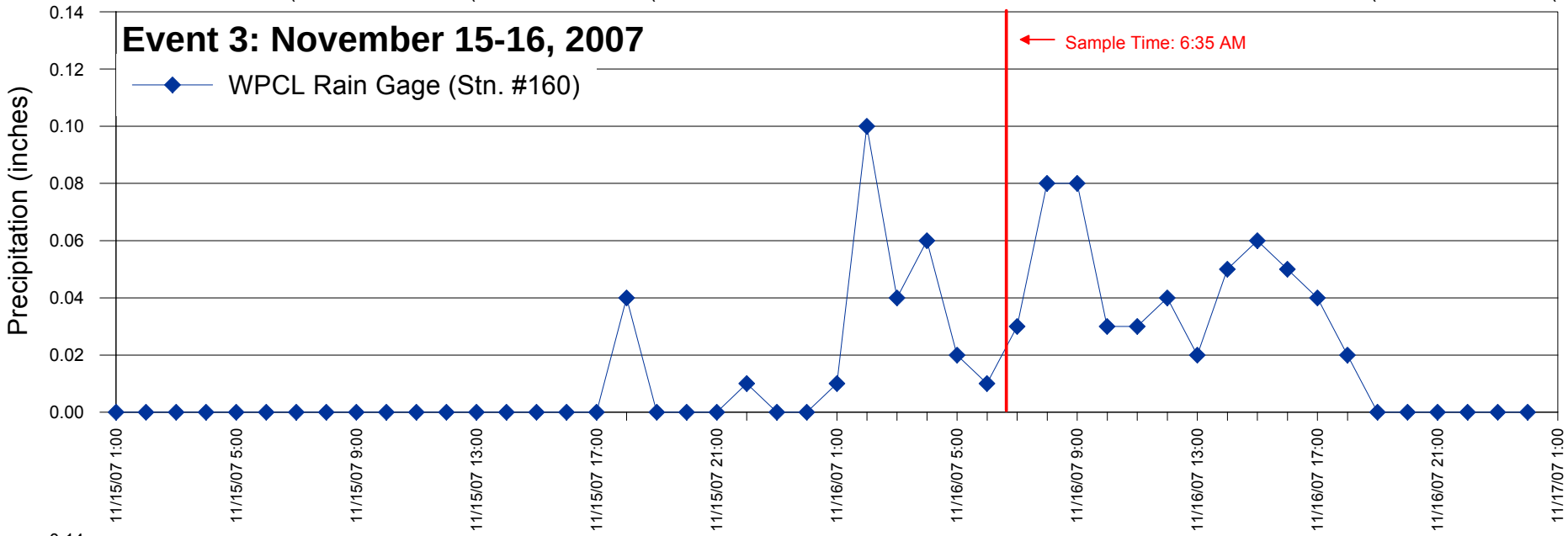
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 48	1	9/28/2007 3:05	Grab	>24	0.4	N/A[4]
OF 48	2	10/16/2007 10:31	Grab	>24	0.4	N/A[4]
OF 48	3	11/16/2007 9:00	Grab	>24	0.5	N/A[4]
OF 48	4	12/15/2007 0:25	Grab	>24	0.2	N/A[4]

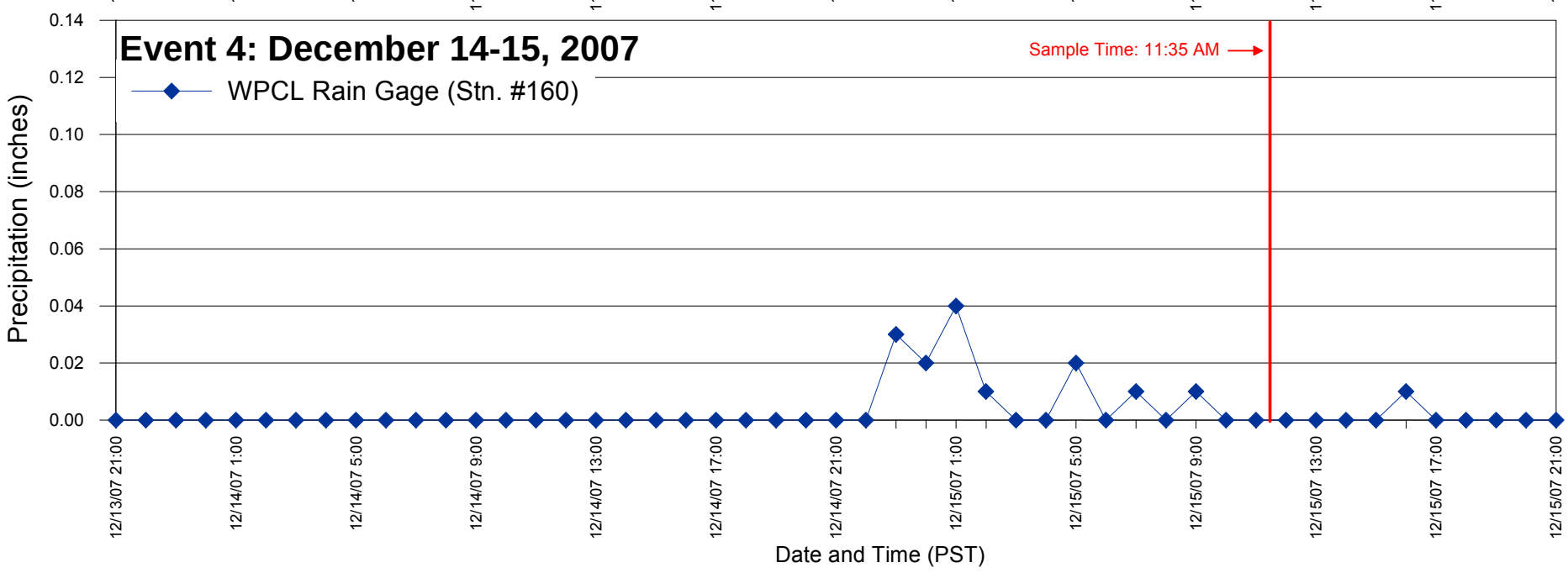
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.
(4) N/A = First flush conditions are not applicable at this sampling location because stormwater is detained in a treatment pond upstream of the sample location at the Outfall.

Outfall Basin 50
Stormwater Event Data





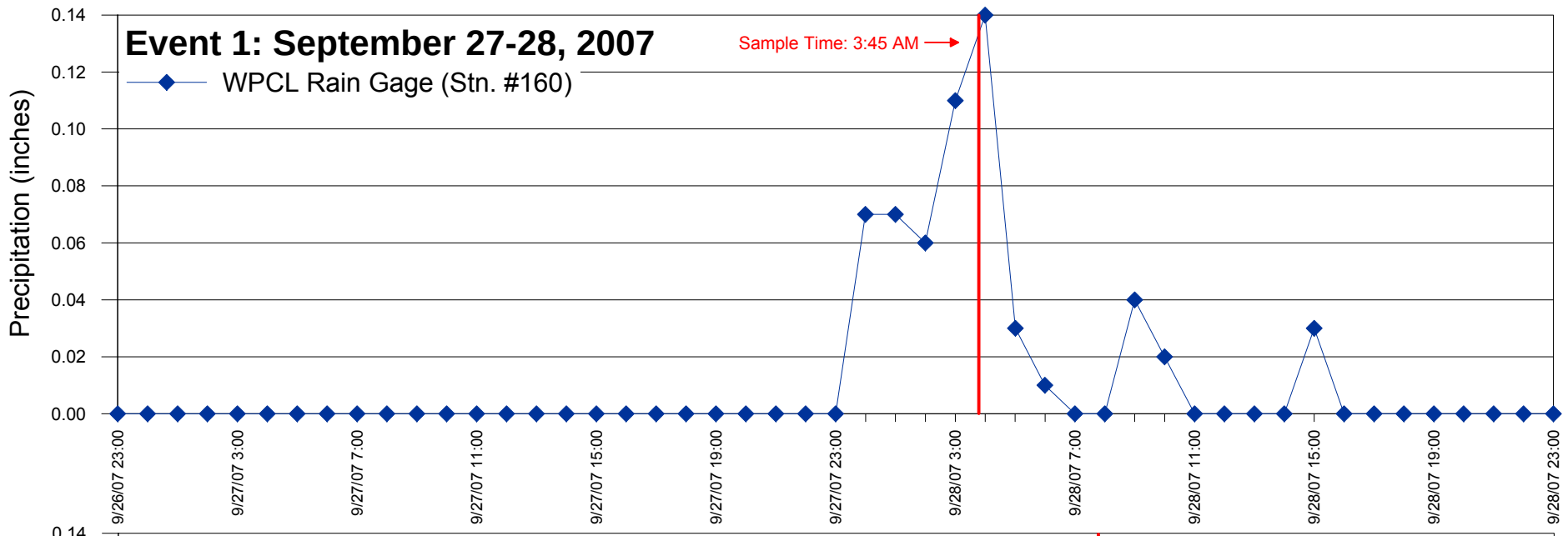


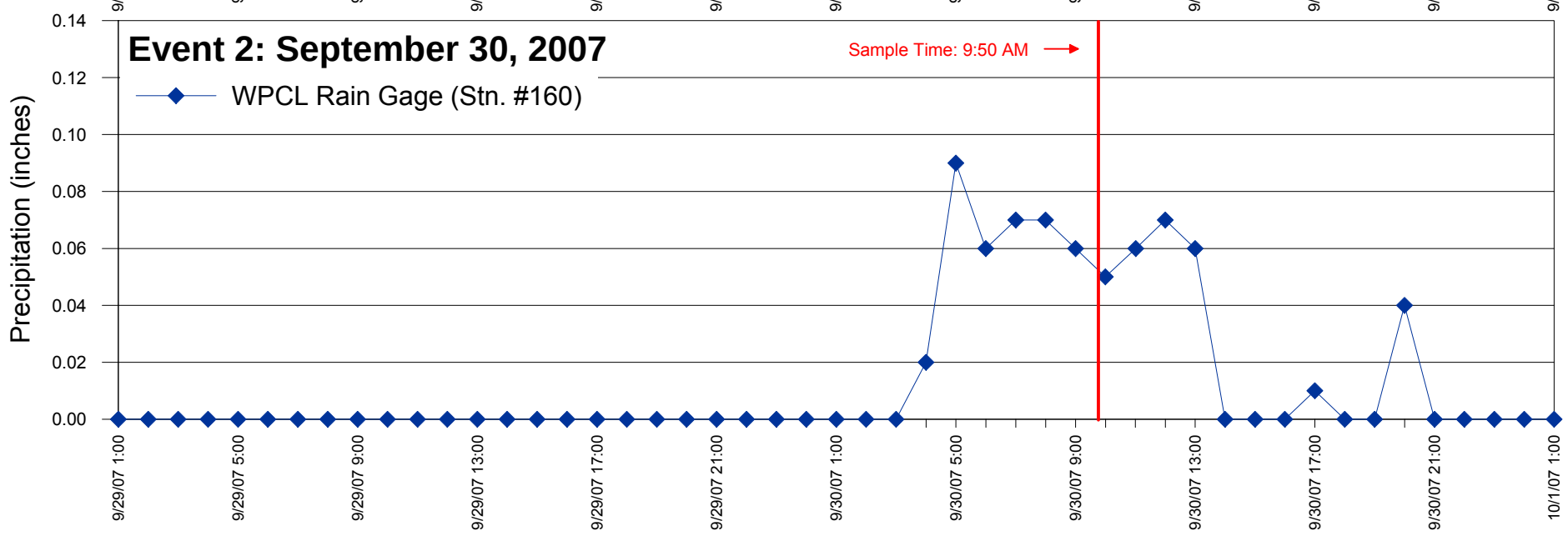


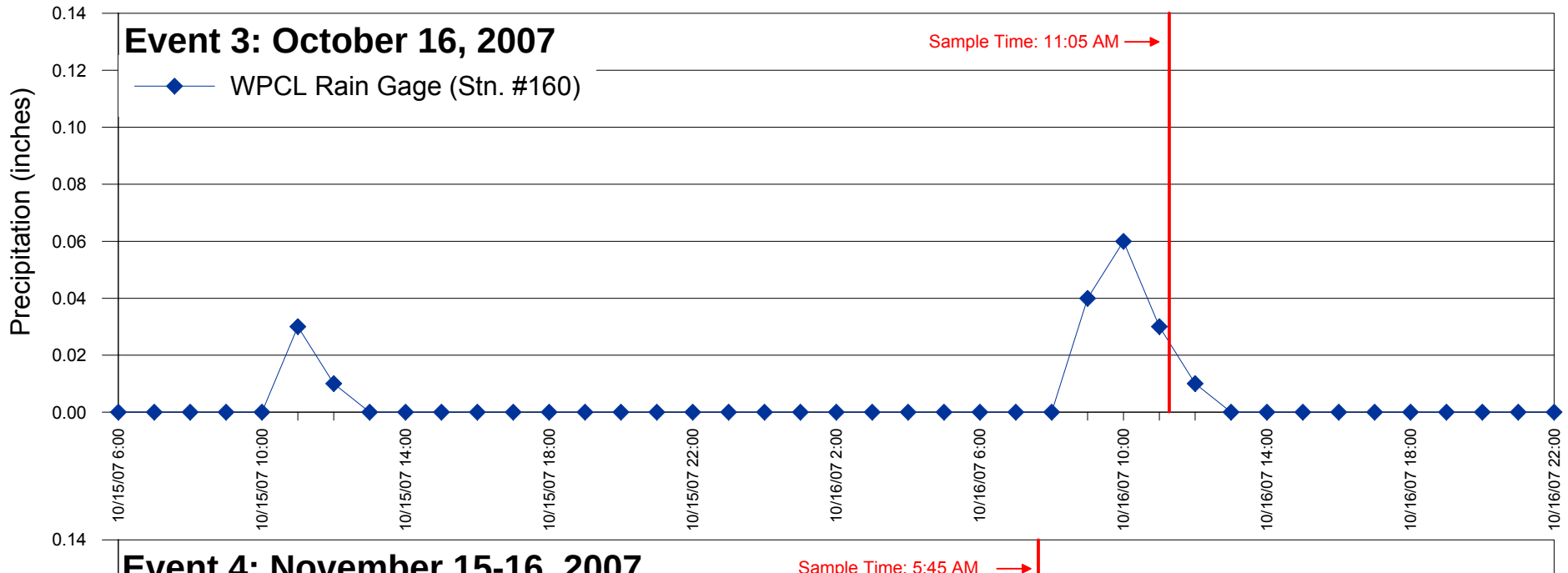
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 50	1	9/28/2007 3:54	Grab	>24	0.4	N/A[4]
OF 50	2	10/16/2007 12:12	Grab	>24	0.4	N/A[4]
OF 50	3	11/16/2007 6:35	Grab	>24	0.5	N/A[4]
OF 50	4	12/14/2007 23:35	Grab	>24	0.2	N/A[4]

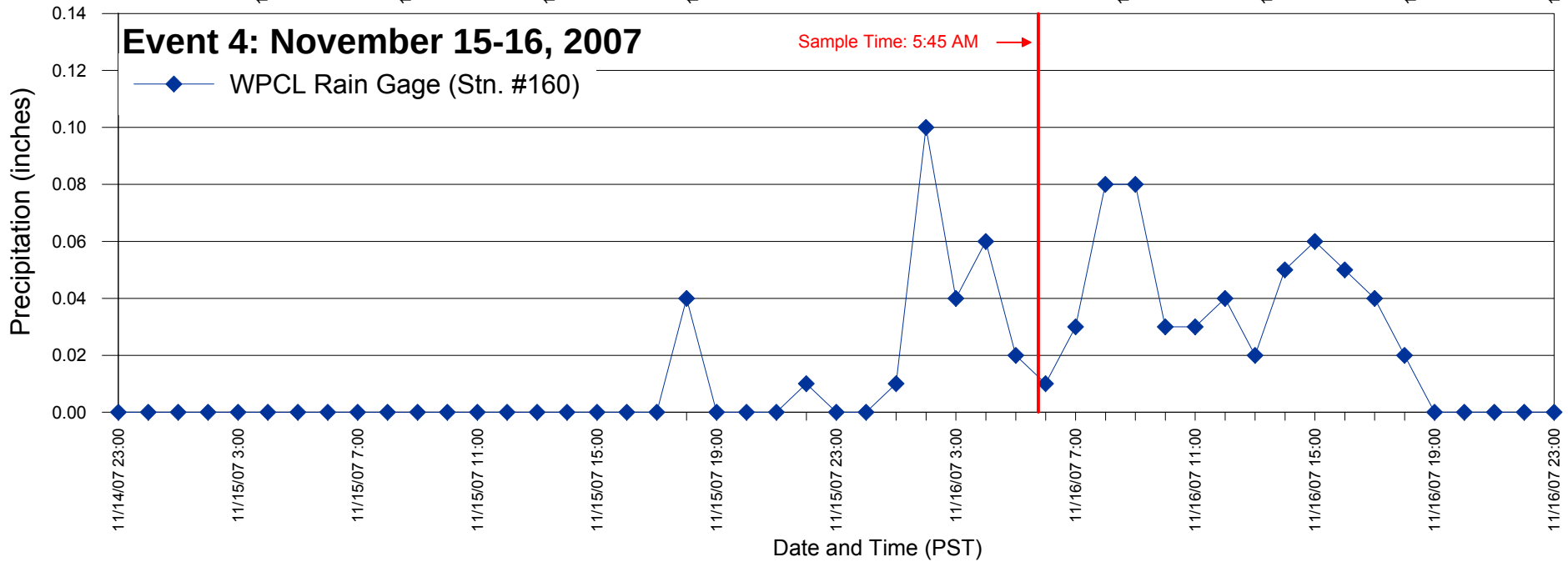
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.
(4) N/A = First flush conditions are not applicable at this sampling location because stormwater is detained in a treatment pond upstream of the sample location at the Outfall.

Outfall Basin 52
Stormwater Event Data





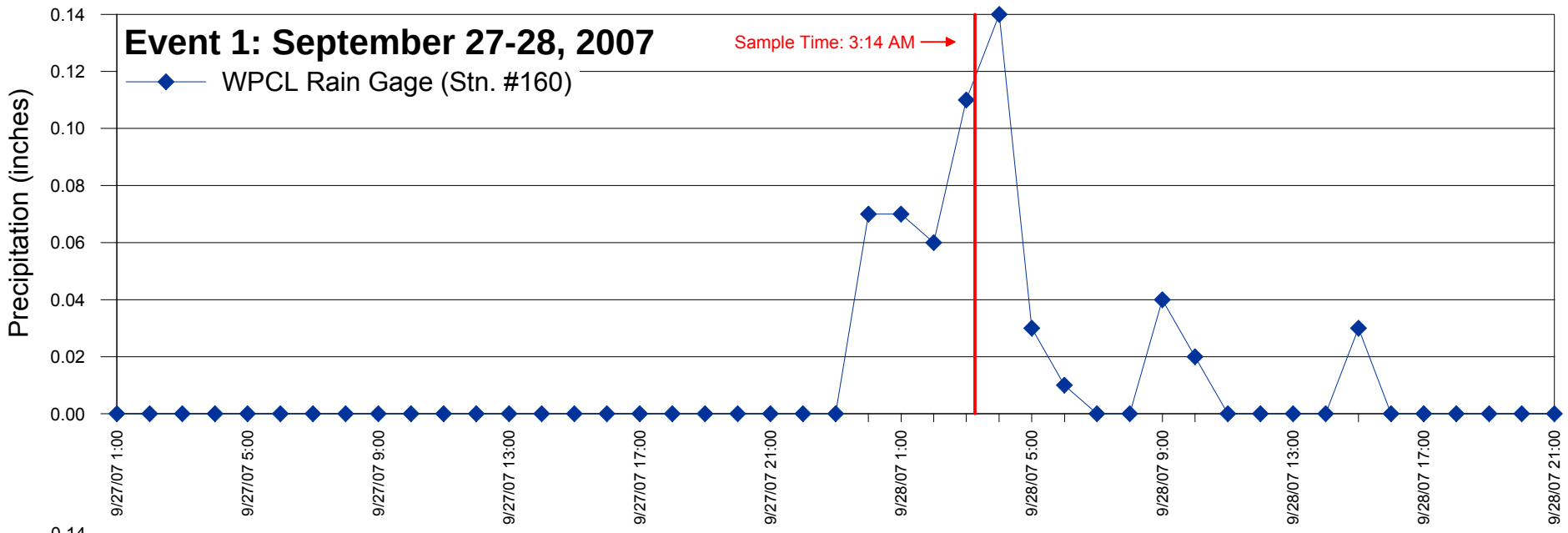


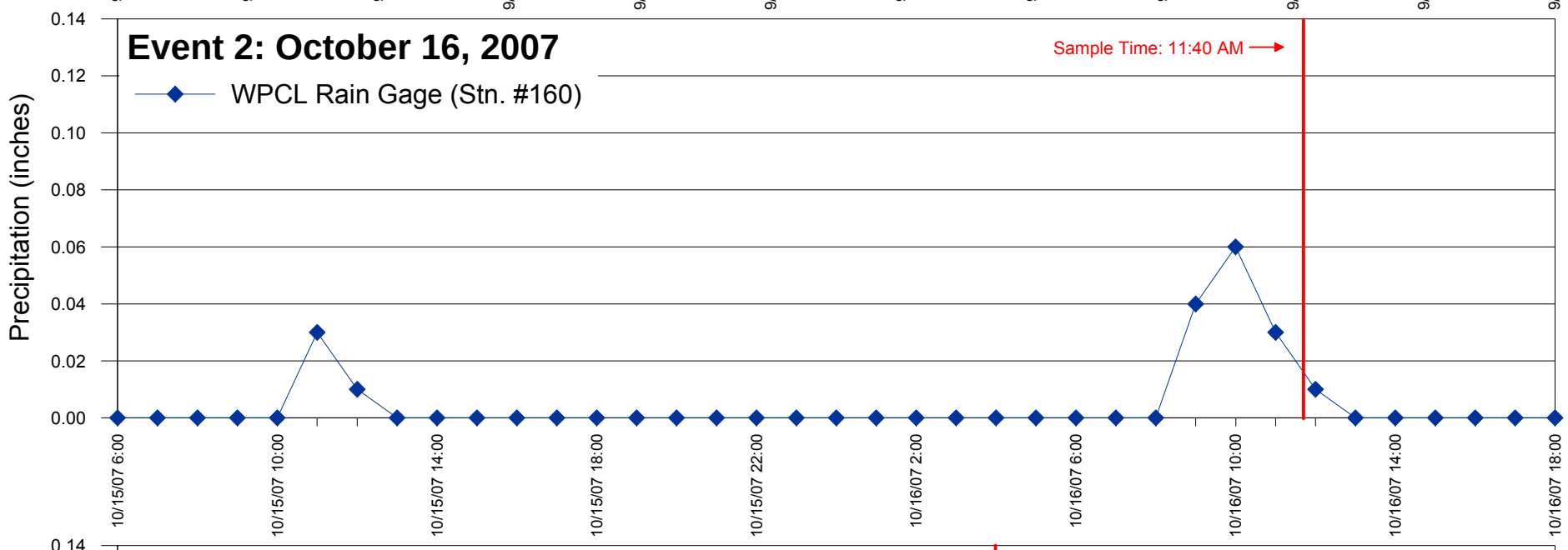


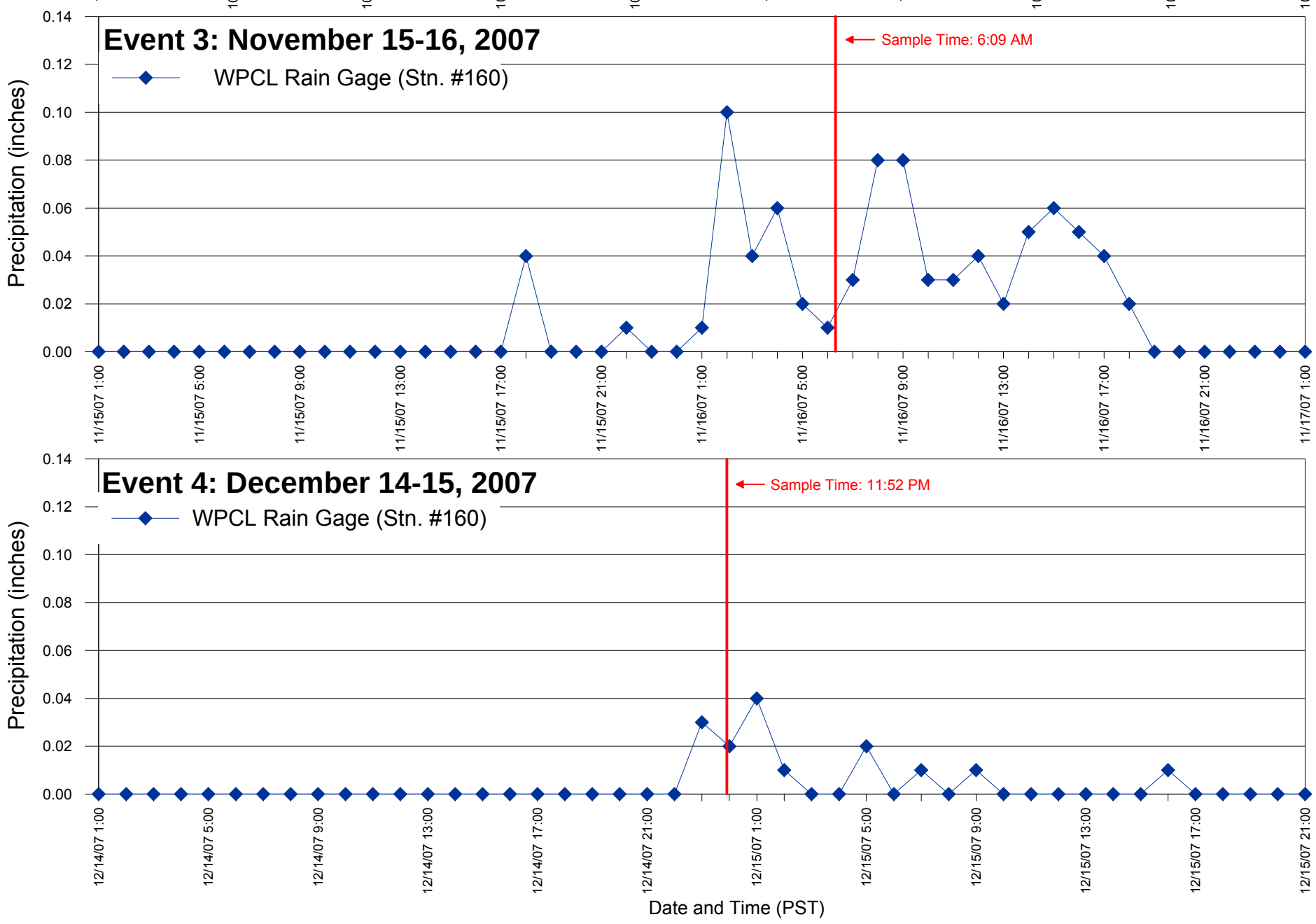
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 52	1	9/28/2007 3:45	Grab	>24	0.4	No
OF 52	2	9/30/2007 9:50	Grab	>24	0.7	No
OF 52	3	10/16/2007 11:05	Grab	>24	0.4	Yes
OF 52	4	11/16/2007 5:45	Grab	>24	0.5	No

PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin 52A
Stormwater Event Data



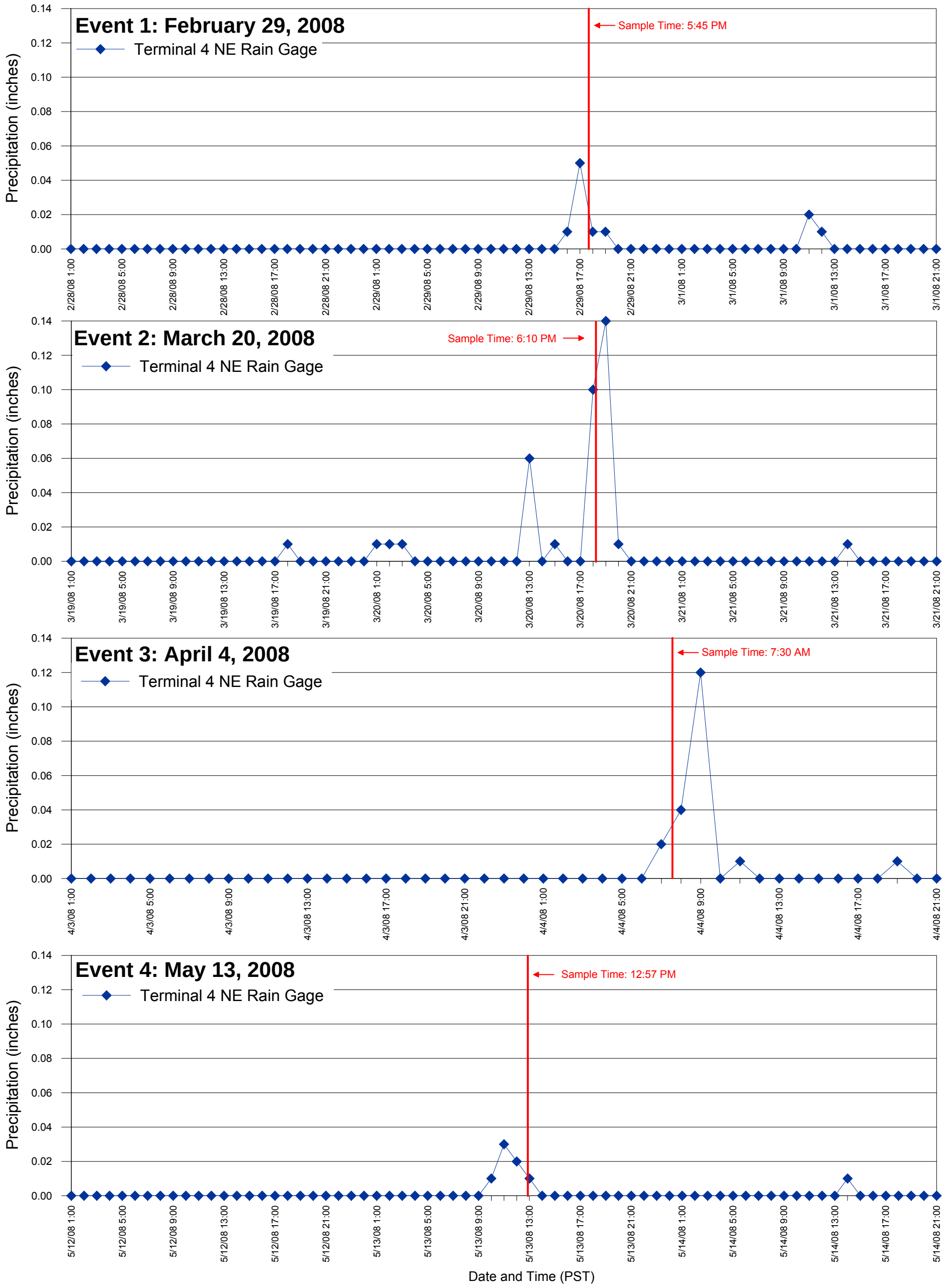




Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 52A	1	9/28/2007 4:14	Grab	>24	0.4	No
OF 52A	2	10/16/2007 11:40	Grab	>24	0.4	Yes
OF 52A	3	11/16/2007 6:09	Grab	>24	0.5	No
OF 52A	4	12/14/2007 23:52	Grab	>24	0.2	Yes

PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

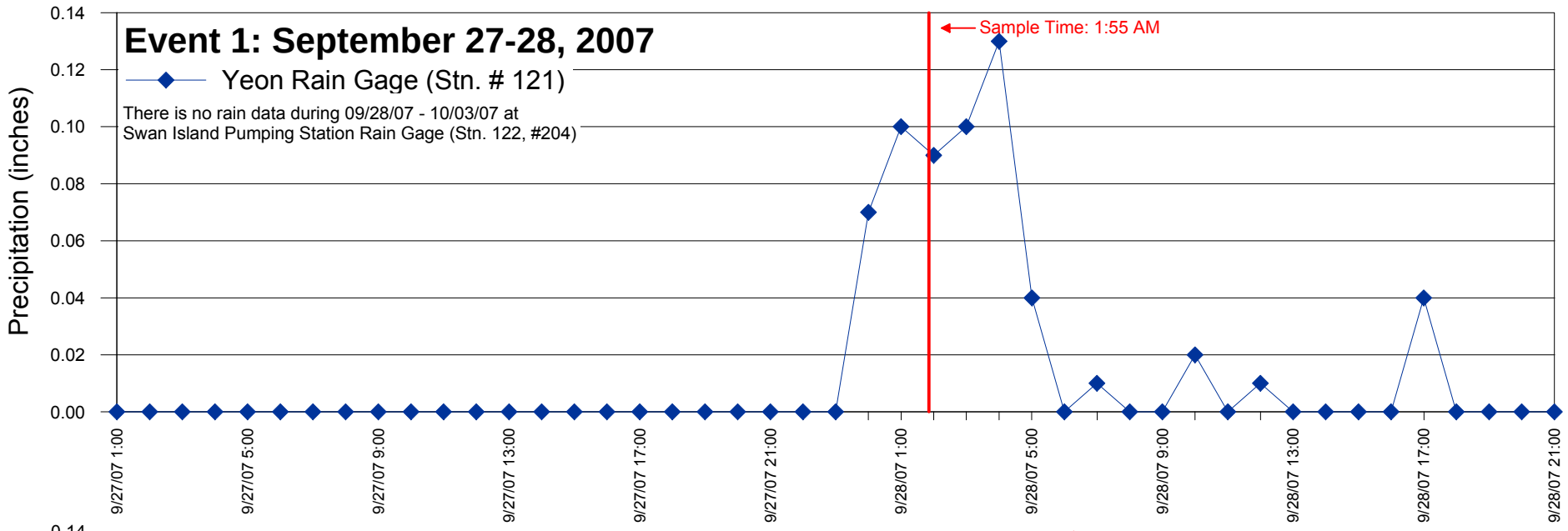
Outfall Basin 53A
Stormwater Event Data

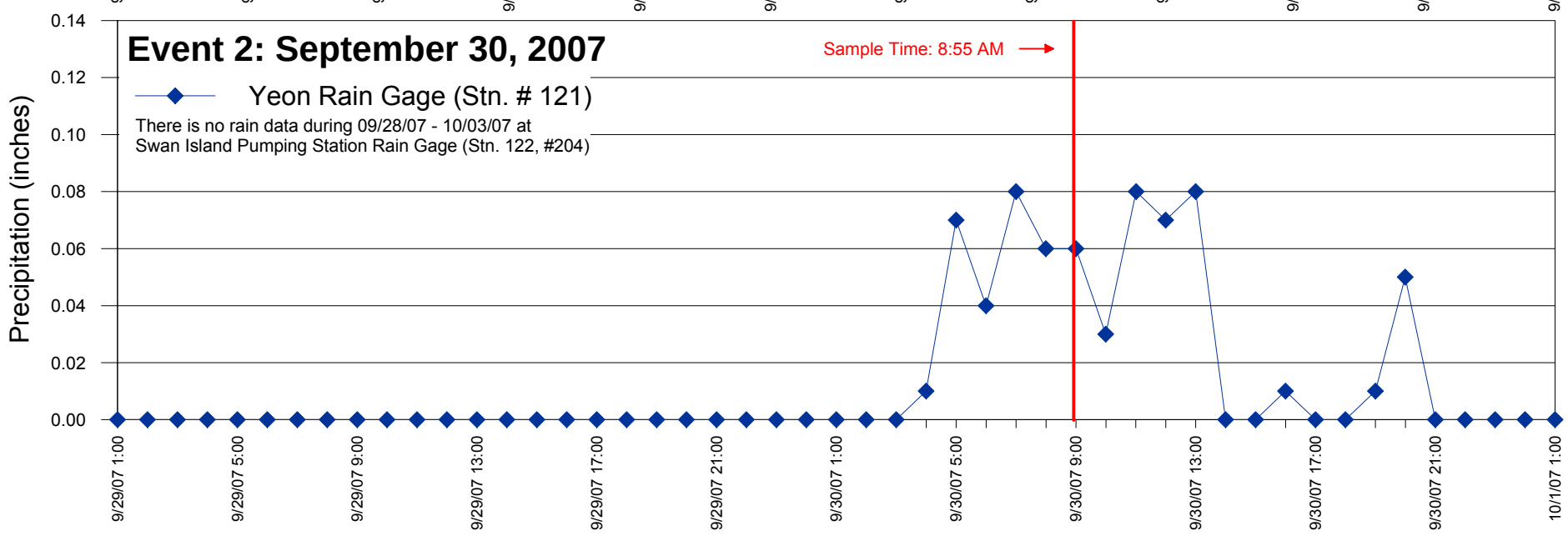


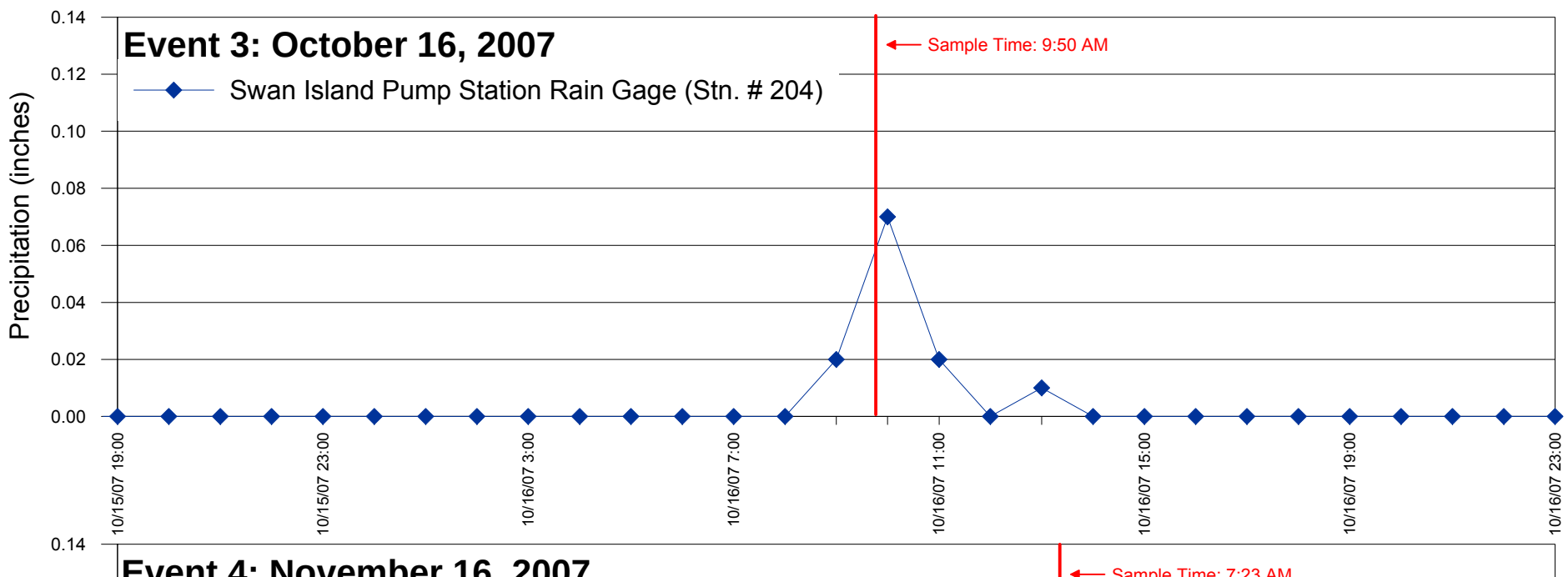
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF 53A	1	2/29/2008 17:45	Grab	>24	0.3	Yes
OF 53A	2	3/20/2008 18:10	Grab	>24	0.2	No
OF 53A	3	4/4/2008 7:30	Grab	>24	0.2	Yes
OF 53A	4	5/13/2008 12:57	Grab	>24	0.1	Yes

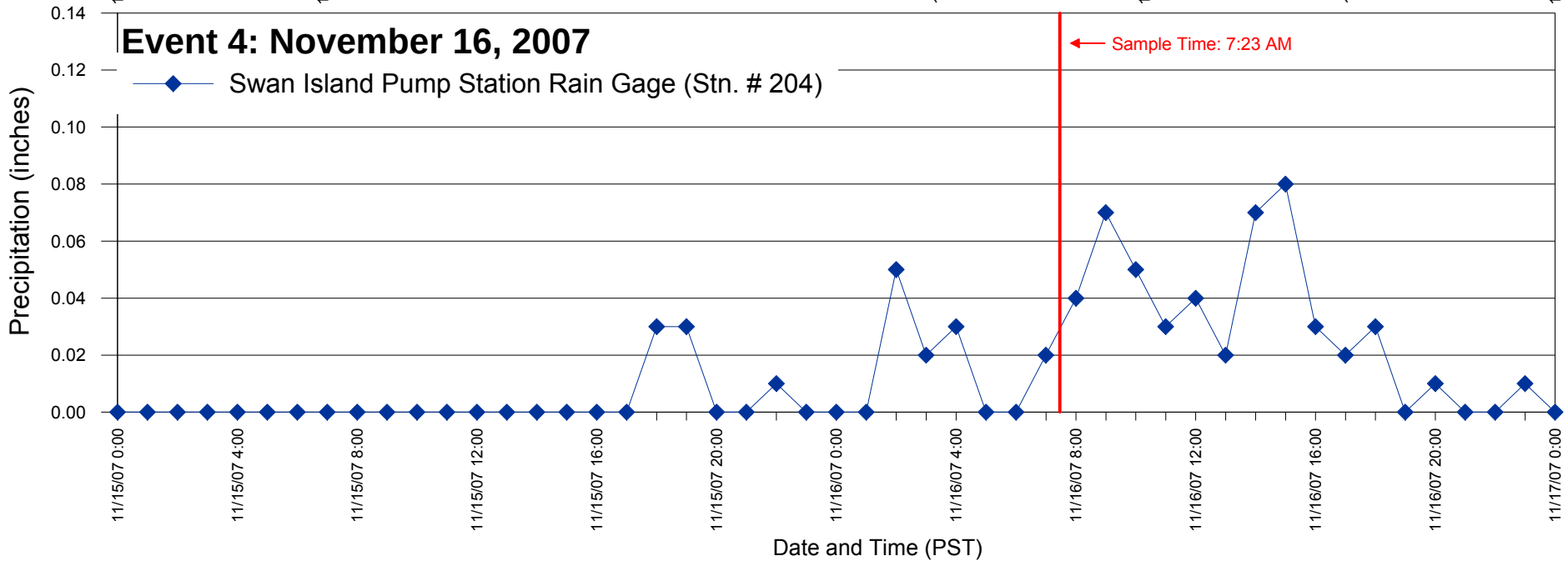
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin M-1
Stormwater Event Data





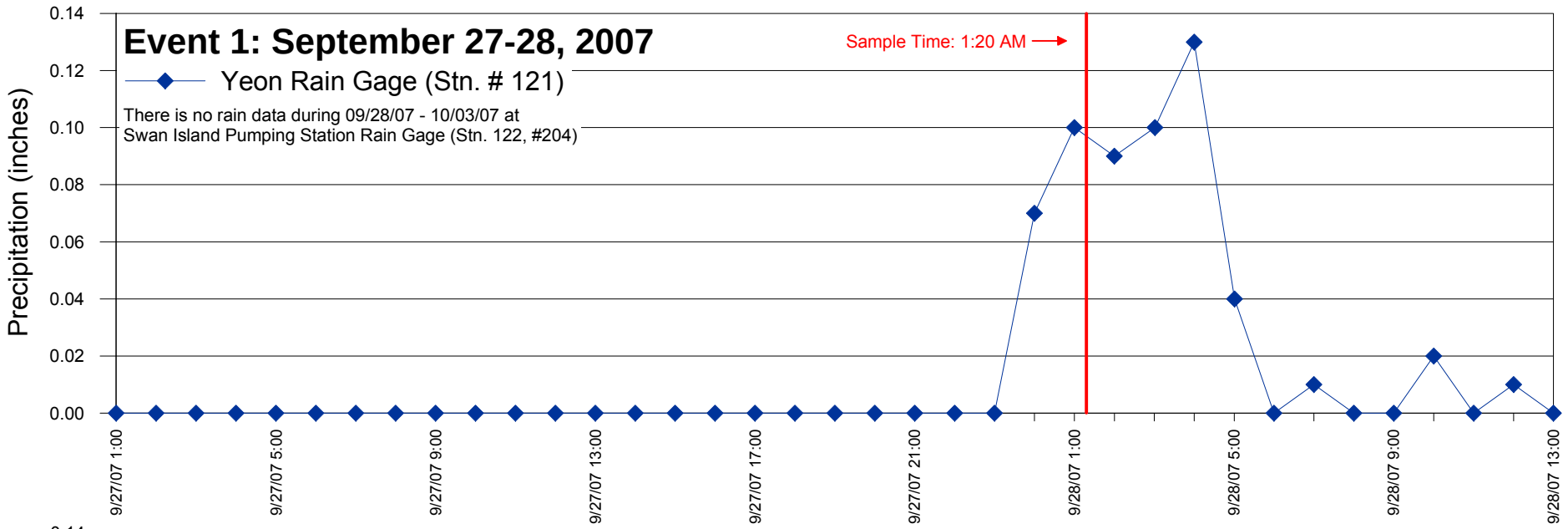


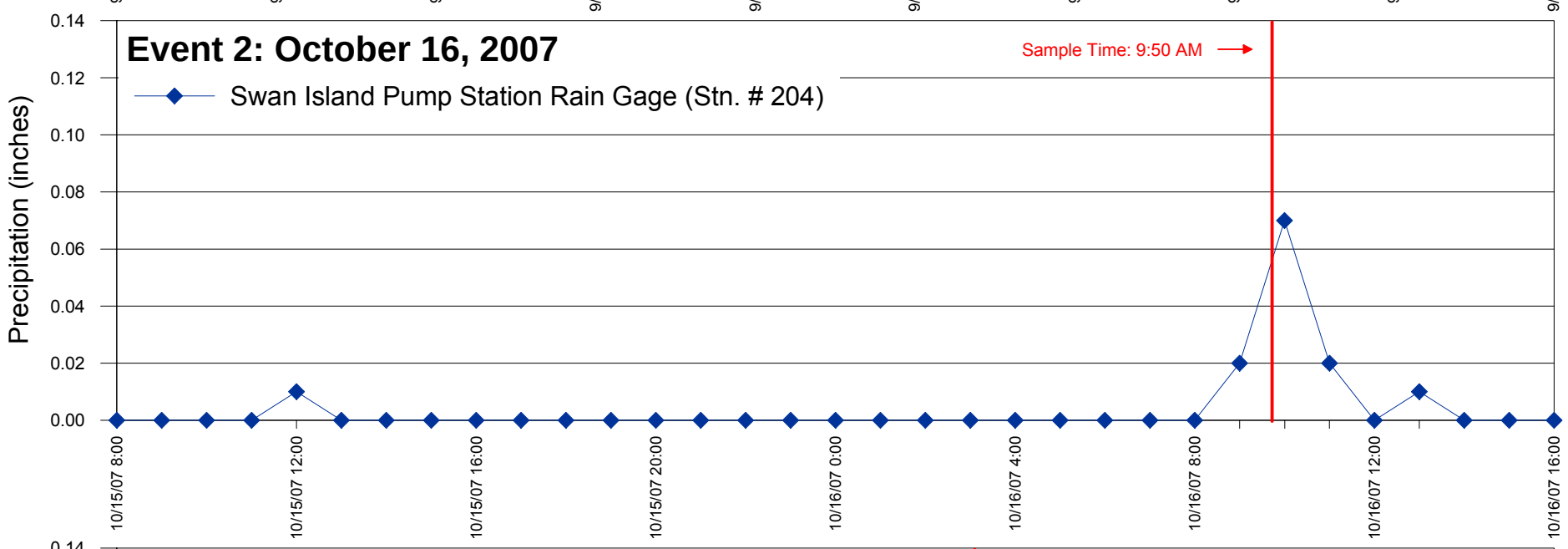


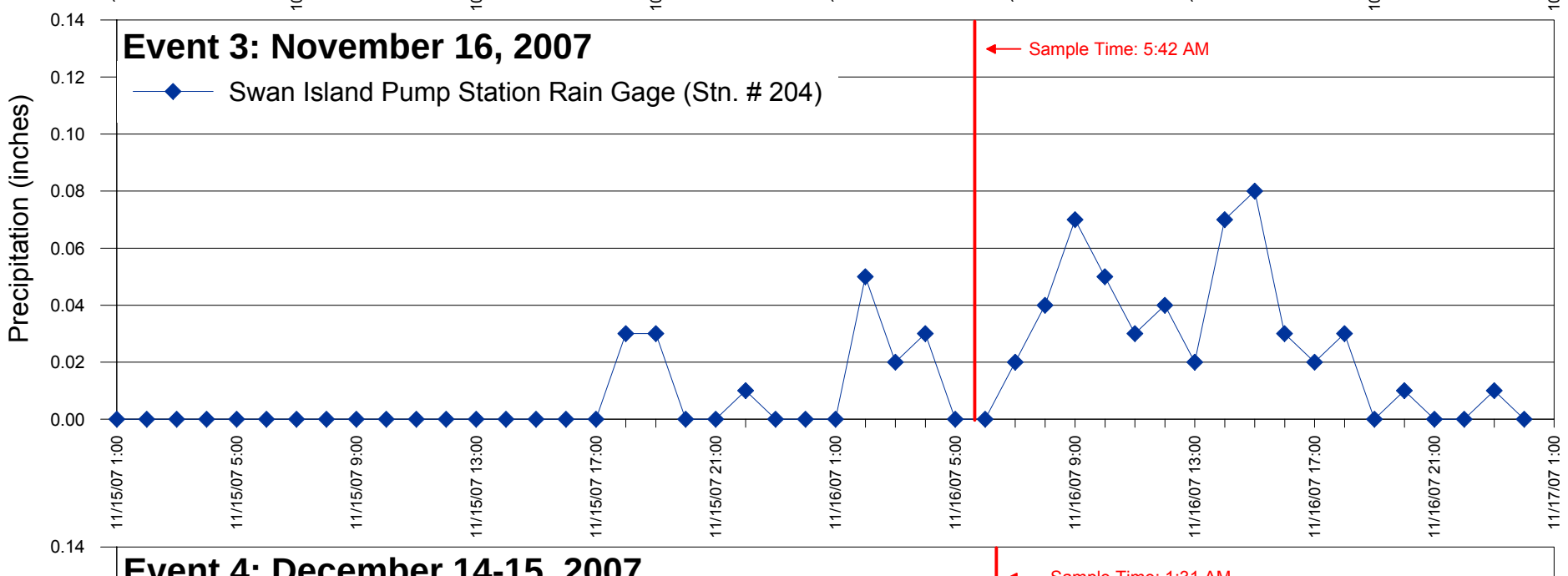
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF M-1	1	9/28/2007 1:55	Grab	>24	0.4	Yes
OF M-1	2	9/30/2007 8:55	Grab	>24	0.7	No
OF M-1	3	10/16/2007 9:50	Grab	>24	0.4	Yes
OF M-1	4	11/16/2007 7:23	Grab	>24	0.5	No

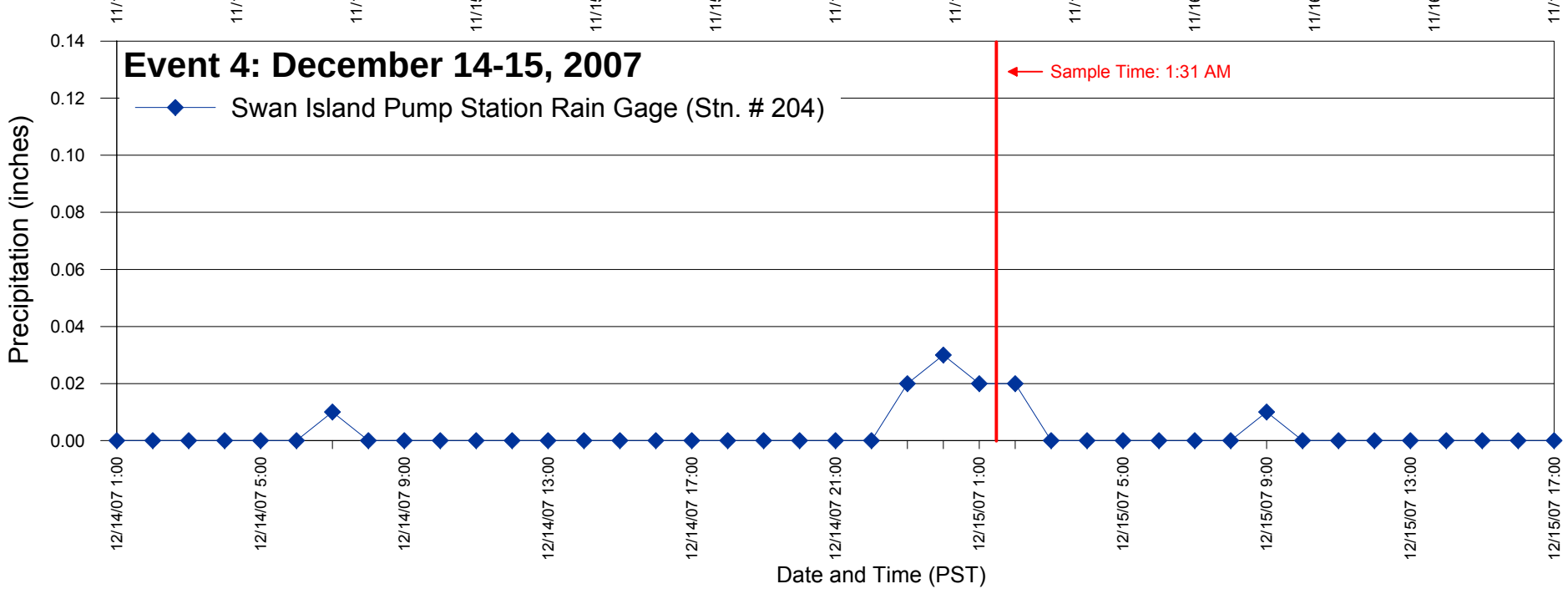
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin M-2
Stormwater Event Data





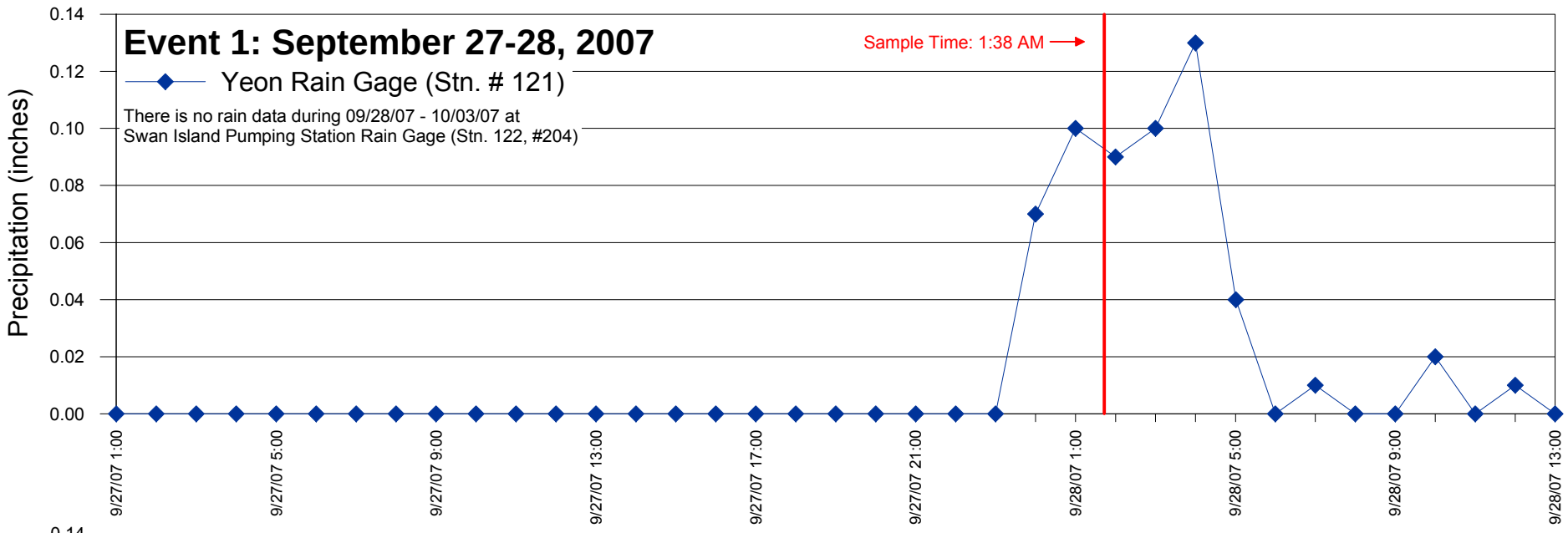


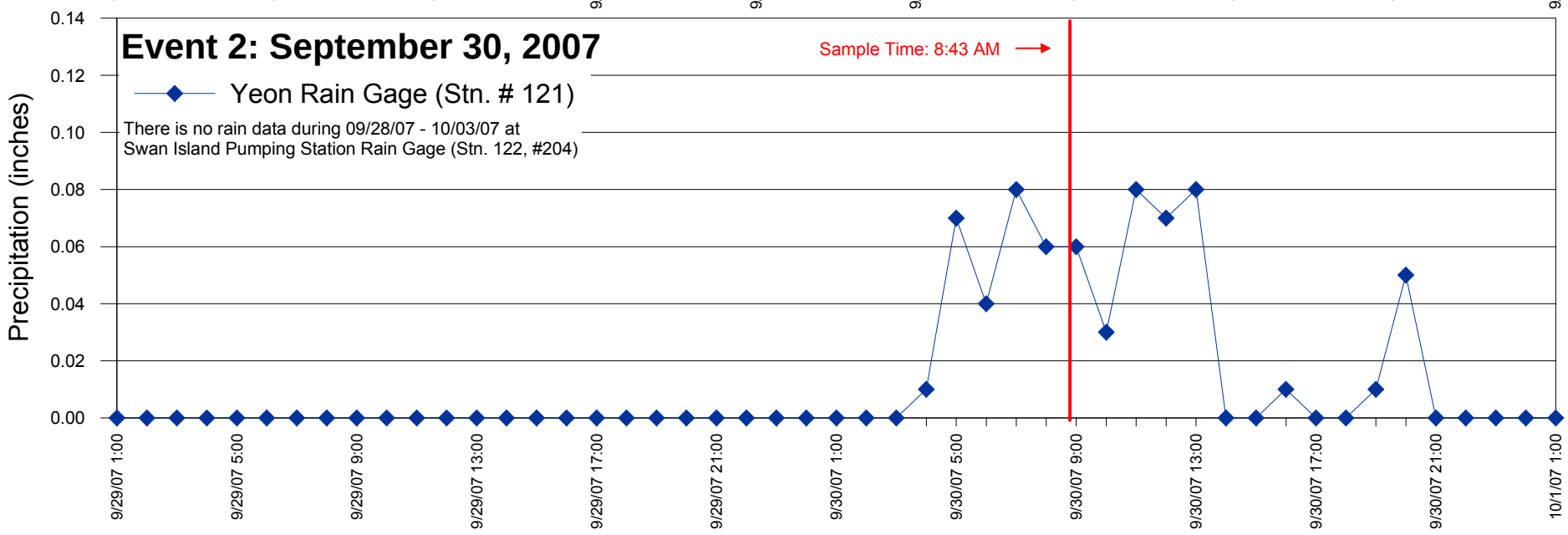


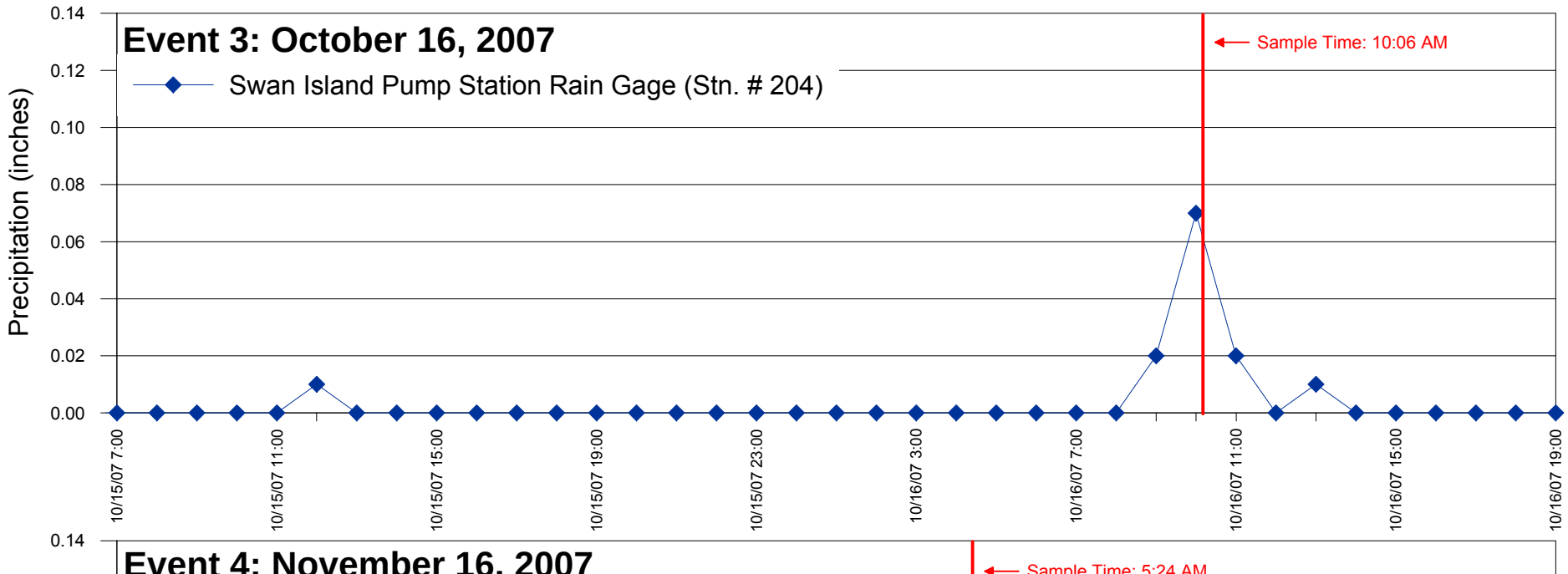
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF M-2	1	9/28/2007 1:20	Grab	>24	0.4	Yes
OF M-2	2	10/16/2007 9:50	Grab	>24	0.4	Yes
OF M-2	3	11/16/2007 5:42	Grab	>24	0.5	No
OF M-2	4	12/15/2007 1:31	Grab	>24	0.2	Yes

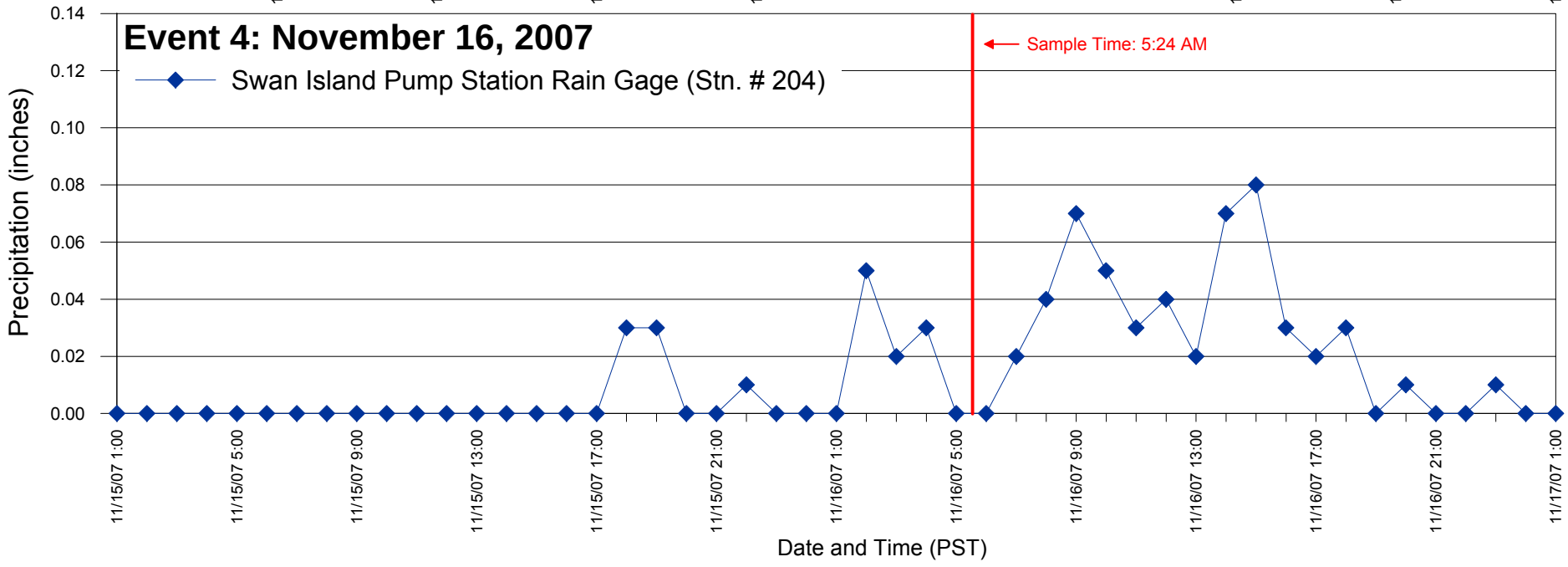
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin M-3
Stormwater Event Data





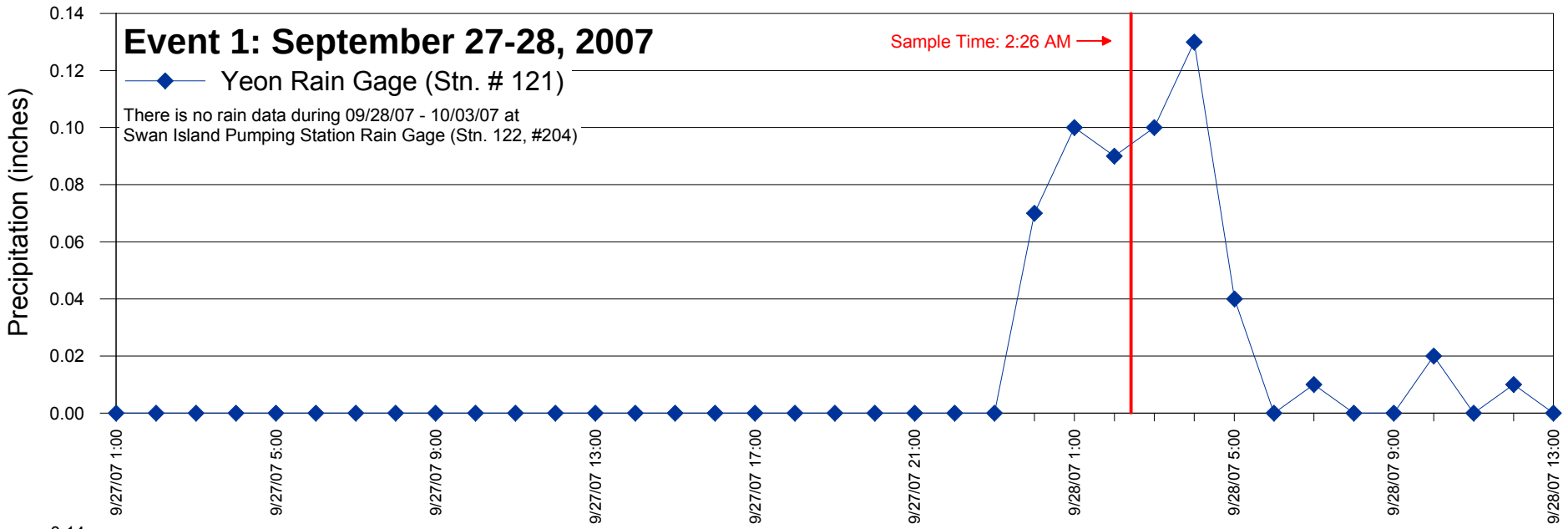


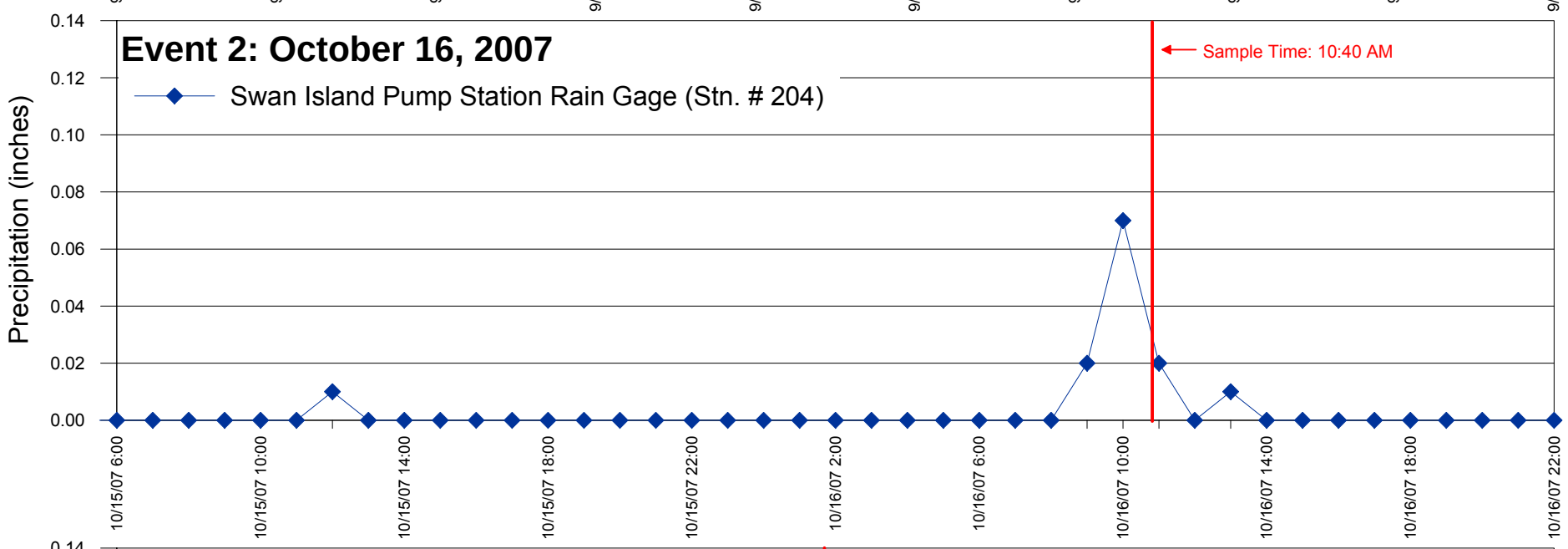


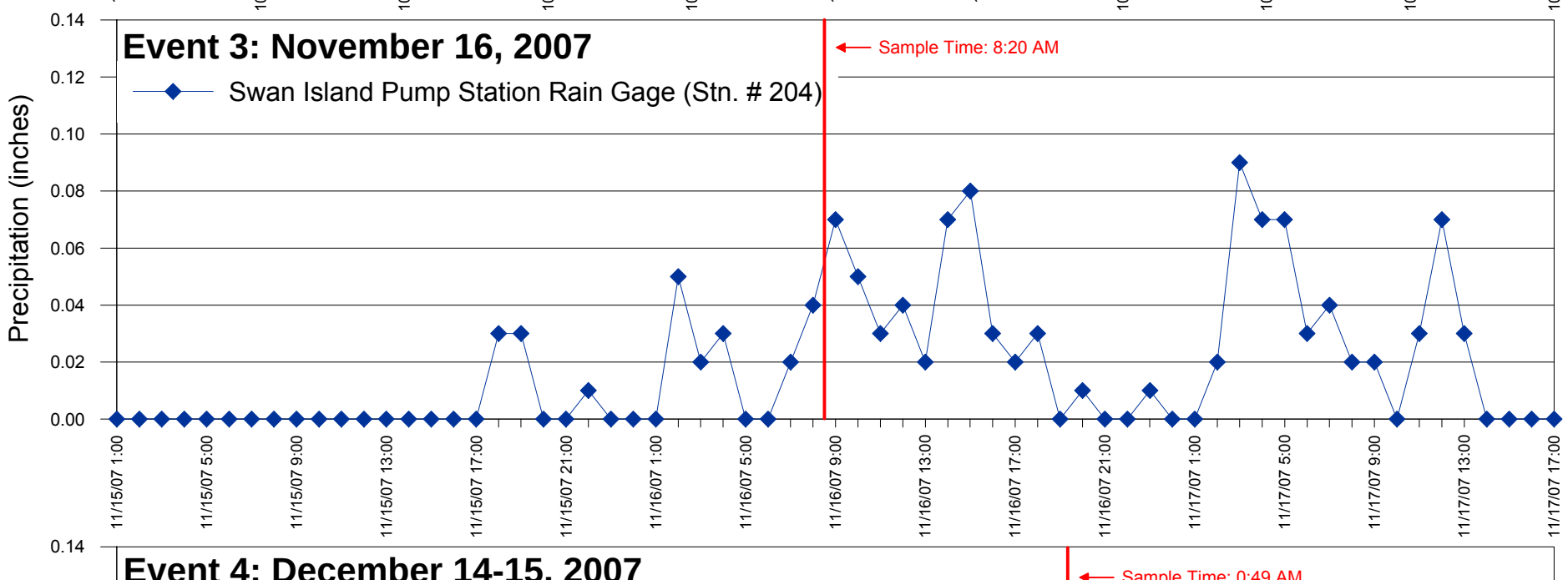
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF M-3	1	9/28/2007 1:38	Grab	>24	0.4	Yes
OF M-3	2	9/30/2007 8:43	Grab	>24	0.7	No
OF M-3	3	10/16/2007 10:06	Grab	>24	0.4	Yes
OF M-3	4	11/16/2007 5:24	Grab	>24	0.5	No

PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin S-1
Stormwater Event Data



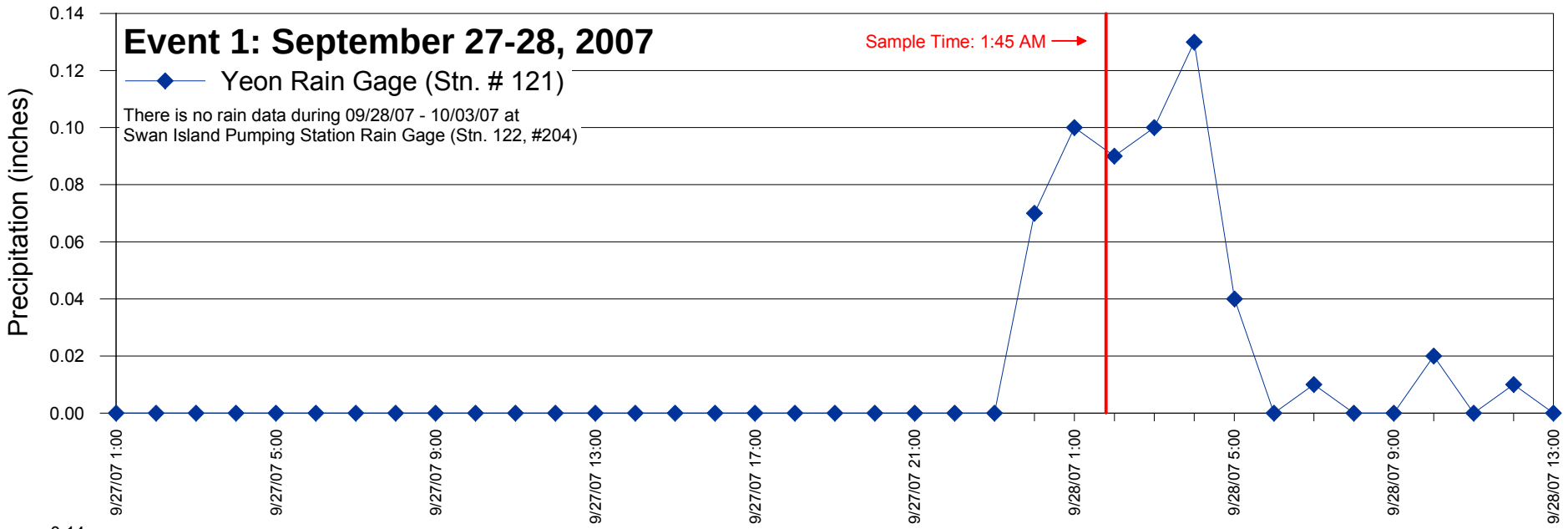


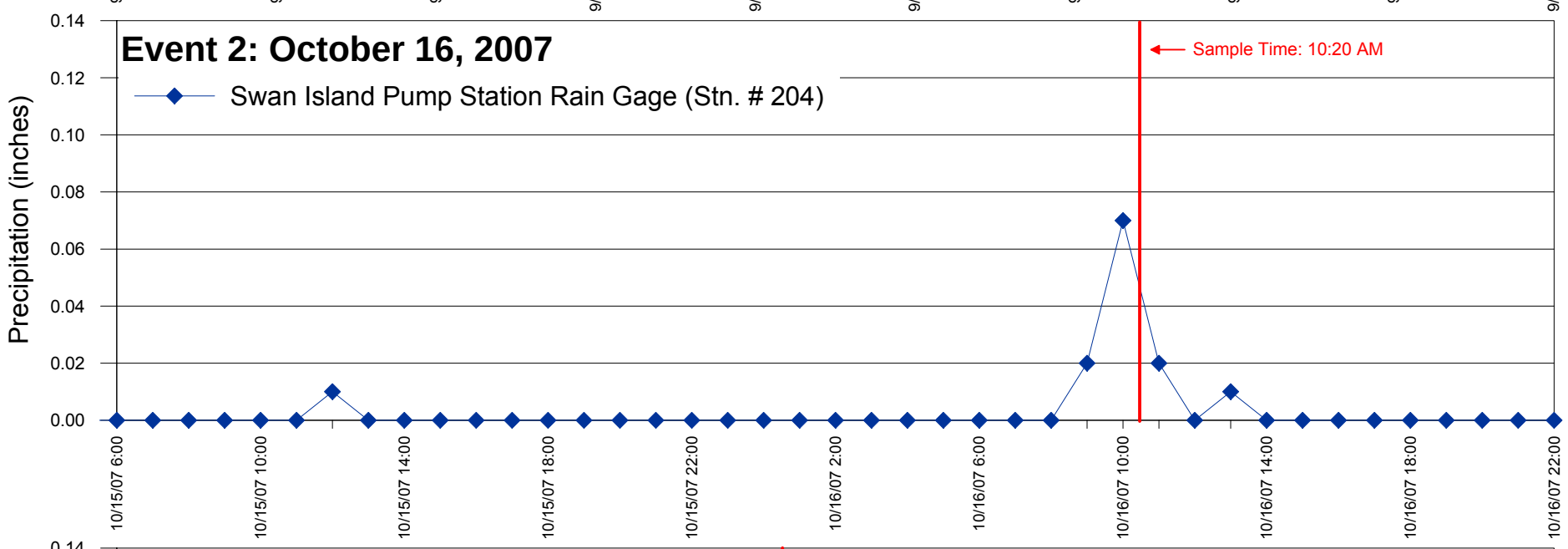


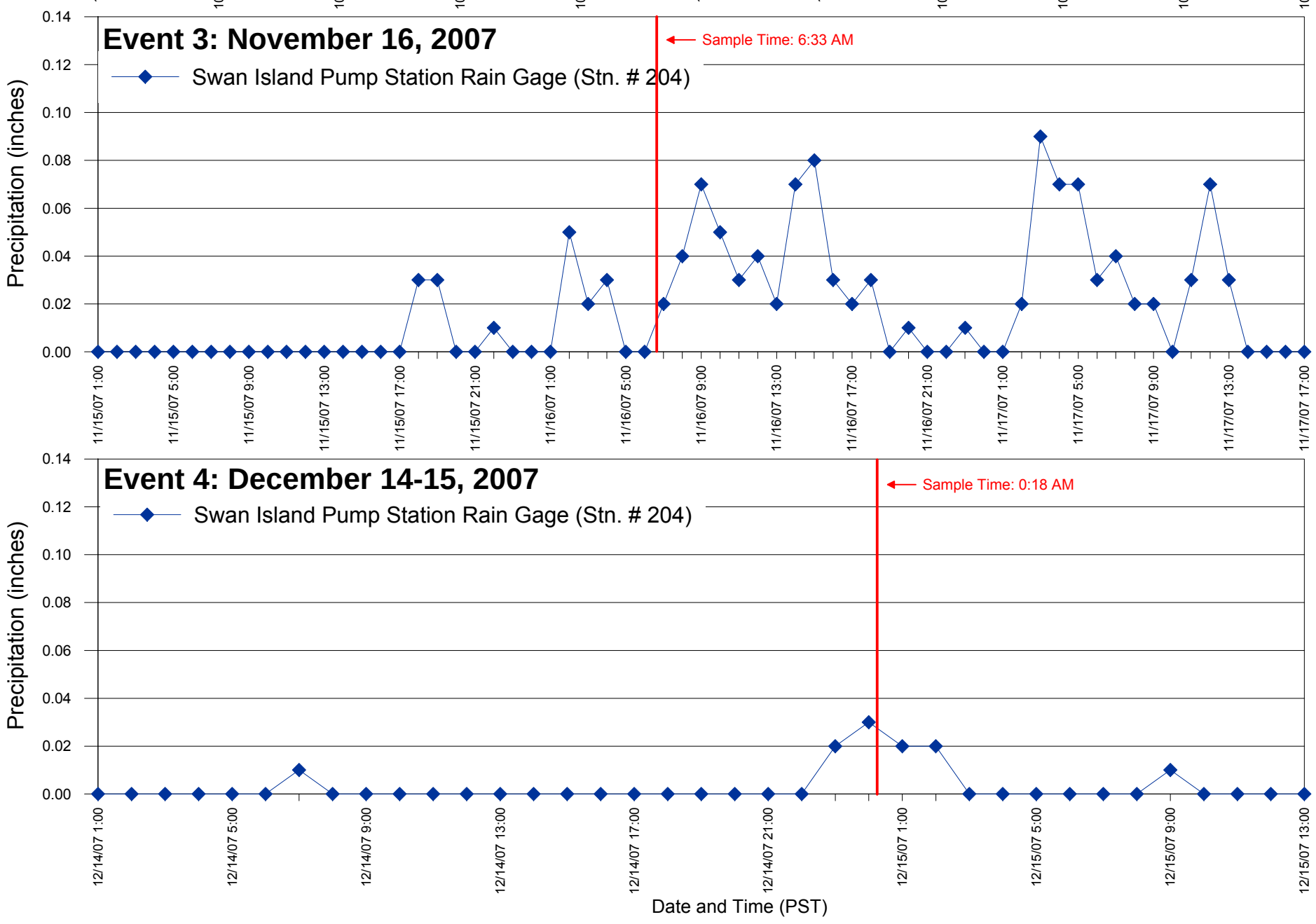
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF S-1	1	9/28/2007 2:26	Grab	>24	0.4	Yes
OF S-1	2	10/16/2007 10:40	Grab	>24	0.4	Yes
OF S-1	3	11/16/2007 8:20	Grab	>24	0.5	No
OF S-1	4	12/15/2007 0:49	Grab	>24	0.2	Yes

PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin S-2
Stormwater Event Data



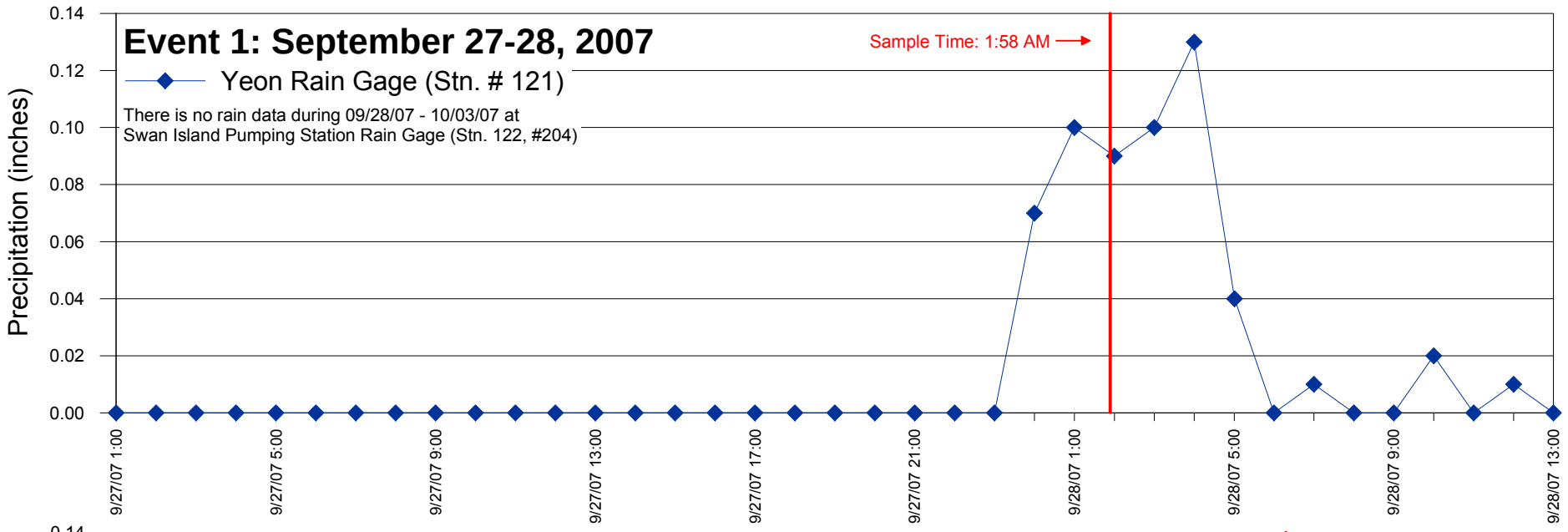


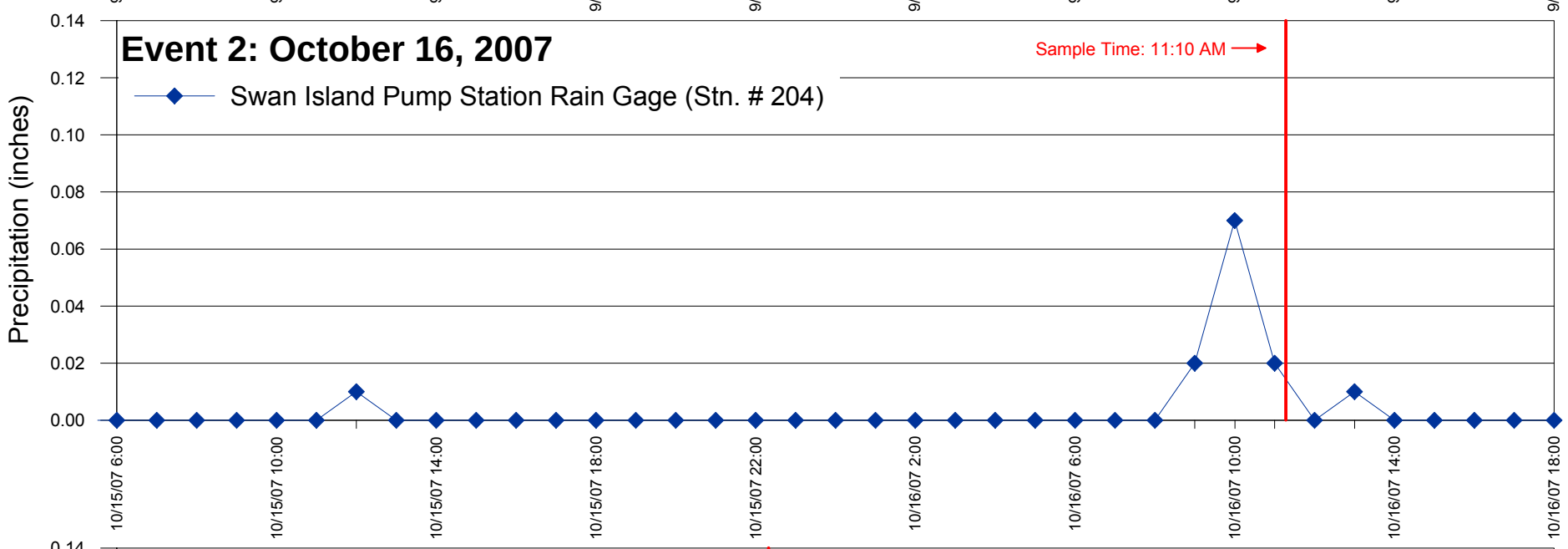


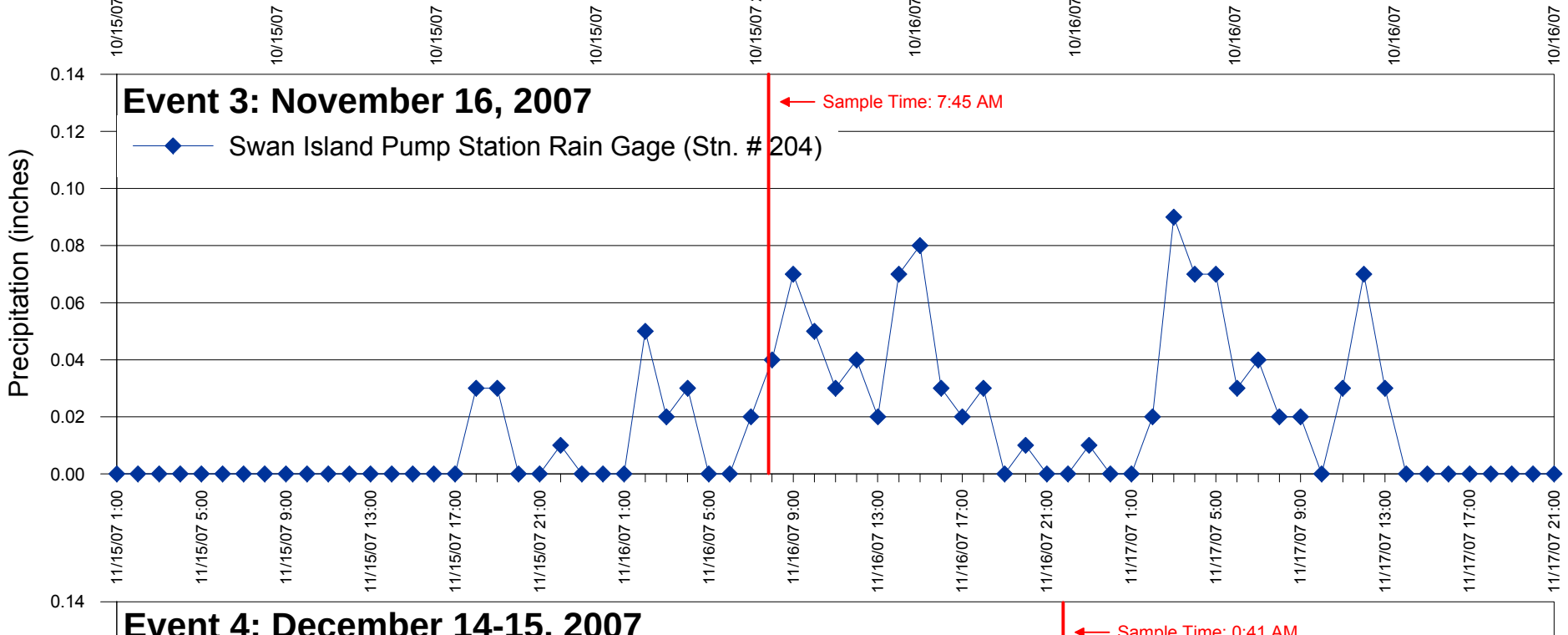
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF S-2	1	9/28/2007 1:45	Grab	>24	0.4	Yes
OF S-2	2	10/16/2007 10:20	Grab	>24	0.4	Yes
OF S-2	3	11/16/2007 6:33	Grab	>24	0.5	No
OF S-2	4	12/15/2007 0:18	Grab	>24	0.2	Yes

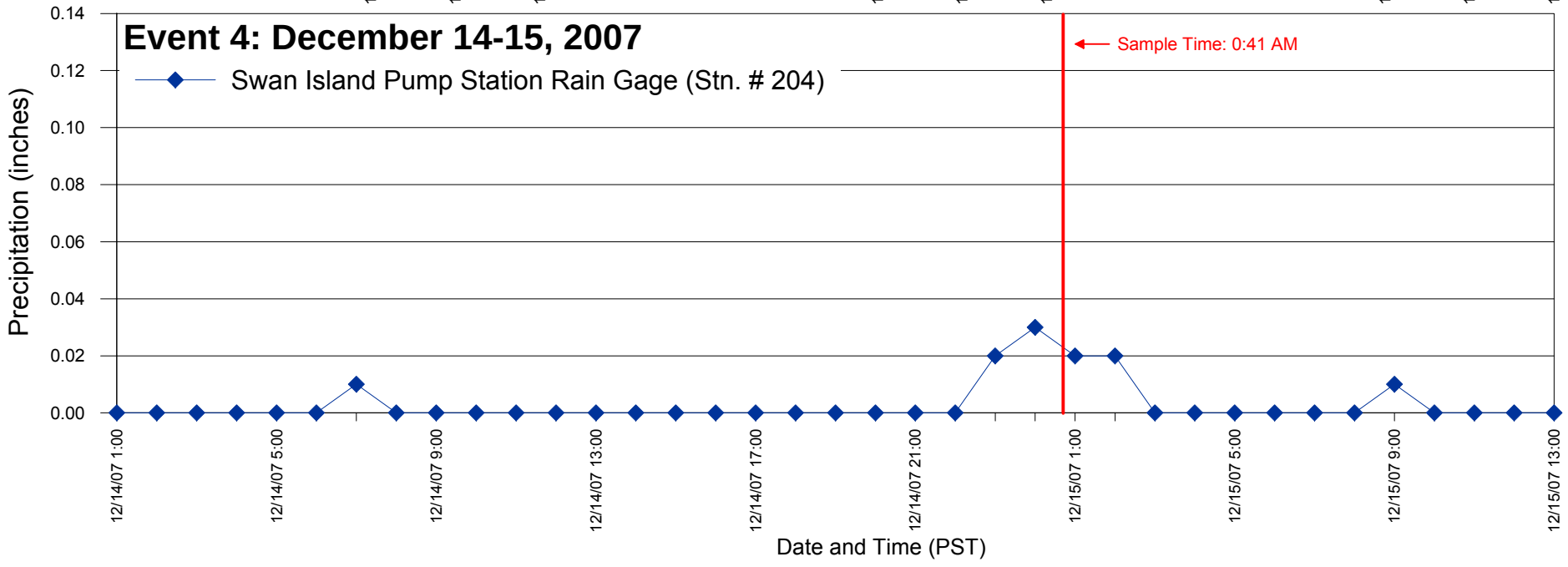
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin S-5
Stormwater Event Data





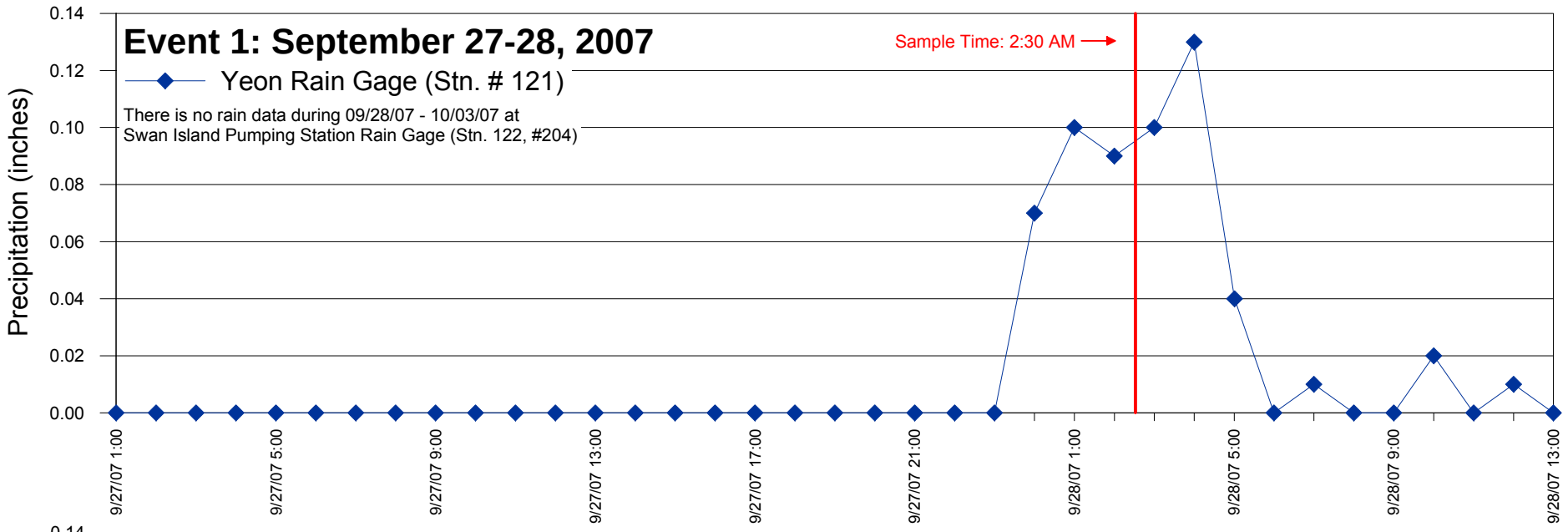


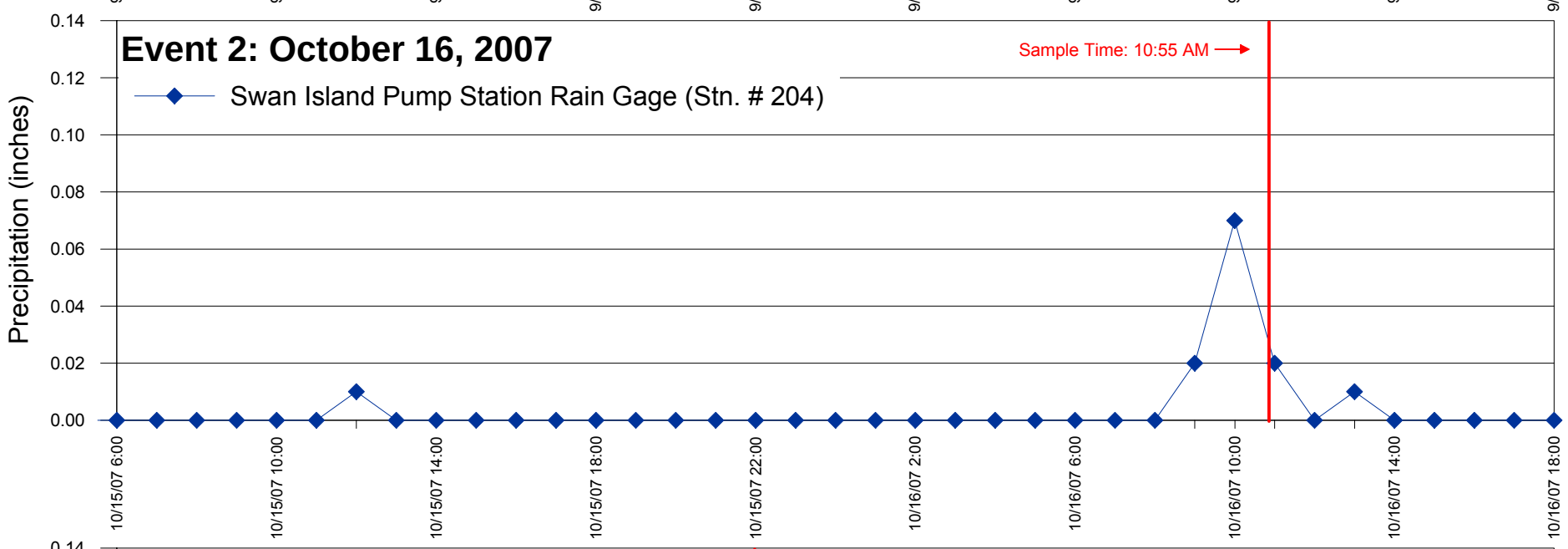


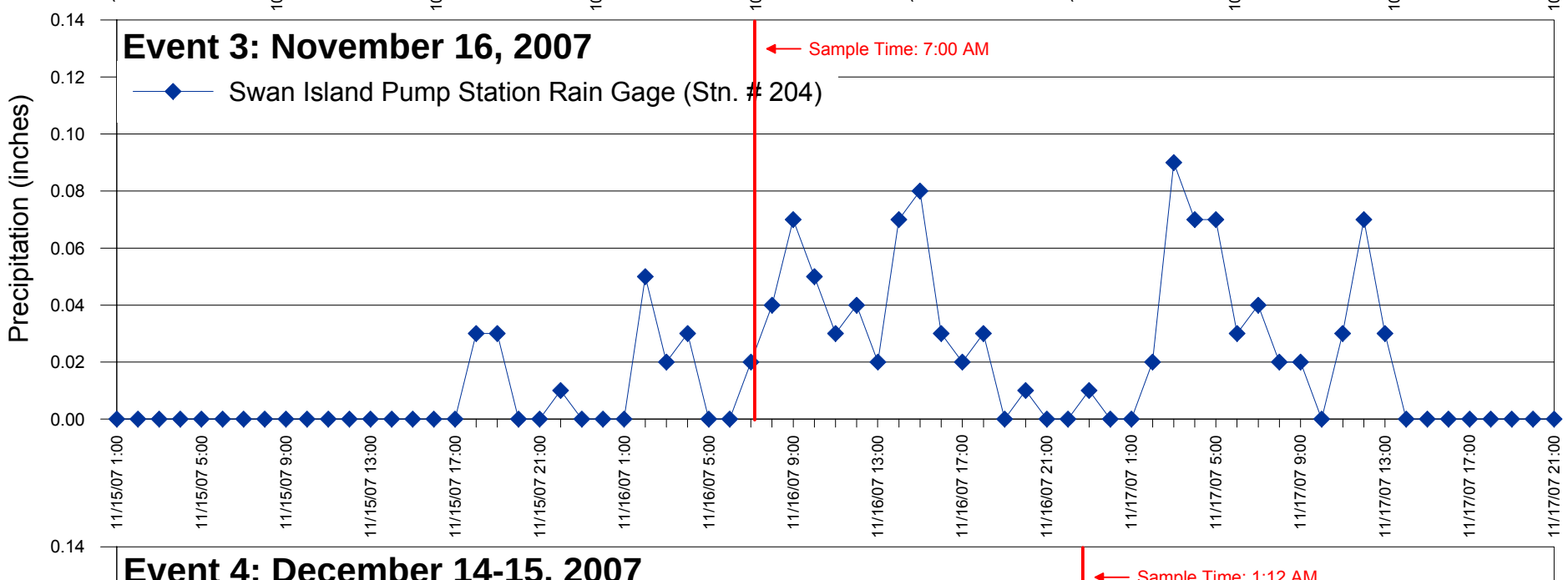
Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF S-5	1	9/28/2007 1:58	Grab	>24	0.4	Yes
OF S-5	2	10/16/2007 11:10	Grab	>24	0.4	Yes
OF S-5	3	11/16/2007 7:45	Grab	>24	0.5	No
OF S-5	4	12/15/2007 0:41	Grab	>24	0.2	Yes

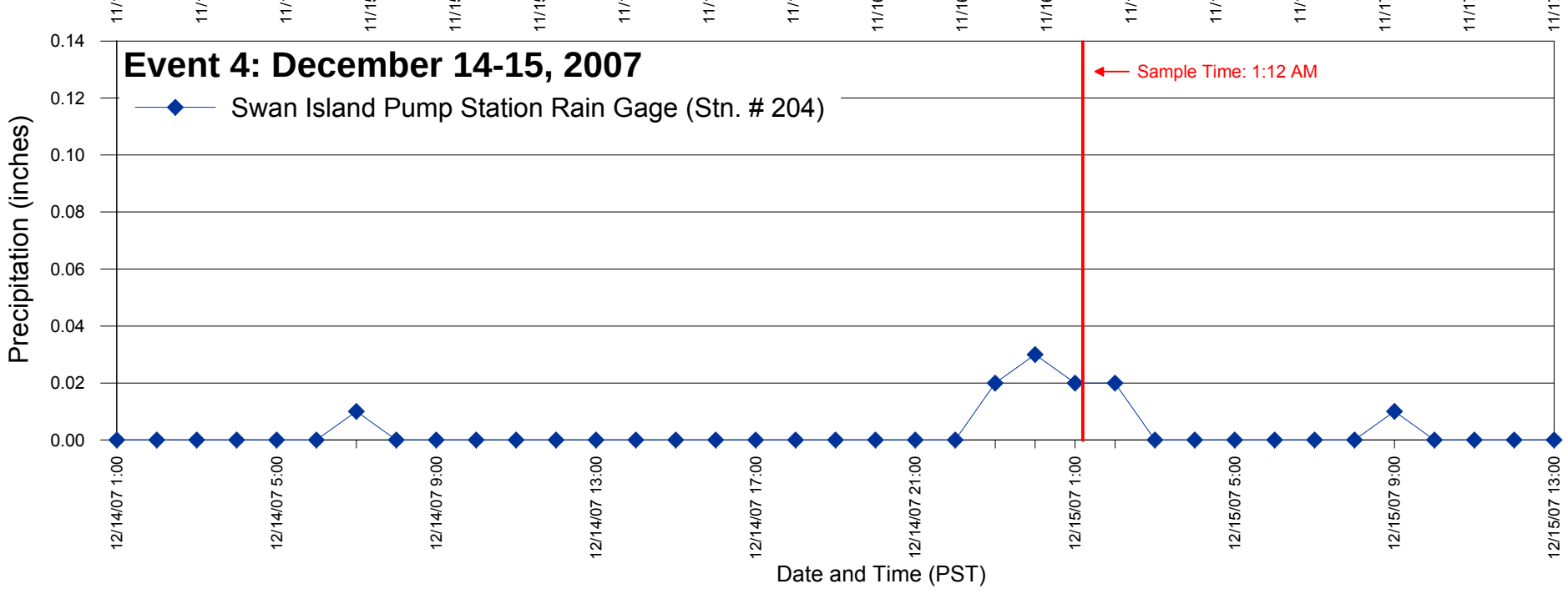
PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Outfall Basin S-6
Stormwater Event Data









Outfall Basin ID	Event Number	Sample Date and Time (PST)	Sample Type	Antecedent Dry Period (hours)[1]	Minimum Forecasted Rainfall Total (inches)[2]	First Flush Event?[3]
OF S-6	1	9/28/2007 2:30	Grab	>24	0.4	Yes
OF S-6	2	10/16/2007 10:55	Grab	>24	0.4	Yes
OF S-6	3	11/16/2007 7:00	Grab	>24	0.5	No
OF S-6	4	12/15/2007 1:12	Grab	>24	0.2	Yes

PST = Pacific Standard Time
Rain gage data obtained from USGS, Oregon Water Science Center (http://or.water.usgs.gov/non-usgs/bes/)
(1) Cumulative rainfall during this time less than 0.10 inches.
(2) Minimum forecasted rainfall data provided by Extended Range Forecasting, Inc.
(3) First flush sampling is typically conducted within the first 3 hours of stormwater discharge, but varies depending on the basin size and land use characteristics. Best professional judgment was utilized to characterize first flush criteria for each storm.

Attachment A3

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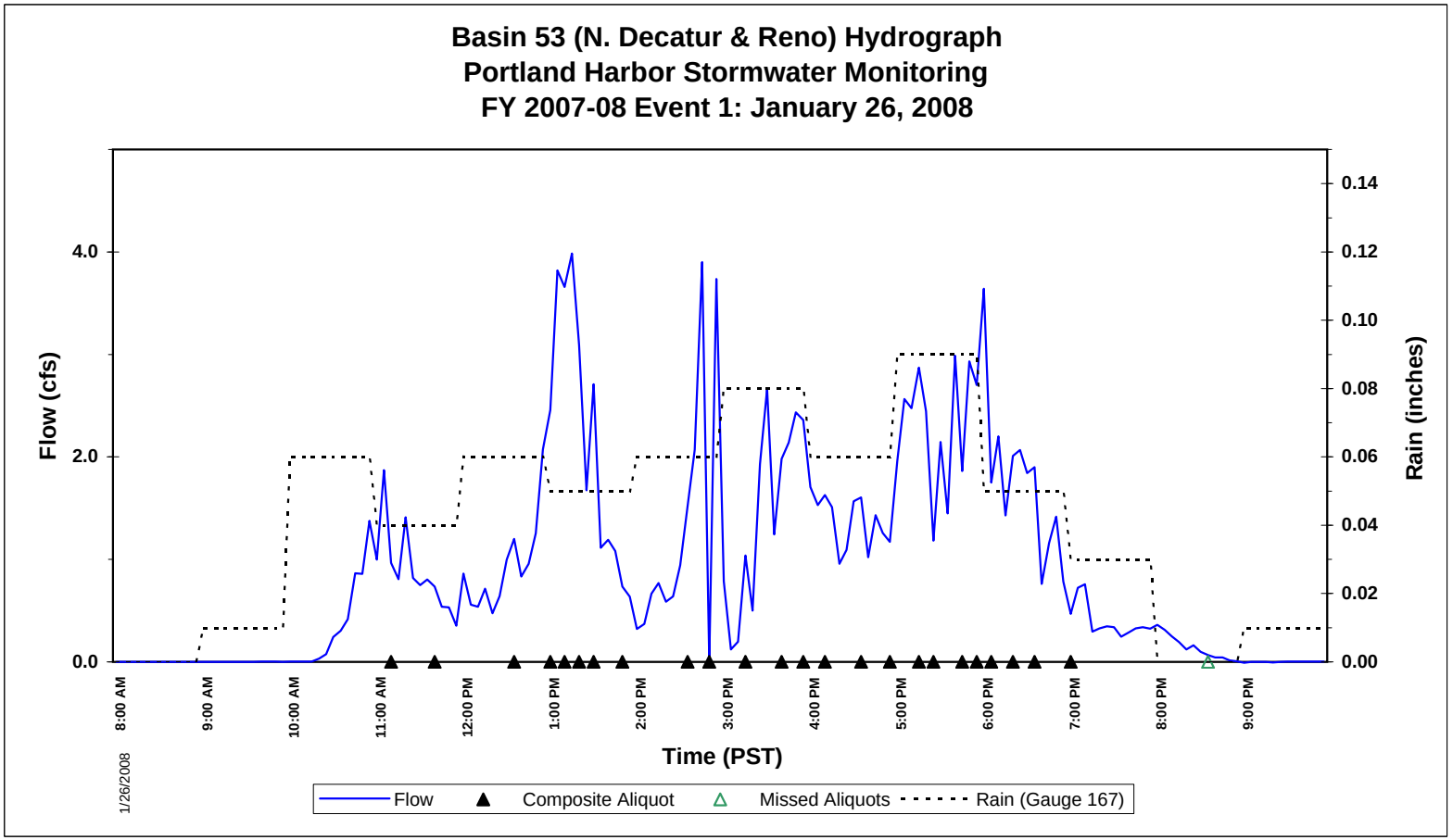
Attachment A3
Hydrographs for Flow-Weighted Composite Samples



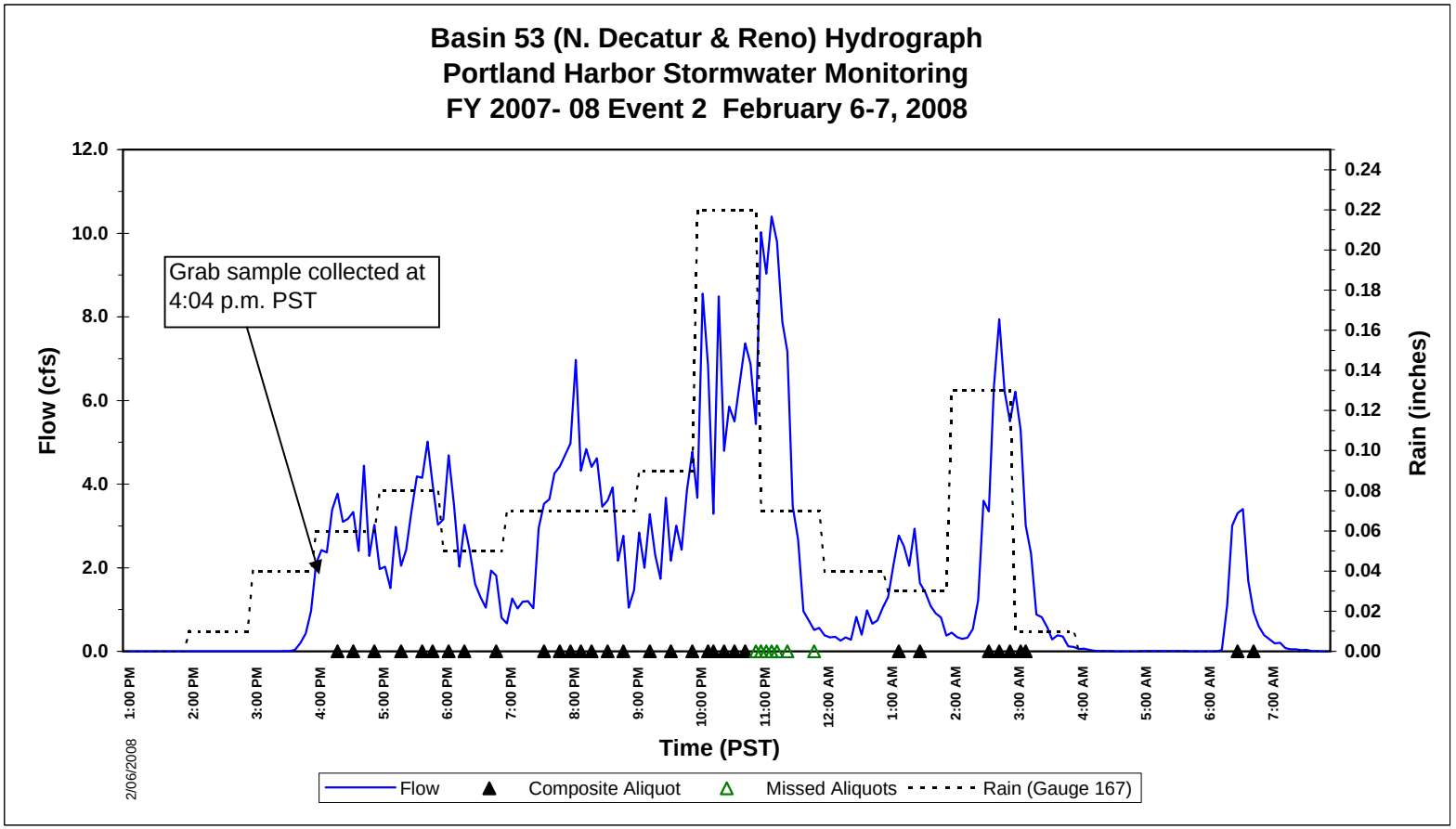
Summary of Storm Event Statistics, Outfall 53 Flow-Weighted Composite Sampling Event 1

Sample Date	Duration (hours)[1]	Antecedent Dry Period (hours)[2]	Minimum Forecasted Rainfall Total (inches)[3]
1/26/2008	10:45	>24	0.38

(1) Duration of flow available for sampling.

(2) Cumulative rainfall during this time less than 0.10 inches.

(3) Minimum forecasted rainfall data for the provided by Extended Range Forecasting, Inc.



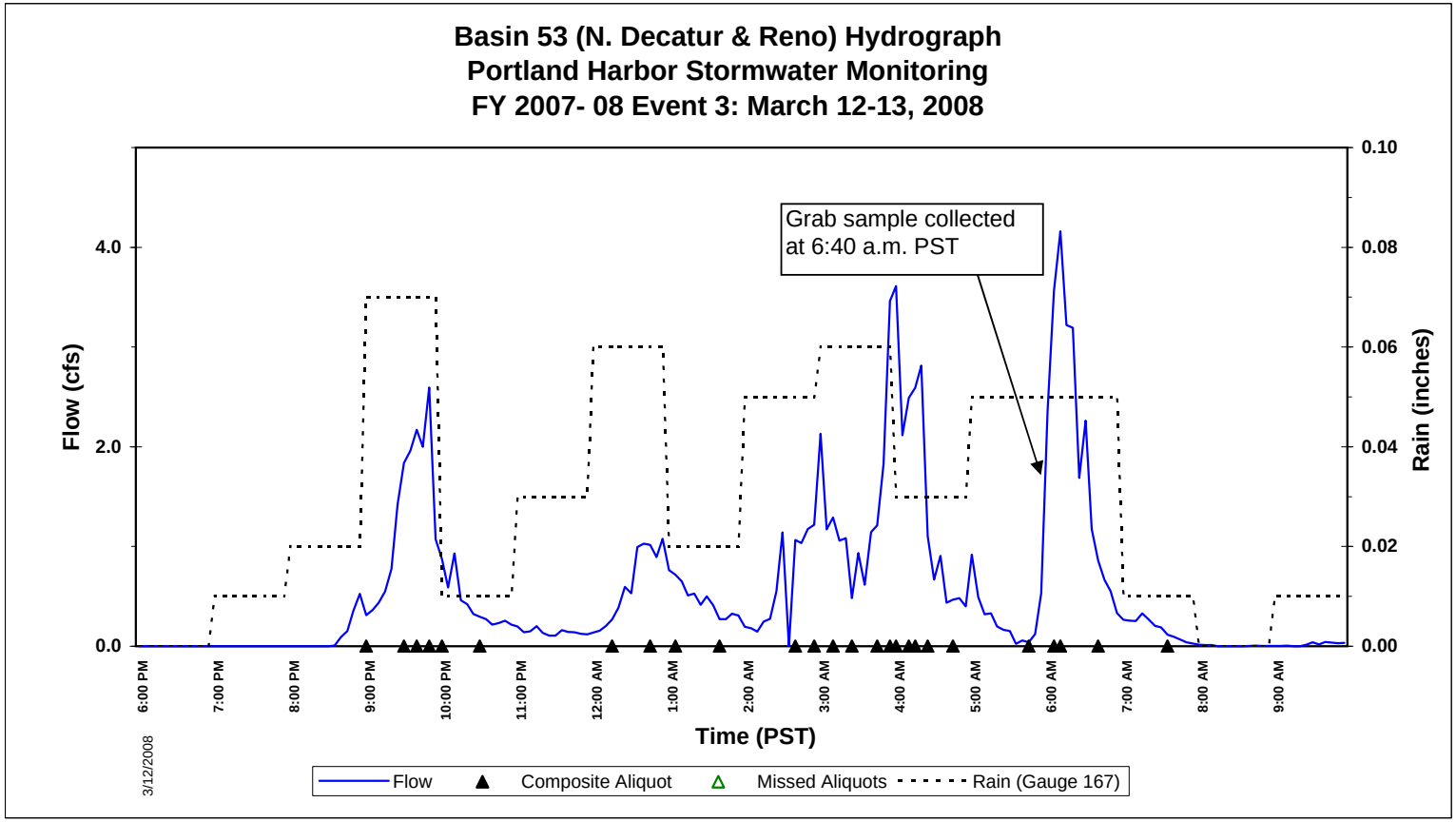
Summary of Storm Event Statistics, Outfall 53 Flow-Weighted Composite Sampling Event 2

Sample Date	Duration (hours)[1]	Antecedent Dry Period (hours)[2]	Minimum Forecasted Rainfall Total (inches)[3]
2/06/2008 - 2/07/2008	15:45	24	0.22 on 2/6; 0.92 on 2/7

(1) Duration of flow available for sampling.

(2) Cumulative rainfall during this time less than 0.10 inches.

(3) Minimum forecasted rainfall data for the provided by Extended Range Forecasting, Inc.



Summary of Storm Event Statistics, Outfall 53 Flow-Weighted Composite Sampling Event 3

Sample Date	Duration (hours)(1)	Antecedent Dry Period (hours)(2)	Minimum Forecasted Rainfall Total (inches)(3)
3/12/2008 - 3/13/2008	12:30	>24	0.03 on 3/12/2008; 0.63 on 3/13/2008

(1) Duration of flow available for sampling.

(2) Cumulative rainfall during this time less than 0.10 inches.

(3) Minimum forecasted rainfall data for the provided by Extended Range Forecasting, Inc.

Attachment A4

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Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

Class	Analyte	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements												
	Conductivity	umhos/cm	147	NA	115	116	NA	168	--	--	--	--
	pH	units	7.1	NA	7.2	7	NA	7	--	--	--	5.5 - 9.0
	Temperature	Deg. C	9.5	NA	8.2	7.5	NA	12.4	--	--	--	--
Total Suspended Solids (SM 2540D)												
	TSS	mg/L	4	2 U	7	6	2 U	8	--	--	--	130
Total Metals (EPA 200.8)												
	Arsenic	ug/L	**0.98**	0.10 U	**1.12**	**1.09**	0.10 U	**2.05**	0.14	0.045	150	--
	Cadmium	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	5	0.094	--
	Chromium	ug/L	0.59	0.4 U	1.24	0.88	0.4 U	0.64	--	100	--	--
	Copper	ug/L	1.35	0.2 U	2.06	1.41	0.2 U	1.79	--	1300	2.7	100
	Lead	ug/L	0.29	0.1 U	**1.17**	**0.71**	0.1 U	**0.96**	--	15	0.54	400
	Mercury[5]	ug/L	0.0039	0.0020 U	0.0052	0.0061	0.0020 U	0.0026	0.146	2	0.77	--
	Nickel	ug/L	0.68	0.2 U	0.96	0.78	0.2 U	0.93	4600	730	16	--
	Silver	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	3.47	0.5 U	6.28	5.01 [6]	0.91	3.83	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)												
	Acenaphthene	ug/L	**1.5**	0.0192 U	0.33 U	**0.569**	0.0192 U	**1.53**	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0192 U	0.0194 U	0.0194 U	0.0192 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0192 U	0.0194 U	0.0194 U	0.0192 U	0.0256	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.00971 U	0.00962 U	0.0147	0.00971 U	0.00962 U	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.00971 U	0.00962 U	**0.0186**	0.00971 U	0.00962 U	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.00971 U	0.00962 U	**0.0212**	0.0101	0.00962 U	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0194 U	0.0192 U	0.0241	0.0194 U	0.0192 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.00971 U	0.00962 U	0.0139	0.00971 U	0.00962 U	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	0.00971 U	0.00962 U	**0.021**	0.00971 U	0.00962 U	0.0105	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00962 U	0.00971 U	0.0109	0.00962 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0724	0.0192 U	0.0424	0.0356	0.0192 U	0.127	140	0.2	--	--
	Fluorene	ug/L	**0.218**	0.0192 U	0.0588	0.0903	0.0192 U	**0.274**	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.00971 U	0.00962 U	0.0166	0.0132	0.00962 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0358	0.0192 U	0.0583 U	0.0979	0.0192 U	0.111	--	0.2	620	--
	Phenanthrene	ug/L	0.0194 U	0.0192 U	0.0194 U	0.0194 U	0.0192 U	0.0242	--	0.2	--	--
	Pyrene	ug/L	0.0793	0.0192 U	0.0469	0.0398	0.0192 U	0.146	4000	0.2	--	--
	Total PAHs	ug/L	1.9055	ND	0.2782	0.8668	ND	2.2483	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)												
	Acenaphthene	ug/L	**0.71**	0.20 U	**0.25**	**0.50**	0.20 U	**1.50**	990	0.2	520	--
	Acenaphthylene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Chrysene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

Class	Analyte	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Dibenzo(a,h)anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.26**	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.25**	--	0.2	620	--
	Phenanthrene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	0.71	ND	0.25	0.50	ND	2.01	--	--	--	--
Phthalates (EPA 8270-SIM)												
	Bis(2-ethylhexyl)phthalate	ug/L	0.971 U	1.12	0.971 U	0.568 J	0.962 U	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.971 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)												
	Bis(2-ethylhexyl)phthalate	ug/L	1.1 U	0.97 U	0.96 U	1 U	1 U	0.99 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)												
	1,2,4-Trichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.23	0.20 U	0.32	0.20 U	0.20 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.2 U	3.9 U	3.9 U	4.0 U	4.0 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.2 U	3.9 U	3.9 U	4.0 U	4.0 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	--	180	13	--
	2-Nitroaniline	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.1 U	0.97 U	0.96 U	1 U	1 U	0.99 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	--

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

Class	Analyte	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	4-Chloro-3-methylphenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	--	180	--	--
	4-Nitroaniline	ug/L	1.1 U	0.97 U	0.96 U	1 U	1 U	0.99 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	290	150	--
	Benzoic acid	ug/L	5.2 U	4.9 U	4.8 U	5.0 U	5.0 U	5.0 U	--	150000	42	--
	Benzyl alcohol	ug/L	5.2 U	4.9 U	4.8 U	5.0 U	5.0 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.1 U	0.97 U	0.96 U	1 U	1 U	0.99 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	1.1 U	0.97 U	0.96 U	1 U	1 U	0.99 U	3	0.56	15	--
	Phenol	ug/L	0.52 U	0.49 U	0.48 U	0.50 U	0.50 U	0.50 U	1700000	11000	2560	--

Notes:

FDB= Field decontamination blank

NA = Not analyzed.

ND = Not detected.

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than 10 times the FDB concentration, the result reported for the sample is considered biased high.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)											
PCB 1	2-MoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000615 U	0.000583 U	0.000594 U	0.000605 U	0.000673 EMPC	0.000603 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000615 U	0.000583 U	0.000594 U	0.000605 U	0.000602 U	0.000603 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000615 U	0.000583 U	0.000594 U	0.000605 U	0.000602 U	0.000603 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 80	3,3',5,5'-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000615 U	0.000583 U	0.000594 U	0.000605 U	0.000602 U	0.000603 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00102 U	0.000971 U	0.000990 U	0.00101 U	0.00100 U	0.00101 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000769 U	0.000728 U	0.000743 U	0.000756 U	0.000752 U	0.000754 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00102 U	0.000971 U	0.000990 U	0.00101 U	0.00100 U	0.00101 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000523 U	0.000495 U	0.000505 U	0.000514 U	0.000511 U	0.000513 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000615 U	0.000583 U	0.000594 U	0.000605 U	0.000602 U	0.000603 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000717 U	0.000680 U	0.000693 U	0.000706 U	0.000702 U	0.000704 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00256 U	0.00243 U	0.00248 U	0.00252 U	0.00251 U	0.00251 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000512 U	0.000486 U	0.000495 U	0.000504 U	0.000501 U	0.000503 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	ND	ND	ND	ND	ND	ND	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl

Outfall Basin 22C
2008 Stormwater Grab Samples
Sample Location: AAJ635

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080315 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080435 3/20/2008	Event 3 FO080508 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080654 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

NoCB = Nonachlorobiphenyl

FDB= Field decontamination blank

EMPC = Estimated maximum possible concentration.

ND = Not detected.

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

[1]IUPAC - International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

Class	Analyte	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	97	NA	NA	64	313	NA	82	--	--	--	--
	pH	units	7.1	NA	NA	7.5	7.1	NA	6.9	--	--	--	5.5 - 9.0
	Temperature	Deg. C	8.5	NA	NA	7.5	7.1	NA	9.8	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	6	6	2 U	275	21	2 U	6	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**0.23**	**0.22**	0.10 U	**1.21**	**0.60**	0.10 U	**0.20**	0.14	0.045	150	--
	Cadmium	ug/L	0.10 U	0.10 U	0.10 U	**0.38**	**0.11**	0.10 U	0.10 U	--	5	0.094	--
	Chromium	ug/L	1.34	1.54	0.4 U	14.9	1.89	0.4 U	1.09	--	100	--	--
	Copper	ug/L	**2.79**	**2.71**	0.2 U	**28.3**	**5.64**	0.2 U	1.86	--	1300	2.7	100
	Lead	ug/L	**1.35**	**1.42**	0.1 U	**32.6**	**2.3**	0.1 U	**0.83**	--	15	0.54	400
	Mercury[5]	ug/L	0.0045	0.0036	0.0020 U	0.0390	0.0055	0.0020 U	0.0034	0.146	2	0.77	--
	Nickel	ug/L	0.79	0.76	0.2 U	6.76	1.47	0.2 U	0.6	4600	730	16	--
	Silver	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	18.6	18.4	0.5 U	**216**	**42.6**	0.91	9.2	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0971 U	0.0196 U	0.0192 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0971 U	0.0196 U	0.0192 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0971 U	0.0196 U	0.0192 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.00971 U	**0.0193**	0.00962 U	**0.125**	0.0176	0.00962 U	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.00971 U	0.0152	0.00962 U	**0.113**	**0.0186**	0.00962 U	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.00971 U	**0.0187**	0.00962 U	**0.132**	**0.0262**	0.00962 U	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0194 U	0.0236	0.0192 U	0.189	0.0289	0.0192 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.00971 U	**0.0189**	0.00962 U	**0.0958**	0.0149	0.00962 U	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	0.0128	**0.0286**	0.00962 U	**0.234**	**0.0331**	0.00962 U	0.00971 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.015	0.00962 U	0.0485 U	0.0098 U	0.00962 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0242	0.0306	0.0192 U	**0.378**	0.0864	0.0192 U	0.0194 U	140	0.2	--	--
	Fluorene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0971 U	0.0196 U	0.0192 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.00971 U	0.0169	0.00962 U	**0.1**	0.014	0.00962 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0971 U	0.0634	0.0192 U	0.0653	--	0.2	620	--
	Phenanthrene	ug/L	0.0204	0.0214	0.0192 U	0.139	0.0558	0.0192 U	0.0194 U	--	0.2	--	--
	Pyrene	ug/L	0.0316	0.0362	0.0192 U	**0.281**	0.0505	0.0192 U	0.0194 U	4000	0.2	--	--
	Total PAHs	ug/L	0.089	0.2444	ND	1.7868	0.4094	ND	0.0653	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Chrysene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	--	--

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

Class	Analyte	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Fluoranthene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	**0.26**	--	0.2	620	--
	Phenanthrene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Pyrene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	ND	ND	ND	0.26	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.971 U	0.605 [6]	1.12	**4.32**	0.7 J	0.962 U	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.971 U	0.98 U	0.962 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.971 U	0.98 U	0.962 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.962 U	1.94 U	0.98 U	0.962 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.971 U	0.98 U	0.962 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.971 U	0.98 U	0.962 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.1 U	0.99 U	0.97 U	**2.7**	1	1 U	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.1 U	4.0 U	3.9 U	7.7 U	4.0 U	4.0 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.1 U	4.0 U	3.9 U	7.7 U	4.0 U	4.0 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	--	180	13	--
	2-Nitroaniline	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.1 U	2.0 U	2.0 U	3.9 U	2.0 U	2.0 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.1 U	0.99 U	0.97 U	2 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.1 U	2.0 U	2.0 U	3.9 U	2.0 U	2.0 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	150	--	--

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

Class	Analyte	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	4-Chlorophenyl phenyl ether	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	--	180	--	--
	4-Nitroaniline	ug/L	1.1 U	0.99 U	0.97 U	2 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.1 U	2.0 U	2.0 U	3.9 U	2.0 U	2.0 U	2.0 U	--	290	150	--
	Benzoic acid	ug/L	5.1 U	5.0 U	4.9 U	9.7 U	5.0 U	5.0 U	5.0 U	--	150000	42	--
	Benzyl alcohol	ug/L	5.1 U	5.0 U	4.9 U	9.7 U	5.0 U	5.0 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.1 U	0.99 U	0.97 U	2 U	1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.21 U	0.20 U	0.20 U	0.39 U	0.20 U	0.20 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	1.1 U	0.99 U	0.97 U	2 U	1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.51 U	0.50 U	0.49 U	0.97 U	0.50 U	0.50 U	0.50 U	1700000	11000	2560	--

Notes:

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit.

FDB = Field decontamination blank

NA = Not analyzed.

ND = Not detected.

DUP = Duplicate

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination procedures.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000606	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000601 U	0.000587 U	0.000583 U	0.00102	0.000611 U	0.000673 EMPC	0.000615 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000505	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000965	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000601 U	0.000587 U	0.000583 U	0.00208	0.000611 U	0.000602 U	0.000615 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00126	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000878	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00151	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000759	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00129	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000515	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000601 U	0.000587 U	0.000583 U	0.00172	0.000611 U	0.000602 U	0.000512 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00109	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00222	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000860	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000504	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00350	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000914	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00166	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000767	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000601 U	0.000587 U	0.000583 U	0.000596 U	0.000611 U	0.000602 U	0.000615 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00100 U	0.000979 U	0.000971 U	0.00198	0.00102 U	0.00100 U	0.00102 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00270	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000751 U	0.000734 U	0.000728 U	0.000745 U	0.000764 U	0.000752 U	0.000768 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00214	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000946	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00114	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00307	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00246	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00100 U	0.000979 U	0.000971 U	0.000994 U	0.00102 U	0.00100 U	0.00102 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00311	0.000591	0.000501 U	0.000512 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00116	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000510 U	0.000499 U	0.000495 U	0.000745	0.000519 U	0.000511 U	0.000523 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000533	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.00219	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000601 U	0.000587 U	0.000583 U	0.00225	0.000611 U	0.000602 U	0.000615 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000836	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000558	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000701 U	0.000685 U	0.000680 U	0.000696 U	0.000713 U	0.000702 U	0.000717 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00250 U	0.00245 U	0.00243 U	0.00248 U	0.00255 U	0.00251 U	0.00256 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000500 U	0.000489 U	0.000486 U	0.000497 U	0.000509 U	0.000501 U	0.000512 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	0.00213	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	0.00745	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	0.0143	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	ND	ND	ND	0.0152	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	ND	ND	ND	0.0100	0.000591	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	ND	ND	ND	0.00139	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	ND	ND	ND	**0.0505**	**0.000591**	ND	ND	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
EMPC = Estimated maximum possible concentration.
ND = Not detected.
NA = Not analyzed
DUP = Duplicate
U = The analyte was not detected above the reported sample quantification limit.
-- = No JSCS screening level available.
ug/L = Micrograms per liter.

Outfall Basin 22D
2008 Stormwater Grab Samples
Sample Location: AAE396

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080318 2/29/2008	Event 1 DUP FO080319 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080436 3/20/2008	Event 3 FO080510 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080653 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

[1] IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

Class	Analyte	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements												
	Conductivity	umhos/cm	59	56	NA	43	38	NA	--	--	--	--
	pH	units	7.1	6.7	NA	7.5	7.1	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	7.5	11.7	NA	6.9	7.6	NA	--	--	--	--
Total Suspended Solids (SM 2540D)												
	TSS	mg/L	459	146	2 U	126	148	2 U	--	--	--	130
Total Metals (EPA 200.8)												
	Arsenic	ug/L	**3.49**	**1.36**	0.10 U	**0.49**	**1.74**	0.10 U	0.14	0.045	150	--
	Cadmium	ug/L	**1.75**	**0.62**	0.10 U	**0.14**	**0.73**	0.10 U	--	5	0.094	--
	Chromium	ug/L	46.7	14.4	0.4 U	3.22	24.5	0.4 U	--	100	--	--
	Copper	ug/L	**74.8**	**29.8**	0.2 U	**9.38**	**35.7**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**95.6**	**15.1**	0.1 U	**7.99**	**24.9**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.0090	0.0920	0.0020 U	0.0064	0.0403	0.0020 U	0.146	2	0.77	--
	Nickel	ug/L	**30.8**	13.5	0.2 U	2.33	**19.7**	0.2 U	4600	730	16	--
	Silver	ug/L	**0.22**	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	**716**	**391**	0.5 U	**76.4**	**536**	0.91	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)												
	Acenaphthene	ug/L	0.0385 U	0.0194 U	0.0192 U	0.0194 U	0.0385 U	0.0192 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0385 U	0.0291 U	0.0192 U	0.0194 U	0.0385 U	0.0192 U	--	0.2	--	--
	Anthracene	ug/L	0.0676	0.0322	0.0192 U	0.024	0.0385 U	0.0192 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.0842**	**0.0382**	0.00962 U	**0.0379**	**0.0415**	0.00962 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0834**	**0.0383**	0.00962 U	**0.0401**	**0.0467**	0.00962 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.145**	**0.0659**	0.00962 U	**0.0609**	**0.0872**	0.00962 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.121	0.0551	0.0192 U	0.0609	0.0672	0.0192 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0691**	**0.0309**	0.00962 U	**0.0494**	**0.0375**	0.00962 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.187**	**0.0978**	0.00962 U	**0.108**	**0.109**	0.00962 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	**0.0262**	0.0133	0.00962 U	0.0291 U	0.0192 U	0.00962 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.346**	0.196	0.0192 U	0.172	**0.217**	0.0192 U	140	0.2	--	--
	Fluorene	ug/L	0.0425	0.023	0.0192 U	0.0194 U	0.0385 U	0.0192 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.0682**	**0.0323**	0.00962 U	**0.0298**	**0.0384**	0.00962 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0418	0.0422	0.0192 U	0.0583 U	0.0752	0.0192 U	--	0.2	620	--
	Phenanthrene	ug/L	0.173	0.109	0.0192 U	0.0687	0.147	0.0192 U	--	0.2	--	--
	Pyrene	ug/L	**0.206**	0.147	0.0192 U	0.0908	0.0931	0.0192 U	4000	0.2	--	--
	Total PAHs	ug/L	1.661	0.9212	ND	0.7425	0.9598	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)												
	Acenaphthene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.2	--	--
	Anthracene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.29**	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	**0.25**	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.2	--	--

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

Class	Analyte	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Chrysene	ug/L	0.20 U	**0.24**	0.20 U	0.42 U	**0.23**	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.43**	**0.32**	0.20 U	0.42 U	**0.24**	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.27**	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.2	--	--
	Pyrene	ug/L	**0.55**	**0.33**	0.20 U	0.42 U	**0.29**	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	1.79	0.89	ND	ND	0.76	ND	--	--	--	--
Phthalates (EPA 8270-SIM)												
	Bis(2-ethylhexyl)phthalate	ug/L	**28.3**	1.11 [6]	1.12	**2.44**	1.48	0.962 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	3.85 U	0.971 U	0.962 U	0.971 U	0.962 U	0.962 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	3.85 U	0.971 U	0.962 U	0.971 U	0.962 U	0.962 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	3.85 U	0.971 U	0.962 U	0.971 U	0.962 U	0.962 U	--	1500	3	--
	Diethylphthalate	ug/L	3.85 U	0.971 U	0.962 U	0.971 U	0.962 U	0.962 U	44000	29000	3	--
	Dimethylphthalate	ug/L	3.85 U	0.971 U	0.962 U	0.971 U	0.962 U	0.962 U	1100000	370000	3	--
Phthalates (EPA 8270C)												
	Bis(2-ethylhexyl)phthalate	ug/L	**2.8**	**3.2**	0.97 U	**2.8**	**2.8**	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.20 U	0.32	0.20 U	0.42 U	0.35	0.20 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.29 B	0.22	0.20 U	0.42 U	0.38	0.20 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	0.20 U	0.22	0.20 U	0.42 U	0.22	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.20 U	0.22	0.20 U	0.42 U	0.28	0.20 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)												
	1,2,4-Trichlorobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	3.9 U	4.0 U	3.9 U	8.3 U	3.9 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	3.9 U	4.0 U	3.9 U	8.3 U	3.9 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	--	180	13	--
	2-Nitroaniline	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.0 U	2.0 U	2.0 U	4.2 U	2.0 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.98 U	1 U	0.97 U	2.1 U	0.97 U	1 U	--	3.2	--	--

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

Class	Analyte	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	4,6-Dinitro-2-methylphenol	ug/L	2.0 U	2.0 U	2.0 U	4.2 U	2.0 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	--	180	--	--
	4-Nitroaniline	ug/L	0.98 U	1 U	0.97 U	2.1 U	0.97 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.0 U	2.0 U	2.0 U	4.2 U	2.0 U	2.0 U	--	290	150	--
	Benzoic acid	ug/L	4.9 U	5.0 U	4.9 U	11.0 U	4.9 U	5.0 U	--	150000	42	--
	Benzyl alcohol	ug/L	4.9 U	5.0 U	4.9 U	11.0 U	4.9 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.98 U	1 U	0.97 U	2.1 U	0.97 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.20 U	0.20 U	0.20 U	0.42 U	0.20 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	0.98 U	1 U	0.97 U	2.1 U	0.97 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.49 U	0.50 U	0.49 U	1.10 U	0.49 U	0.50 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

NA = Not analyzed.

ND = Not detected.

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

[6] Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination procedures.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)											
PCB 1	2-MoCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.00120 B	0.000578 U	0.000583 U	0.000623 U	0.000812	0.000673 EMPC	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000983	0.000578 U	0.000583 U	0.000623 U	0.000597 U	0.000602 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000540	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000792	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000752	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.00121	0.000578 U	0.000583 U	0.000623 U	0.000655	0.000602 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000674	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.00152	0.000482 U	0.000486 U	0.000519 U	0.000971	0.000501 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000561	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.00211	0.000585	0.000486 U	0.000519 U	0.00141	0.000501 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000572	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.00107	0.000482 U	0.000486 U	0.000519 U	0.000607	0.000501 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.00156	0.000482 U	0.000486 U	0.000519 U	0.000792	0.000501 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000670	0.000578 U	0.000583 U	0.000623 U	0.000597 U	0.000602 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00246	0.000964 U	0.000971 U	0.00104 U	0.00169	0.00100 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000814	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.00440 B	0.00102	0.000486 U	0.000519 U	0.00224	0.000501 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000817	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000726 U	0.000723 U	0.000728 U	0.000779 U	0.000747 U	0.000752 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00534	0.000746	0.000486 U	0.000519 U	0.00178	0.000501 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.00125	0.000482 U	0.000486 U	0.000519 U	0.000720	0.000501 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.00112	0.000482 U	0.000486 U	0.000519 U	0.000976	0.000501 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00650	0.00150	0.000486 U	0.000519 U	0.00304	0.000501 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.00246	0.000871	0.000486 U	0.000519 U	0.00213	0.000501 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00140	0.000964 U	0.000971 U	0.00104 U	0.000996 U	0.00100 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.0118 B	0.00237	0.000486 U	0.000519 U	0.00501	0.000501 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000634	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.00522	0.000814	0.000486 U	0.000519 U	0.00140	0.000501 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000701	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.00621 B	0.000751	0.000495 U	0.000530 U	0.00113	0.000511 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.00248	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.00277	0.000493	0.000486 U	0.000519 U	0.000779	0.000501 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.00179	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.0145 B	0.00188	0.000486 U	0.000519 U	0.00304	0.000501 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.0107 B	0.00185	0.000583 U	0.000623 U	0.00299	0.000602 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000787	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.00111	0.000482 U	0.000486 U	0.000519 U	0.000500	0.000501 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000940	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.00372 B	0.000691	0.000486 U	0.000519 U	0.000815	0.000501 U	--	--	--

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.00139	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000714	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.00537 B	0.000863	0.000486 U	0.000519 U	0.000945	0.000501 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000753	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.00269	0.000482 U	0.000486 U	0.000519 U	0.000506	0.000501 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.00104	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.00266	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00928 B	0.00165	0.000486 U	0.000519 U	0.00195	0.000501 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.00383 B	0.000547	0.000486 U	0.000519 U	0.000653	0.000501 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.00602 B	0.000957	0.000486 U	0.000519 U	0.00112	0.000501 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000740	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.00205	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000887	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.00126	0.000675 U	0.000680 U	0.000727 U	0.000697 U	0.000702 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00242 U	0.00241 U	0.00243 U	0.00260 U	0.00249 U	0.00251 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.00270	0.000482 U	0.000486 U	0.000519 U	0.000547	0.000501 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000492	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.00156	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000907	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000484 U	0.000482 U	0.000486 U	0.000519 U	0.000498 U	0.000501 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.00120 [6]	ND	ND	ND	0.000812 [7]	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.00232	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00846	0.000585	ND	ND	0.00364	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.0274	0.00414	ND	ND	0.0134	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.0610 [6]	0.00815	ND	ND	0.0149	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.0382 [6]	0.00471	ND	ND	0.00599	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	0.00894	ND	ND	ND	0.000547	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	0.000907	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.148** [6]	**0.0176**	ND	ND	**0.0392** [7]	ND	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl

DiCB = Dichlorobiphenyl

TriCB = Trichlorobiphenyl

TeCB = Tetrachlorobiphenyl

PeCB = Pentachlorobiphenyl

HeCB = Hexachlorobiphenyl

HpCB = Heptachlorobiphenyl

OcCB = Octachlorobiphenyl

NoCB = Nonachlorobiphenyl

FDB= Field decontamination blank

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

EMPC = Estimated maximum possible concentration.

ND = Not detected.

NA = Not analyzed

Outfall Basin 45
2008 Stormwater Grab Samples
Sample Location: ABC319

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080221 2/5/2008	Event 2 FO080316 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080440 3/20/2008	Event 4 FO080511 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased high based on laboratory method blank detections of PCB congeners 11, 153/168, 170, and 180/193 (concentrations in the sample less than 5 times the concentrations in the blank).

[7] Total homolog and total congener values are biased high based on detection of PCB congener 11 in the FDB (concentration in the sample less than 5 times the concentration in the FDB).

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

Class	Analyte	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	116	74	NA	33	50	NA	NA	--	--	--	--
	pH	units	7.1	7.1	NA	7.4	7.4	NA	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	7.4	11.5	NA	7.6	7.8	NA	NA	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	185	186	2 U	155	230	150	2 U	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**1.62**	**1.30**	0.10 U	**1.13**	**1.25**	**1.68**	0.10 U	0.14	0.045	150	--
	Cadmium	ug/L	**0.64**	**0.59**	0.10 U	**0.43**	**0.63**	**0.73**	0.10 U	--	5	0.094	--
	Chromium	ug/L	11.1	10	0.4 U	7.9	12.7	24.4	0.4 U	--	100	--	--
	Copper	ug/L	**37.6**	**44.3**	0.2 U	**27.6**	**36.8**	**36.8**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**23.7**	**18.5**	0.1 U	**24.3**	**22.9**	**25.3**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.0240	0.0220	0.0020 U	0.0280	0.0189	0.0342	0.0020 U	0.146	2	0.77	--
	Nickel	ug/L	7.54	6.46	0.2 U	4.82	6.56	**20.1**	0.2 U	4600	730	16	--
	Silver	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	**364**	**363**	0.5 U	**250**	**389**	**540**	0.91	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0396 U	0.0385 U	0.0192 U	0.0971 U	0.0388 U	0.0388 U	0.0192 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0597	0.0385 U	0.0192 U	0.0971 U	0.0388 U	0.0388 U	0.0192 U	--	0.2	--	--
	Anthracene	ug/L	0.141	0.0427	0.0192 U	0.0588	0.0568	0.0388 U	0.0192 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.195**	**0.102**	0.00962 U	**0.154**	**0.0885**	**0.0443**	0.00962 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.157**	**0.0784**	0.00962 U	**0.147**	**0.083**	**0.0506**	0.00962 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.291**	**0.15**	0.00962 U	**0.203**	**0.173**	**0.0963**	0.00962 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.152	0.143	0.0192 U	**0.25**	0.113	0.0797	0.0192 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.145**	**0.0843**	0.00962 U	**0.143**	**0.0713**	**0.0493**	0.00962 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.359**	**0.285**	0.00962 U	**0.33**	**0.234**	**0.132**	0.00962 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	**0.0355**	**0.0297**	0.00962 U	**0.0986**	**0.0203**	0.0194 U	0.00962 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.77**	**0.455**	0.0192 U	**0.642**	**0.503**	**0.218**	0.0192 U	140	0.2	--	--
	Fluorene	ug/L	0.0396 U	0.0385 U	0.0192 U	0.0971 U	0.0388 U	0.0388 U	0.0192 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.086**	**0.0605**	0.00962 U	**0.141**	**0.0515**	**0.044**	0.00962 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0396 U	0.0385 U	0.0192 U	0.0971 U	0.0824	0.0493	0.0192 U	--	0.2	620	--
	Phenanthrene	ug/L	0.178	**0.235**	0.0192 U	0.168	**0.234**	0.161	0.0192 U	--	0.2	--	--
	Pyrene	ug/L	**0.32**	**0.309**	0.0192 U	**0.302**	0.186	0.102	0.0192 U	4000	0.2	--	--
	Total PAHs	ug/L	2.8892	1.9746	ND	2.6374	1.8968	1.0265	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Anthracene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.33**	0.79 U	0.20 U	1.00 U	**0.37**	0.20 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	**0.23**	0.79 U	0.20 U	1.00 U	**0.24**	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.35**	0.79 U	0.20 U	1.00 U	**0.41**	0.20 U	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.54**	0.79 U	0.20 U	1.00 U	**0.56**	**0.21**	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	5300	0.2	3.9	--

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

Class	Analyte	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Indeno(1,2,3-cd)pyrene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.21**	0.79 U	0.20 U	1.00 U	**0.29**	0.20 U	0.20 U	--	0.2	--	--
	Pyrene	ug/L	**0.56**	0.79 U	0.20 U	1.00 U	**0.59**	0.20	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	2.22	ND	ND	ND	2.46	0.41	ND	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	**2.99**	**3.43** [6]	1.12	**6.79**	**3.09**	2.03	0.962 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1.98 U	0.962 U	0.962 U	0.971 U	0.971 U	0.971 U	0.962 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	1.98 U	0.962 U	0.962 U	0.971 U	0.971 U	0.971 U	0.962 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.98 U	1.06	0.962 U	3.88 U	1.94 U	1.94 U	0.962 U	--	1500	3	--
	Diethylphthalate	ug/L	1.98 U	0.962 U	0.962 U	0.971 U	0.971 U	0.971 U	0.962 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1.98 U	0.962 U	0.962 U	0.971 U	0.971 U	0.971 U	0.962 U	1100000	370000	3	--
													--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	**2.8**	**4.5**	0.97 U	5 U	**4.6**	2.2	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.33	0.20 U	0.20 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.29 B	0.79 U	0.20 U	1.00 U	0.26	0.22	0.20 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.22	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.28	0.20 U	1100000	370000	3	--
													--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	3.9 U	16.0 U	3.9 U	20.0 U	4.0 U	3.9 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	3.9 U	16.0 U	3.9 U	20.0 U	4.0 U	3.9 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	--	180	13	--
	2-Nitroaniline	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.0 U	7.9 U	2.0 U	10.0 U	2.0 U	2.0 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.98 U	4 U	0.97 U	5 U	1 U	0.97 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.0 U	7.9 U	2.0 U	10.0 U	2.0 U	2.0 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.50 U	0.49 U	0.50 U	--	180	--	--
	4-Nitroaniline	ug/L	0.98 U	4 U	0.97 U	5 U	1 U	0.97 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.0 U	7.9 U	2.0 U	10.0 U	2.0 U	2.0 U	2.0 U	--	290	150	--

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

Class	Analyte	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzoic acid	ug/L	4.9 U	20.0 U	4.9 U	25.0 U	5.0 U	4.9 U	5.0 U	--	150000	42	--
	Benzyl alcohol	ug/L	4.9 U	20.0 U	4.9 U	25.0 U	5.0 U	4.9 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.98 U	4 U	0.97 U	5 U	1 U	0.97 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.20 U	0.79 U	0.20 U	1.00 U	0.20 U	0.20 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	0.98 U	4 U	0.97 U	5 U	1 U	0.97 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.49 U	2.00 U	0.49 U	2.50 U	0.53	0.49 U	0.50 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

NA = Not analyzed.

ND = Not detected.

DUP = Duplicate

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than 10 times the FDB concentration, the result reported for the sample is considered biased high.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000852 B	0.000760	0.000583 U	0.000890	0.00117	0.000889	0.000673 EMPC	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000582 U	0.000597 U	0.000583 U	0.000592 U	0.000602 U	0.000607 U	0.000602 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000582 U	0.000597 U	0.000583 U	0.000592 U	0.000602 U	0.000607 U	0.000602 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000547	0.000498 U	0.000486 U	0.000493 U	0.000541	0.000833	0.000501 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.000836	0.000751	0.000486 U	0.000717	0.000864	0.00129	0.000501 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000610	0.000501 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000757	0.000501 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000582 U	0.000597 U	0.000583 U	0.000592 U	0.000602 U	0.000607 U	0.000602 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.000970 U	0.000995 U	0.000971 U	0.000986 U	0.00100 U	0.00157	0.00100 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000962 B	0.000662	0.000486 U	0.000647	0.000671	0.00222	0.000501 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000727 U	0.000746 U	0.000728 U	0.000739 U	0.000753 U	0.000759 U	0.000752 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000706	0.000498 U	0.000486 U	0.000493 U	0.000646	0.00162	0.000501 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000729	0.000501 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000894	0.000501 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00103	0.000849	0.000486 U	0.000805	0.000952	0.00305	0.000501 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000647	0.000565	0.000486 U	0.000628	0.000580	0.00186	0.000501 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000970 U	0.000995 U	0.000971 U	0.000986 U	0.00100 U	0.00101 U	0.00100 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00164 B	0.00114	0.000486 U	0.00118	0.00129	0.00410	0.000501 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000558	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.00132	0.000501 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000636 B	0.000508 U	0.000495 U	0.000503 U	0.000512 U	0.00113	0.000511 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000774	0.000501 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00156 B	0.000976	0.000486 U	0.000961	0.000946	0.00292	0.000501 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00150 B	0.000942	0.000583 U	0.000966	0.00107	0.00313	0.000602 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000767	0.000501 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000539 B	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000962	0.000501 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00106 B	0.000786	0.000486 U	0.000634	0.000875	0.00176	0.000501 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000673	0.000501 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000645 B	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.00106	0.000501 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000679 U	0.000697 U	0.000680 U	0.000690 U	0.000702 U	0.000708 U	0.000702 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00242 U	0.00249 U	0.00243 U	0.00246 U	0.00251 U	0.00253 U	0.00251 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000530	0.000501 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000485 U	0.000498 U	0.000486 U	0.000493 U	0.000502 U	0.000506 U	0.000501 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.000852 [6]	0.000760	ND	0.000890	0.00117 [7]	0.000889 [7]	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00138	0.000751	ND	0.000717	0.00141	0.00273	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00335 [6]	0.00208	ND	0.00208	0.00285	0.0127	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00589 [6]	0.00306	ND	0.00310	0.00331	0.0134	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.00225 [6]	0.000786	ND	0.000634	0.000875	0.00522	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	0.000530	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0137** [6]	**0.00743**	ND	**0.00743**	**0.00961** [7]	**0.0354** [7]	ND	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
B= The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.
EMPC = Estimated maximum possible concentration.
ND = Not detected.
NA = Not analyzed
DUP = Duplicate
U = The analyte was not detected above the reported sample quantification limit.
-- = No JSCS screening level available.

Outfall Basin 46
2008 Stormwater Grab Samples
Sample Location: AMR809

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080222 2/5/2008	Event 2 FO080317 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080437 3/20/2008	Event 4 FO080512 4/4/2008	Event 4 DUP FO080513 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

ug/L = Micrograms per liter.

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased high based on PCB congener 11, 90/101/113, 129/138/163, 135/151, 147/149, 153/168, 170, 174, 180/193, and 187 detections in the laboratory method blank.

[7] Total homolog and total congener values are biased high based on detection of PCB congener 11 in the FDB (concentration in the sample less than 5 times the concentration in the FDB).

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

Class	Analyte	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements												
	Conductivity	umhos/cm	31	32.4	NA	12	21	NA	--	--	--	--
	pH	units	6.7	6.7	NA	7.4	7.1	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	7.4	12.1	NA	6.6	7.7	NA	--	--	--	--
Total Suspended Solids (SM 2540D)												
	TSS	mg/L	138	56	2 U	232	150	2 U	--	--	--	130
Total Metals (EPA 200.8)												
	Arsenic	ug/L	**1.17**	**0.62**	0.10 U	**1.88**	**1.05**	0.10 U	0.14	0.045	150	--
	Cadmium	ug/L	**0.56**	**0.31**	0.10 U	**0.56**	**0.37**	0.10 U	--	5	0.094	--
	Chromium	ug/L	10.5	3.86	0.4 U	18.8	8.48	0.4 U	--	100	--	--
	Copper	ug/L	**31.5**	**16.2**	0.2 U	**31.5**	**22**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**28.3**	**7.6**	0.1 U	**21**	**18.5**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.0031	0.0120	0.0020 U	0.0250	0.0190	0.0020 U	0.146	2	0.77	--
	Nickel	ug/L	7.77	2.84	0.2 U	16	5.39	0.2 U	4600	730	16	--
	Silver	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	**244**	**99.2**	0.5 U	**267**	**156**	0.91	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)												
	Acenaphthene	ug/L	0.0388 U	0.02 U	0.0192 U	0.0971 U	0.02 U	0.0192 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0388 U	0.02 U	0.0192 U	0.0581	0.02 U	0.0192 U	--	0.2	--	--
	Anthracene	ug/L	0.0405	0.02 U	0.0192 U	0.0931	0.0202	0.0192 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.103**	**0.0235**	0.00962 U	**0.162**	0.05 U	0.00962 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0909**	0.014	0.00962 U	**0.242**	**0.0584**	0.00962 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.144**	**0.0264**	0.00962 U	**0.287**	**0.0971**	0.00962 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.121	0.0253	0.0192 U	**0.287**	0.0836	0.0192 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0881**	**0.0199**	0.00962 U	**0.21**	**0.067**	0.00962 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.199**	**0.047**	0.00962 U	**0.341**	**0.135**	0.00962 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	**0.0254**	0.01 U	0.00962 U	0.0971 U	0.05 U	0.00962 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.431**	0.0905	0.0192 U	**0.471**	**0.336**	0.0192 U	140	0.2	--	--
	Fluorene	ug/L	0.0388 U	0.02 U	0.0192 U	0.0971 U	0.0207	0.0192 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.062**	0.0127	0.00962 U	**0.173**	0.05 U	0.00962 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0391	0.0297	0.0192 U	0.194 U	0.0534	0.0192 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.216**	0.0892	0.0192 U	0.0708	0.15	0.0192 U	--	0.2	--	--
	Pyrene	ug/L	**0.235**	0.073	0.0192 U	**0.312**	0.199	0.0192 U	4000	0.2	--	--
	Total PAHs	ug/L	1.795	0.4512	ND	2.707	1.2204	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)												
	Acenaphthene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	990	0.2	520	--
	Acenaphthylene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.2	--	--
	Anthracene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.2	--	--

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

Class	Analyte	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Chrysene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	**0.22**	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	1.10 U	0.41 U	0.20 U	**0.48**	**0.36**	0.20 U	140	0.2	--	--
	Fluorene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.2	620	--
	Phenanthrene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	**0.24**	0.20 U	--	0.2	--	--
	Pyrene	ug/L	1.10 U	0.41 U	0.20 U	**0.55**	**0.29**	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	1.03	1.11	ND	--	--	--	--
Phthalates (EPA 8270-SIM)												
	Bis(2-ethylhexyl)phthalate	ug/L	**6.1**	1.76 [6]	1.12	**2.9**	**3.29**	0.962 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1.94 U	1 U	0.962 U	0.971 U	1 U	0.962 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	1.94 U	1 U	0.962 U	0.971 U	1 U	0.962 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.94 U	1 U	0.962 U	3.88 U	1 U	0.962 U	--	1500	3	--
	Diethylphthalate	ug/L	1.94 U	1 U	0.962 U	0.971 U	1 U	0.962 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1.94 U	1 U	0.962 U	0.971 U	1 U	0.962 U	1100000	370000	3	--
Phthalates (EPA 8270C)												
	Bis(2-ethylhexyl)phthalate	ug/L	**12**	**4.3**	0.97 U	2.1 U	**6.7**	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.66	0.20 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)												
	1,2,4-Trichlorobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	21.0 U	8.1 U	3.9 U	8.1 U	4.3 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	21.0 U	8.1 U	3.9 U	8.1 U	4.3 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	--	180	13	--
	2-Nitroaniline	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	11.0 U	4.1 U	2.0 U	4.1 U	2.2 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	5.3 U	2.1 U	0.97 U	2.1 U	1.1 U	1 U	--	3.2	--	--

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

Class	Analyte	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 2 FDB FO080320 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	4,6-Dinitro-2-methylphenol	ug/L	11.0 U	4.1 U	2.0 U	4.1 U	2.2 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	2.70 U	1.10 U	0.49 U	1.10 U	0.53 U	0.50 U	--	180	--	--
	4-Nitroaniline	ug/L	5.3 U	2.1 U	0.97 U	2.1 U	1.1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	11.0 U	4.1 U	2.0 U	4.1 U	2.2 U	2.0 U	--	290	150	--
	Benzoic acid	ug/L	27.0 U	11.0 U	4.9 U	11.0 U	5.3 U	5.0 U	--	150000	42	--
	Benzyl alcohol	ug/L	27.0 U	11.0 U	4.9 U	11.0 U	5.3 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	5.3 U	2.1 U	0.97 U	2.1 U	1.1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	1.10 U	0.41 U	0.20 U	0.41 U	0.22 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	5.3 U	2.1 U	0.97 U	2.1 U	1.1 U	1 U	3	0.56	15	--
	Phenol	ug/L	2.70 U	1.10 U	0.49 U	1.10	0.53 U	0.50 U	1700000	11000	2560	--

Notes:

ND = Not detected.

NA = Not Analyzed

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than 10 times the FDB concentration, the result reported for the sample is considered biased high.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 2 FDB FO080320 2/29/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)											
PCB 1	2-MoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000840	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.00302 B	0.000623 U	0.000688	0.00119	0.000583 U	0.000673 EMPC	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000711	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.00143	0.000623 U	0.000600 U	0.000647 U	0.000583 U	0.000602 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000974	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000558	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.00117	0.000519 U	0.000600 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000787	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.00144	0.000623 U	0.000600 U	0.000647 U	0.000583 U	0.000602 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000728	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.00118	0.000519 U	0.000500 U	0.000539	0.000486 U	0.000501 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.00178	0.000519 U	0.000866	0.00101	0.000486 U	0.000501 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000635	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000895	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 2 FDB FO080320 2/29/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000584 U	0.000623 U	0.000600 U	0.000647 U	0.000583 U	0.000602 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.000973 U	0.00104 U	0.00100 U	0.00108 U	0.000971 U	0.00100 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000973 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.00134 B	0.000519 U	0.000990	0.000565	0.000486 U	0.000501 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000730 U	0.000779 U	0.000750 U	0.000809 U	0.000728 U	0.000752 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00114	0.000519 U	0.000829	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000493	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00140	0.000519 U	0.00152	0.000777	0.000486 U	0.000501 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000961	0.000519 U	0.000944	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000973 U	0.00104 U	0.00100 U	0.00108 U	0.000971 U	0.00100 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00134 B	0.000519 U	0.00228	0.000954	0.000486 U	0.000501 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000535	0.000519 U	0.000920	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000496 U	0.000529 U	0.000779	0.000550 U	0.000495 U	0.000511 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00133 B	0.000519 U	0.00203	0.000666	0.000486 U	0.000501 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00138 B	0.000623 U	0.00161	0.000716	0.000583 U	0.000602 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000487 U	0.000519 U	0.000655	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 2 FDB FO080320 2/29/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000794	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000720 B	0.000519 U	0.00150	0.000549	0.000486 U	0.000501 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.000522	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.00101	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000681 U	0.000727 U	0.000700 U	0.000755 U	0.000680 U	0.000702 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00243 U	0.00260 U	0.00250 U	0.00270 U	0.00243 U	0.00251 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000487 U	0.000519 U	0.000506	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000487 U	0.000519 U	0.000500 U	0.000539 U	0.000486 U	0.000501 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.00386 [6]	ND	0.000688	0.00119 [7]	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.00485	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00744	ND	0.000866	0.00155	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00533 [6]	ND	0.00429	0.00134	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00460 [6]	ND	0.00762	0.00234	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000720 [6]	ND	0.00448	0.000549	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	0.000506	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0268** [6]	ND	**0.0184**	**0.00697** [7]	ND	ND	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
B= The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.
EMPC = Estimated maximum possible concentration.
ND = Not detected.
NA = Not analyzed
U = The analyte was not detected above the reported sample quantification limit.
-- = No JSCS screening level available.
ug/L = Micrograms per liter.

Outfall Basin 47
2008 Stormwater Grab Samples
Sample Location: AAT620

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080220 2/5/2008	Event 2 FO080313 2/29/2008	Event 3 FO080439 3/20/2008	Event 4 FO080509 4/4/2008	Event 2 FDB FO080320 2/29/2008	Event 4 FDB FO080514 4/4/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased high based on PCB congener 11, 90/101/113, 129/138/163, 147/149, 153/168 and 180/193 detections in the laboratory method blank.

[7] Total homolog and total congener values are biased high based on detection of PCB congener 11 in the FDB (concentration in the sample less than 5 times the concentration in the FDB).

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

Class	Analyte	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements														
	Conductivity	umhos/cm	36	NA	NA	188	NA	134	NA	86	--	--	--	--
	pH	units	6.7	NA	NA	7.1	NA	6.8	NA	6.6	--	--	--	5.5 - 9.0
	Temperature	Deg. C	14.2	NA	NA	12.4	NA	10.8	NA	6.3	--	--	--	--
Total Suspended Solids (SM 2540D)														
	TSS	mg/L	46	48	2 U	4	2 U	11	2 U	26	--	--	--	130
Total Metals (EPA 200.8)														
	Arsenic	ug/L	**0.62**	**0.65**	0.1 U	**0.54**	0.1 U	**0.4**	0.1 U	**0.46**	0.14	0.045	150	--
	Cadmium	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	5	0.094	--
	Chromium	ug/L	1.69	1.61	0.4 U	0.4 U	0.4 U	0.43	0.4 U	1.16	--	100	--	--
	Copper	ug/L	**15.1**	**14.8**	0.2 U	**6.6**	0.2 U	**4.84**	0.2 U	**7.43**	--	1300	2.7	100
	Lead	ug/L	**4.04**	**3.99**	0.1 U	0.53	0.1 U	**1.3**	0.1 U	**2.69**	--	15	0.54	400
	Mercury[5]	ug/L	0.011	0.011	0.002 U	0.0043	0.002 U	0.0034	0.002 U	0.004	0.146	2	0.77	--
	Nickel	ug/L	3.18	2.93	0.2 U	12.5	0.2 U	3.7	0.2 U	5.63	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	26.3 [6]	28.1 [6]	8.76	31.1	2.42	20.5	0.6	26.7	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)														
	Acenaphthene	ug/L	0.0388 U	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0192 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0388 U	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0192 U	--	0.2	--	--
	Anthracene	ug/L	0.0363	0.0332	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0192 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.0912**	**0.0467**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00966	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0334**	**0.026**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00962 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.063**	**0.0433**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0203**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0363	0.0299	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0192 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0495**	**0.0307**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0122	0.018	0.2	--	--
	Chrysene	ug/L	**0.139**	**0.0806**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0321**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00962 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.554**	**0.332**	0.0194 U	0.0257	0.0196 U	0.0194 U	0.0194 U	0.104	140	0.2	--	--
	Fluorene	ug/L	0.0451	0.0351	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0192 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.0197**	0.0164	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00962 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0388 U	0.0343	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0357	--	0.2	620	--
	Phenanthrene	ug/L	**0.215**	0.2	0.0194 U	0.0293	0.0196 U	0.0194 U	0.0194 U	0.0693	--	0.2	--	--
	Pyrene	ug/L	**0.317**	**0.211**	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0449	4000	0.2	--	--
	Total PAHs	ug/L	1.60	1.12	ND	0.06	ND	ND	ND	0.33	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)														
	Acenaphthene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.22**	**0.21**	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	0.22	0.21	ND	ND	ND	ND	ND	ND	--	--	--	--

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

Class	Analyte	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Phthalates (EPA 8270-SIM)														
	Bis(2-ethylhexyl)phthalate	ug/L	**5.94**	0.614 J	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1.94 U	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	1.94 U	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.94 U	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	--	1500	3	--
	Diethylphthalate	ug/L	1.94 U	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1.94 U	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.962 U	1100000	370000	3	--
Phthalates (EPA 8270C)														
	Bis(2-ethylhexyl)phthalate	ug/L	1 U	0.98 U	1 U	1.1 U	1 U	1 U	1 U	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.29 B	0.3 B	0.54 B	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1 U	0.98 U	1 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)														
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4 U	3.9 U	4 U	4.1 U	4 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4 U	3.9 U	4 U	4.1 U	4 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1 U	0.98 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	1 U	0.98 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5 U	4.9 U	5 U	5.2 U	5 U	5 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	5 U	4.9 U	5 U	5.2 U	5 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1 U	0.98 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1100	50	5.2	--

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

Class	Analyte	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	1 U	0.98 U	1 U	1.1 U	1 U	1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.5 U	0.49 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	1700000	11000	2560	--

Notes:

FDB = Field decontamination blank

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

U = The analyte was not detected above the reported sample quantification limit.

NA = Not analyzed

DUP = Duplicate

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than 10 times the FDB concentration, the result reported for the sample is considered biased high.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)													
PCB 1	2-MoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000662 U	0.000603 U	0.000600 U	0.000629 U	0.000614 U	0.000615 U	0.000625 U	0.000595 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000662 U	0.000603 U	0.000600 U	0.000629 U	0.000614 U	0.000615 U	0.000625 U	0.000595 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000662 U	0.000603 U	0.000600 U	0.000629 U	0.000614 U	0.000615 U	0.000625 U	0.000595 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000662 U	0.000603 U	0.000600 U	0.000629 U	0.000614 U	0.000615 U	0.000625 U	0.000595 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00110 U	0.00100 U	0.000999 U	0.00105 U	0.00102 U	0.00103 U	0.00104 U	0.000992 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000570	0.00271	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000828 U	0.000753 U	0.000750 U	0.000786 U	0.000768 U	0.000769 U	0.000781 U	0.000744 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000552 U	0.00162	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000710	0.00160	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000552 U	0.000980	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00110 U	0.00100 U	0.000999 U	0.00105 U	0.00102 U	0.00103 U	0.00104 U	0.000992 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00103	0.00828	0.000500 U	0.000524 U	0.00147	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000552 U	0.00199	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000563 U	0.00246	0.000510 U	0.000535 U	0.000522 U	0.000523 U	0.000531 U	0.000506 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000552 U	0.000797	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000552 U	0.00163	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000552 U	0.000917	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000677	0.00584	0.000500 U	0.000524 U	0.00119	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000819	0.00917	0.000600 U	0.000629 U	0.00166	0.000615 U	0.000625 U	0.000595 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000552 U	0.000642	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000552 U	0.000711	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000552 U	0.00324	0.000500 U	0.000524 U	0.000703	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000552 U	0.000969	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000552 U	0.00259	0.000500 U	0.000524 U	0.000589	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000552 U	0.00151	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000552 U	0.000920	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000807	0.00746	0.000500 U	0.000524 U	0.00151	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000552 U	0.00237	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000552 U	0.00319	0.000500 U	0.000524 U	0.000610	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000552 U	0.000662	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000552 U	0.00143	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000552 U	0.000555	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000773 U	0.000759	0.000700 U	0.000734 U	0.000717 U	0.000718 U	0.000729 U	0.000695 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00276 U	0.00251 U	0.00250 U	0.00262 U	0.00256 U	0.00256 U	0.00260 U	0.00248 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000552 U	0.00131	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--

Outfall Basin 48
2007 Stormwater Grab Samples
Sample Location: AAJ670

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071152 9/28/2007	Event 1 DUP FO071153 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071260 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071400 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071586 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000552 U	0.000997	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000552 U	0.000502 U	0.000500 U	0.000524 U	0.000512 U	0.000513 U	0.000521 U	0.000496 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00128	0.00690	ND	ND	ND	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00252	0.0324	ND	ND	0.00431	ND	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000807	0.0229	ND	ND	0.00341	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	0.00505	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.00461**	**0.0673**	ND	ND	**0.00773**	ND	ND	ND	0.000064	0.034000	0.014000

Notes:
MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB = Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantfication limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed
DUO = Duplicate

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

Class	Analyte	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	22	NA	127	NA	54	NA	66	--	--	--	--
	pH	units	6.5	NA	6.7	NA	6.9	NA	6.5	--	--	--	5.5 - 9.0
	Temperature	Deg. C	12.2	NA	13.8	NA	11.4	NA	7	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	30	2 U	7	2 U	5	2 U	13	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**0.88**	0.1 U	**2.07**	0.1 U	**0.71**	0.1 U	**0.5**	0.14	0.045	150	--
	Cadmium	ug/L	**0.22**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.11**	--	5	0.094	--
	Chromium	ug/L	4.53	0.4 U	0.5	0.4 U	0.54	0.4 U	0.88	--	100	--	--
	Copper	ug/L	**15.3**	0.2 U	**4.98**	0.2 U	**3.39**	0.2 U	**5.14**	--	1300	2.7	100
	Lead	ug/L	**11.8**	0.1 U	**0.92**	0.1 U	**0.87**	0.1 U	**1.9**	--	15	0.54	400
	Mercury[5]	ug/L	0.016	0.002 U	0.004	0.002 U	0.003	0.002 U	0.0055	0.146	2	0.77	--
	Nickel	ug/L	2.22	0.2 U	1.63	0.2 U	1.36	0.2 U	1.32	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**138**	8.76	**66.2**	2.42	**84.3**	0.6	**129**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0307	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0388	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.0174	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0102	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0182**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0104	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0231**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.015	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0398	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0168	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0114	0.018	0.2	--	--
	Chrysene	ug/L	**0.03**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0236**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.137	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0604	140	0.2	--	--
	Fluorene	ug/L	0.0361	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0127	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0348	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0331	--	0.2	620	--
	Phenanthrene	ug/L	0.148	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0401	--	0.2	--	--
	Pyrene	ug/L	0.092	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0438	4000	0.2	--	--
	Total PAHs	ug/L	0.68	ND	ND	ND	ND	ND	0.25	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	5300	0.2	3.9	--

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

Class	Analyte	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.22**	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.2	--	--
	Pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	4000	0.2	--	--
	Total PAHs	ug/L	0.22	ND	ND	ND	ND	ND	ND	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.1	0.971 U	0.98 U	0.98 U	**3.5**	0.971 U	0.801 J	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.593 J	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.98 U	1 U	1.1 U	1 U	1.1 U	1 U	1.5	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.32	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.41 B	0.54 B	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.98 U	1 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	1100000	370000	3	--
Semivolatile Organic Compunts (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	3.9 U	4 U	4.1 U	4 U	4.1 U	4 U	4.1 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	3.9 U	4 U	4.1 U	4 U	4.1 U	4 U	4.1 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	110	--	--
	2-Nitrophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.98 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	--	180	--	--
	4-Nitroaniline	ug/L	0.98 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	3.2	--	--

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

Class	Analyte	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	4-Nitrophenol	ug/L	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	--	290	150	--
	Benzoic acid	ug/L	4.9 U	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	--	150000	42	--
	Benzyl alcohol	ug/L	4.9 U	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.98 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.21 U	6	14	210	--
	Pentachlorophenol	ug/L	0.98 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	3	0.56	15	--
	Phenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.51 U	0.5 U	0.51 U	1700000	11000	2560	--

Notes:

FDB = Field decontamination blank

B = The analyte was detected in the method blank at a concentration that is significant relative to the sample result.

U = The analyte was not detected above the reported sample quantification limit.

NA= Not analyzed

-- No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000598 U	0.000600 U	0.000637 U	0.000614 U	0.000621 U	0.000625 U	0.000610 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000598 U	0.000600 U	0.000637 U	0.000614 U	0.000621 U	0.000625 U	0.000610 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000598 U	0.000600 U	0.000637 U	0.000614 U	0.000621 U	0.000625 U	0.000610 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000553	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000598 U	0.000600 U	0.000637 U	0.000614 U	0.000621 U	0.000625 U	0.000610 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.000996 U	0.000999 U	0.001060 U	0.001020 U	0.001030 U	0.001040 U	0.001020 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000998	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000747 U	0.000750 U	0.000797 U	0.000768 U	0.000776 U	0.000781 U	0.000763 U	--	--	--

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000537	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000889	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000675	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000996 U	0.000999 U	0.001060 U	0.001020 U	0.001030 U	0.001040 U	0.001020 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00269	0.00050 U	0.00053 U	0.00147	0.00133	0.00052 U	0.00051 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000722	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000658	0.000510 U	0.000542 U	0.000522 U	0.000528 U	0.000531 U	0.000519 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000513	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00185	0.00050 U	0.00053 U	0.00119	0.00092	0.00052 U	0.00051 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00250	0.00060 U	0.00064 U	0.00166	0.00143	0.00063 U	0.00061 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.00106	0.00050 U	0.00053 U	0.00070	0.00052	0.00052 U	0.00051 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000921	0.000500 U	0.000531 U	0.000589	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000525	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00221	0.00050 U	0.00053 U	0.00151	0.00115	0.00052 U	0.00051 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000715	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000933	0.000500 U	0.000531 U	0.000610	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--

Outfall Basin 50
2007 Stormwater Grab Samples
Sample Location: AAE536

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071160 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071263 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071391 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071581 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000697 U	0.000700 U	0.000744 U	0.000717 U	0.000724 U	0.000729 U	0.000712 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00249 U	0.00250 U	0.00266 U	0.00256 U	0.00259 U	0.00260 U	0.00254 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000498 U	0.000500 U	0.000531 U	0.000512 U	0.000517 U	0.000521 U	0.000509 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.000553	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00310	ND	ND	ND	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00893	ND	ND	0.00431	0.00368	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.00636	ND	ND	0.00341	0.00167	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0189**	ND	ND	**0.0077**	**0.0054**	ND	ND	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB = Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
NA = Not analyzed
ND = Not detected.

[1] IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

Class	Analyte	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements																
	Conductivity	umhos/cm	35	NA	49	NA	NA	67	NA	NA	74	NA	--	--	--	--
	pH	units	7.1	NA	6.9	NA	NA	7	NA	NA	6.8	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	12.7	NA	13.1	NA	NA	12.6	NA	NA	12.5	NA	--	--	--	--
Total Suspended Solids (SM 2540D																
	TSS	mg/L	86	2 U	10	10	2 U	35	33	2 U	8	2 U	--	--	--	130
Total Metals (EPA 200.8)																
	Arsenic	ug/L	**1.25**	0.1 U	**0.62**	**0.58**	0.1 U	**1.97**	**1.34**	0.1 U	**0.62**	0.1 U	0.14	0.045	150	--
	Cadmium	ug/L	**0.34**	0.1 U	**0.18**	**0.17**	0.1 U	0.1 U	**0.26**	0.1 U	0.1 U	0.1 U	--	5	0.094	--
	Chromium	ug/L	6.79	0.4 U	1.85	1.7	0.4 U	0.49	4.16	0.4 U	0.71	0.4 U	--	100	--	--
	Copper	ug/L	**60.5**	0.2 U	**20.8**	**20.7**	0.2 U	**4.89**	**49.9**	0.2 U	**33.6**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**19.1**	0.1 U	**3.95**	**3.94**	0.1 U	**0.87**	**9.38**	0.1 U	**1.67**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.019	0.002 U	0.0074	0.0073	0.002 U	0.022	0.019	0.002 U	0.0055	0.002 U	0.146	2	0.77	--
	Nickel	ug/L	7.07	0.2 U	2.34	2.3	0.2 U	1.69	4.49	0.2 U	1.95	0.2 U	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**226**	8.76	**128**	**125**	1.49	**64.5**	**248**	2.42	**104**	0.6	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM																
	Acenaphthene	ug/L	0.0349	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0571	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.026**	0.00971 U	0.0107	0.00971 U	0.0099 U	**0.0274**	0.0154	0.0098 U	**0.0194**	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0234**	0.00971 U	0.00971 U	0.00971 U	0.0099 U	**0.0259**	0.015	0.0098 U	**0.0248**	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0288**	0.00971 U	0.0117	0.0106	0.0099 U	**0.0284**	**0.0243**	0.0098 U	**0.0297**	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0378	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0318	0.0255	0.0196 U	0.0238	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0189**	0.00971 U	0.00971 U	0.00971 U	0.0099 U	**0.027**	0.0166	0.0098 U	**0.0209**	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.0421**	0.00971 U	0.0174	0.0151	0.0099 U	**0.0432**	**0.0319**	0.0098 U	**0.0265**	0.00971 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.00971 U	0.0099 U	0.0098 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.232**	0.0194 U	0.0373	0.0393	0.0198 U	0.133	0.108	0.0196 U	0.0407	0.0194 U	140	0.2	--	--
	Fluorene	ug/L	0.0441	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0148	0.00971 U	0.00971 U	0.00971 U	0.0099 U	0.0147	0.011	0.0098 U	0.0164	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0344	0.0194 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	--	0.2	620	--
	Phenanthrene	ug/L	0.141	0.0194 U	0.0313	0.0291	0.0198 U	0.0827	0.0722	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Pyrene	ug/L	0.138	0.0194 U	0.0392	0.0383	0.0198 U	0.0788	0.0762	0.0196 U	0.0396	0.0194 U	4000	0.2	--	--
	Total PAHs	ug/L	0.87	ND	0.15	0.13	ND	0.49	0.40	ND	0.24	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C																
	Acenaphthene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.3**	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.31**	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	**0.26**	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

Class	Analyte	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Phthalates (EPA 8270-SIM)																
	Bis(2-ethylhexyl)phthalate	ug/L	1.62	0.971 U	0.827 J	0.792 J	0.99 U	**5.75**	1.2	0.98 U	**7.46**	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.588 J	0.971 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.98 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.98 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.98 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.98 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.98 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)																
	Bis(2-ethylhexyl)phthalate	ug/L	**2.3**	1 U	1.6	1.4	1.1 U	**2.6**	1.5	1 U	1 U	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.33	0.2 U	0.24	0.23	0.21 U	0.35	0.22 U	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.56 B	0.54 B	0.43 [6]	0.44 [6]	0.24	0.37	0.27	0.2 U	0.2 U	0.2 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1 U	1 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.33	0.25	0.2 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compunds (SVOCs) (EPA 8270C																
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4 U	4 U	4.1 U	4.2 U	4.2 U	4.1 U	4.3 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4 U	4 U	4.1 U	4.2 U	4.2 U	4.1 U	4.3 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylpheno	ug/L	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ethe	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylpheno	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ethe	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylpheno[5]	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	5 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.5 U	0.5 U	0.51 U	0.52 U	0.52 U	0.52 U	0.53 U	0.5 U	0.5 U	0.5 U	1700000	11000	2560	--

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

Class	Analyte	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark

Notes:

FDB = Field decontamination blank

B = The analyte was detected in the method blank at a concentration that is significant relative to the sample result.

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ND = Not detected

NA = Not analyzed

DUP = Duplicate

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

[6] Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination procedures.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)															
PCB 1	2-MoCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000633 U	0.000600 U	0.000612 U	0.000630 U	0.000620 U	0.000648 U	0.000678 U	0.000614 U	0.000630 U	0.000625 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000621	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000586	0.000605	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.00108	0.000600 U	0.000612 U	0.000630 U	0.000620 U	0.00111	0.00119	0.000614 U	0.000630 U	0.000625 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000553	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000632	0.000673	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000809	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000795	0.000872	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000553	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000573	0.000609	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000876	0.000600 U	0.000612 U	0.000630 U	0.000620 U	0.000743	0.000813	0.000614 U	0.000630 U	0.000625 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.00109	0.000500 U	0.000661	0.000525 U	0.000516 U	0.000865	0.000952	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.00141	0.000500 U	0.000543	0.000525 U	0.000516 U	0.00128	0.00143	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000632	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000650	0.000728	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000633 U	0.000600 U	0.000612 U	0.000630 U	0.000620 U	0.000648 U	0.000678 U	0.000614 U	0.000630 U	0.000625 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00141	0.000999 U	0.00155	0.00105 U	0.00103 U	0.00108 U	0.00113 U	0.00102 U	0.00105 U	0.00104 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.00241	0.000500 U	0.00821	0.00128	0.000516 U	0.00151	0.00181	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000527 U	0.000500 U	0.000868	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-	ug/L	0.000791 U	0.000750 U	0.000765 U	0.000788 U	0.000775 U	0.000810 U	0.000847 U	0.000768 U	0.000788 U	0.000781 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00160	0.000500 U	0.00450	0.000686	0.000516 U	0.00110	0.00132	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000698	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000568	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000904	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 107/124	2,3,3',4'-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00284	0.000500 U	0.00579	0.00127	0.000516 U	0.00197	0.00217	0.000512 U	0.000658	0.000521 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.00215	0.000500 U	0.00324	0.000726	0.000516 U	0.00116	0.00129	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.001050 U	0.000999 U	0.00216	0.00105 U	0.00103 U	0.00108 U	0.00113 U	0.00102 U	0.00105 U	0.00104 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00793	0.000500 U	0.0323	0.00463	0.000550	0.00523 [6]	0.00591 [6]	0.00147	0.00181	0.000521 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.00101	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.00213	0.000500 U	0.00880	0.00125	0.000516 U	0.00150	0.00168	0.000512 U	0.000603	0.000521 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000884	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.00191	0.000510 U	0.00887	0.00116	0.000527 U	0.00150	0.00175	0.000522 U	0.000572	0.000531 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000596	0.000500 U	0.00248	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.00149	0.000500 U	0.00823	0.00113	0.000516 U	0.00105	0.00117	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000527 U	0.000500 U	0.00163	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000896	0.000500 U	0.00412	0.000576	0.000516 U	0.000631	0.000696	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00495	0.000500 U	0.0260	0.00345	0.000516 U	0.00374 [6]	0.00416 [6]	0.00119	0.00143	0.000521 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00688	0.000600 U	0.0423	0.00559	0.000659	0.00460 [6]	0.00528 [6]	0.00166	0.00145	0.000625 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000702	0.000500 U	0.00214	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000727	0.000500 U	0.00315	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 164	2,3,3',4',5,6-HxCB	ug/L	0.000527 U	0.000500 U	0.00243	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.000914	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.00292	0.000500 U	0.0133	0.00176	0.000516 U	0.00211 [6]	0.00245 [6]	0.000703	0.000697	0.000521 U	--	--	--
PCB 171/173	2,2',3,3',4,4'-6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000809	0.000500 U	0.00494	0.000636	0.000516 U	0.000608	0.000699	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000527 U	0.000500 U	0.00177	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.00256	0.000500 U	0.0137	0.00182	0.000516 U	0.00180 [6]	0.00208 [6]	0.000589	0.000644	0.000521 U	--	--	--
PCB 175	2,2',3,3',4,5,6-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000527 U	0.000500 U	0.00152	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.00146	0.000500 U	0.00736	0.000977	0.000516 U	0.00104	0.00119	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000527 U	0.000500 U	0.00163	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000811	0.000500 U	0.00393	0.000525 U	0.000516 U	0.000580	0.000661	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 180/193	**2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB**	**ug/L**	**0.00629**	**0.000500 U**	**0.0301**	**0.00408**	**0.000516 U**	**0.00423** [6]	**0.00496** [6]	**0.00151**	**0.00145**	**0.000521 U**	**--**	**--**	**--**
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.00195	0.000500 U	0.0121	0.00158	0.000516 U	0.00130	0.00157	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.00288	0.000500 U	0.0132	0.00173	0.000516 U	0.00197 [6]	0.00232 [6]	0.000610	0.000681	0.000521 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000572	0.000500 U	0.00235	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000527 U	0.000500 U	0.000557	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.00113	0.000500 U	0.00268	0.000525 U	0.000516 U	0.000582	0.000684	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000527 U	0.000500 U	0.00151	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000738 U	0.000700 U	0.00187	0.000735 U	0.000723 U	0.000756 U	0.000790 U	0.000717 U	0.000735 U	0.000729 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00264 U	0.00250 U	0.00255 U	0.00263 U	0.00258 U	0.00270 U	0.00282 U	0.00256 U	0.00263 U	0.00260 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.00115	0.000500 U	0.00263	0.000525 U	0.000516 U	0.000680	0.000769	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000678	0.000500 U	0.00215	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000527 U	0.00500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000527 U	0.000500 U	0.000510 U	0.000525 U	0.000516 U	0.000540 U	0.000565 U	0.000512 U	0.000525 U	0.000521 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.00307	ND	ND	ND	ND	0.00312	0.00334	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00456	ND	0.00120	ND	ND	0.00411	0.00453	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.0120	ND	0.0242	0.00395	ND	0.00573 [7]	0.00715 [7]	ND	0.000658	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.0282	ND	0.147	0.0178	0.00121	0.0183 [7]	0.0206 [7]	0.00431	0.00586	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.0202	ND	0.106	0.0126	ND	0.0136	0.0159	0.00341	0.00348	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	0.00295	ND	0.0108	ND	ND	0.00126	0.00145	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0710**	ND	**0.290**	**0.0343**	**0.00121**	**0.0461** [6]	**0.0531** [6]	**0.00773**	**0.0100**	ND	0.000064	0.034000	0.014000

Outfall Basin 52
2007 Stormwater Grab Samples
Sample Location: AAE519

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071155 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071163 9/30/2007	Event 2 DUP FO071164 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071261 10/16/2007	Event 3 DUP FO071265 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071389 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Notes:															

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB = Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed
DUP = duplicate
[1]IUPAC = International Union of Pure and Applied Chemistry.
[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).
[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.
[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.
[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.
[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 detection in the FDB.
= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.
bold = Concentration exceeds DEQ's SLV.

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

Class	Analyte	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	28	NA	35	NA	30	NA	56	--	--	--	--
	pH	units	7	NA	6.9	NA	7.3	NA	6.2	--	--	--	5.5 - 9.0
	Temperature	Deg. C	13.4	NA	13.6	NA	12.5	NA	8	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	46	2 U	15	2 U	10	2 U	20	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**1.22**	0.1 U	**1.18**	0.1 U	**0.8**	0.1 U	**1.19**	0.14	0.045	150	--
	Cadmium	ug/L	**0.22**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.18**	--	5	0.094	--
	Chromium	ug/L	2.69	0.4 U	1.14	0.4 U	0.83	0.4 U	1.42	--	100	--	--
	Copper	ug/L	**15.9**	0.2 U	**9.91**	0.2 U	**5.66**	0.2 U	**8.58**	--	1300	2.7	100
	Lead	ug/L	**9.01**	0.1 U	**3.34**	0.1 U	**1.97**	0.1 U	**4.05**	--	15	0.54	400
	Mercury[5]	ug/L	0.017	0.002 U	0.013	0.002 U	0.0062	0.002 U	0.0078	0.146	2	0.77	--
	Nickel	ug/L	2.41	0.2 U	1.54	0.2 U	1.14	0.2 U	1.88	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**127**	8.76	**109**	2.42	**80.3**	0.6	**174**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.101	0.0194 U	0.0222	0.0196 U	0.0194 U	0.0194 U	0.0196 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0388 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0253	--	0.2	--	--
	Anthracene	ug/L	**0.252**	0.0194 U	0.0774	0.0196 U	0.054	0.0194 U	0.0587	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.375**	0.00971 U	**0.0378**	0.0098 U	**0.0772**	0.00971 U	**0.0315**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.164**	0.00971 U	0.0147	0.0098 U	**0.0388**	0.00971 U	0.0168	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.314**	0.00971 U	**0.0477**	0.0098 U	**0.0827**	0.00971 U	**0.0441**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.157	0.0194 U	0.0196 U	0.0196 U	0.0267	0.0194 U	0.0196 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.236**	0.00971 U	**0.0287**	0.0098 U	**0.0527**	0.00971 U	**0.0249**	0.018	0.2	--	--
	Chrysene	ug/L	**0.749**	0.00971 U	**0.0941**	0.0098 U	**0.109**	0.00971 U	**0.0756**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	**0.0358**	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0098 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**4.27**	0.0194 U	**0.333**	0.0196 U	**0.321**	0.0194 U	**0.35**	140	0.2	--	--
	Fluorene	ug/L	0.109	0.0194 U	0.0294 U	0.0196 U	0.0194 U	0.0194 U	0.0218	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.0892**	0.00971 U	0.0114	0.0098 U	**0.0246**	0.00971 U	0.0117	0.018	0.092	--	--
	Naphthalene	ug/L	0.0884	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0652	--	0.2	620	--
	Phenanthrene	ug/L	**1.95**	0.0194 U	0.0968	0.0196 U	0.0377	0.0194 U	0.128	--	0.2	--	--
	Pyrene	ug/L	**1.91**	0.0194 U	0.186	0.0196 U	0.146	0.0194 U	0.15	4000	0.2	--	--
	Total PAHs	ug/L	10.80	ND	0.95	ND	0.97	ND	1.00	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.23**	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.62**	0.2 U	**0.48**	0.2 U	**0.34**	0.2 U	**0.27**	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.21**	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

Class	Analyte	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Naphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	**0.65**	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	**0.45**	0.2 U	**0.33**	0.2 U	**0.25**	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	2.16	ND	0.81	ND	0.59	ND	0.27	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.19	0.971 U	0.98 U	0.98 U	0.518 J	0.971 U	**4.67**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.552 J	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.98 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	**4.37**	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	1.11	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.42	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	1.6	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.98 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1.06	0.971 U	0.518 J	0.98 U	0.971 U	0.971 U	1.46	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.99 U	1 U	1.1 U	1 U	1 U	1 U	**2.4**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.31	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	**3.7** B	0.54 B	0.26	0.2 U	0.2 U	0.2 U	1.2	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.99 U	1 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1	0.2 U	0.72	0.2 U	0.35	0.2 U	1.5	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4 U	4 U	4.1 U	4 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4 U	4 U	4.1 U	4 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.99 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	0.99 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5 U	5 U	5.2 U	5 U	5 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	5 U	5 U	5.2 U	5 U	5 U	5 U	5 U	--	11000	8.6	--

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

Class	Analyte	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.99 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	0.99 U	1 U	1.1 U	1 U	**1.4**	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.5 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.5 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB = Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not detected

NA = Not analyzed

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000664 B	0.000600 U	0.000634 U	0.000614 U	0.000607 U	0.000625 U	0.000591 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000526	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.00104	0.000600 U	0.000634 U	0.000614 U	0.000607 U	0.000625 U	0.000591 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000636	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000672	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000873	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000689	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000603 U	0.000600 U	0.000634 U	0.000614 U	0.000607 U	0.000625 U	0.000591 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.00118	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000591	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.00216	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.00110	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.00159	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000680	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000603 U	0.000600 U	0.000634 U	0.000614 U	0.000607 U	0.000625 U	0.000591 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00101 U	0.000999 U	0.00106 U	0.00102 U	0.00101 U	0.00104 U	0.000985 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000556	0.000500 U	0.00120	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000754 U	0.000750 U	0.000793 U	0.000768 U	0.000759 U	0.000781 U	0.000739 U	--	--	--

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000503 U	0.000500 U	0.000655	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000716	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00127	0.000500 U	0.000874	0.000512 U	0.000506 U	0.000521 U	0.000667	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000994	0.000500 U	0.000539	0.000512 U	0.000506 U	0.000521 U	0.000538	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00101 U	0.000999 U	0.00106 U	0.00102 U	0.00101 U	0.00104 U	0.000985 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00109	0.000500 U	0.00385	0.00147	0.000506 U	0.000521 U	0.000599	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000880	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000513 U	0.000510 U	0.00100	0.000522 U	0.000516 U	0.000531 U	0.000502 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000825	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000632	0.000500 U	0.00283	0.00119	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5,6-HxCB	ug/L	0.000846	0.000600 U	0.00438	0.00166	0.000607 U	0.000625 U	0.000591 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000503 U	0.000500 U	0.00159	0.000703	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.00113	0.000589	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000503 U	0.000500 U	0.000682	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000674	0.000500 U	0.00348	0.00151	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.00107	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.00139	0.000610	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--

Outfall Basin 52A
2007 Stormwater Grab Samples
Sample Location: AAE397

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071159 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071262 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071390 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071585 12/14/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000704 U	0.000700 U	0.000740 U	0.000717 U	0.000709 U	0.000729 U	0.000690 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00251 U	0.00250 U	0.00264 U	0.00256 U	0.00253 U	0.00260 U	0.00246 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000503 U	0.000500 U	0.000528 U	0.000512 U	0.000506 U	0.000521 U	0.000493 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.000664	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.00375	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00621	ND	ND	ND	ND	ND	0.00178	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00354	ND	0.00326	ND	ND	ND	0.00120	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00256	ND	0.0138 [7]	0.00431	ND	ND	0.000599	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000674	ND	0.00934 [7]	0.00341	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0174** [6]	ND	**0.0264** [7]	**0.00773**	ND	ND	**0.00359**	0.000064	0.034000	0.014000

Notes:
MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB = Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.
ug/L = Micrograms per liter.
NA = Not analyzed
ND = Not detected.
[1]IUPAC = International Union of Pure and Applied Chemistry.
[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).
[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.
[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.
[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values a
[6] The detection of PCB congener 11 is not significant relative to the total PCB concentration.
[7] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 detection in the FDB.
= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.
bold = Concentration exceeds DEQ's SLV.

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

Class	Analyte	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements											
	Conductivity	umhos/cm	NA	NA	56	NA	NA	--	--	--	--
	pH	units	NA	NA	6.7	NA	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	NA	NA	6.8	NA	NA	--	--	--	--
Total Organic Carbon (EPA 415.1)											
	TOC	mg/L	5.01	NA	1.68	3.43	3.38	--	--	--	--
Total Suspended Solids (SM 2540D)											
	TSS	mg/L	41	2 U	91	52	52	--	--	--	130
Total Metals (EPA 200.8)											
	Arsenic	ug/L	**0.63**	0.10 U	**0.83**	**0.65**	**0.65**	0.14	0.045	150	--
	Cadmium	ug/L	**0.14**	0.10 U	**0.19**	**0.16**	**0.17**	--	5	0.094	--
	Chromium	ug/L	2.79	0.40 U	6.00	3.57	3.53	--	100	--	--
	Copper	ug/L	**9.92**	0.20 U	**12.5**	**10.6**	**10.7**	--	1300	2.7	100
	Lead	ug/L	**14.6**	0.10 U	**24.9**	**18.8**	**18.9**	--	15	0.54	400
	Manganese	ug/L	**105**	0.10 U	**193**	**109**	**111**	100	50	120	--
	Mercury[5]	ug/L	0.0124	0.002 U	0.022	0.022	0.021	0.146	2	0.77	--
	Nickel	ug/L	1.87	0.20 U	3.17	2.1	2.15	4600	730	16	--
	Silver	ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	**59.7**	0.50 U	**78.3**	**65.9**	**66.5**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM											
	Acenaphthene	ug/L	0.0190 U	0.0190 U	0.0381 U	0.0196 U	0.0196 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0382	0.0190 U	0.0381 U	0.0196 U	0.0196 U	--	0.2	--	--
	Anthracene	ug/L	0.0227	0.0190 U	0.0381 U	0.0196 U	0.0196 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.0240**	0.0195 U	**0.0697**	**0.0191**	**0.0221**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0224**	0.0195 U	**0.0683**	**0.0182**	**0.02**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0357**	0.0195 U	**0.103**	**0.024**	**0.0259**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0272	0.0195 U	0.0942	0.0311	0.0321	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0202**	0.0190 U	**0.0543**	0.0175	**0.0206**	0.018	0.2	--	--
	Chrysene	ug/L	**0.0402**	0.0195 U	**0.119**	**0.0357**	**0.041**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.0952 U	0.0195 U	0.019 U	0.0098 U	0.0098 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0899	0.0195 U	**0.222**	0.074	0.088	140	0.2	--	--
	Fluorene	ug/L	0.0268	0.0190 U	0.0381 U	0.0196 U	0.0196 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0160	0.0195 U	**0.0523**	0.0165	**0.0191**	0.018	0.092	--	--
	Naphthalene	ug/L	0.129	0.0190 U	0.0381 U	0.0196 U	0.0196 U	--	0.2	620	--
	Phenanthrene	ug/L	0.107	0.0190 U	0.129	0.0429	0.0522	--	0.2	--	--
	Pyrene	ug/L	0.0667	0.0190 U	0.132	0.0559	0.0701	4000	0.2	--	--
	Total PAHs	ug/L	0.6660	ND	1.0438	0.3349	0.3911	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C											
	Acenaphthene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	--	0.2	--	--

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

Class	Analyte	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Anthracene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.2	--	--
	Chrysene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.20 U	0.20 U	0.20	0.20 U	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	--	0.2	620	--
	Phenanthrene	ug/L	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	--	0.2	--	--
	Pyrene	ug/L	0.20	0.20 U	**0.22**	0.20 U	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	0.20	ND	0.42	ND	ND	--	--	--	--
Phthalates (EPA 8270-SIM)											
	Bis(2-ethylhexyl)phthalate	ug/L	**3.43** [6]	1.38	**2.86**	**4.06** B	**40** B	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.952 U	0.952 U	1.90 U	0.98 U	0.98 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.952 U	0.952 U	1.90 U	0.98 U	0.98 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.952 U	0.952 U	1.90 U	0.98 U	0.98 U	--	1500	3	--
	Diethylphthalate	ug/L	0.952 U	0.952 U	1.90 U	0.98 U	0.98 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.952 U	0.952 U	1.90 U	0.98 U	0.98 U	1100000	370000	3	--
Phthalates (EPA 8270C)											
	Bis(2-ethylhexyl)phthalate	ug/L	**2.9**	1.0 U	**2.3**	**6.1**	**5.1**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.46	0.20 U	0.35 B	0.2 U	0.2 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.22	0.20 U	0.19 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.40	0.20 U	0.19 U	0.2 U	0.2 U	1100000	370000	3	--
Polychlorinated Biphenyl Congeners (PCBs) (EPA 8082)											
	Aroclor 1016/1242[7]	ug/L	0.050 U	0.025 U	0.059	0.025 U	0.025 U	--	0.994	0.053	--
	Aroclor 1221	ug/L	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U	--	0.034	0.28	--
	Aroclor 1232	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	0.034	0.58	--
	Aroclor 1248	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	0.034	0.081	--
	Aroclor 1254	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	0.034	0.033	--
	Aroclor 1260	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	0.034	94	--
	Aroclor 1262	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	--	--	--
	Aroclor 1268	ug/L	0.050 U	0.025 U	0.025 U	0.025 U	0.025 U	--	--	--	--
	Total PCBs	ug/L	ND	ND	**0.059**	ND	ND	0.000064			

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

Class	Analyte	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)											
	1,2,4-Trichlorobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.0 U	4.0 U	3.8 U	4 U	3.9 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.0 U	4.0 U	3.8 U	4 U	3.9 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.50	0.50 U	0.47 U	0.5 U	0.49 U	--	180	13	--
	2-Nitroaniline	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.20 U	0.20 U	0.47 U	0.5 U	0.49 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.0 U	2.0 U	1.9 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.99 U	1 U	0.94 U	0.99 U	0.98 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.0 U	2.0 U	1.9 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	--	--	--	--
	4-Chloroaniline	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	--	180	--	--
	4-Nitroaniline	ug/L	0.99 U	0.99 U	0.94 U	0.99 U	0.98 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.0 U	2.0 U	1.9 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5.0 U	5.0 U	4.7 U	5 U	4.9 U	--	150000	42	--
	Benzyl alcohol	ug/L	5.0 U	5.0 U	4.7 U	5 U	4.9 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.99 U	0.99 U	0.94 U	0.99 U	0.98 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	960	71	--	--

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

Class	Analyte	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Nitrobenzene	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.20 U	0.20 U	0.19 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	0.99 U	0.99 U	0.94 U	0.99 U	0.98 U	3	0.56	15	--
	Phenol	ug/L	0.50 U	0.50 U	0.47 U	0.5 U	0.49 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not detected

NA = Not analyzed

DUP = Duplicate

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than 10 times the FDB concentration, the result reported for the sample is considered biased high.

(7) SLV = Sum of SLVs for Aroclor 1016 and Aroclor 1242

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)										
PCB 1	2-MoCB	ug/L	0.000481 U	0.000483 U	0.0000325	0.000518 U	0.000495 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000481 U	0.000483 U	0.0000311 B	0.000518 U	0.000495 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000481 U	0.000483 U	0.000225 B	0.000518 U	0.000495 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000481 U	0.000483 U	0.000122	0.000518 U	0.000495 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000481 U	0.000483 U	0.0000244	0.000518 U	0.000495 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000543	0.000483 U	0.000566 B	0.000518 U	0.000495 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000481 U	0.000483 U	0.0000371	0.000518 U	0.000495 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000578 U	0.000579 U	0.000936 B	0.000622 U	0.000594 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000481 U	0.000483 U	0.0000656	0.000518 U	0.000495 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000481 U	0.000483 U	0.000430	0.000518 U	0.000495 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000481 U	0.000483 U	0.000476	0.000518 U	0.000495 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000481 U	0.000483 U	0.000447	0.000518 U	0.000495 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000800	0.000483 U	0.000932	0.000598	0.000594	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000481 U	0.000483 U	0.000110	0.000518 U	0.000495 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.00143	0.000579 U	0.00175	0.00114	0.00110	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000807	0.000483 U	0.000982	0.000669	0.000661	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000557	0.000483 U	0.000678	0.000518 U	0.000495 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000481 U	0.000483 U	0.000116	0.000518 U	0.000495 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000481 U	0.000483 U	0.000284	0.000518 U	0.000495 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000481 U	0.000483 U	0.0000742	0.000518 U	0.000495 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.00110	0.000483 U	0.00138	0.000835	0.000792	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000481 U	0.000483 U	0.000323	0.000518 U	0.000495 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000481 U	0.000483 U	0.0000603 B	0.000518 U	0.000495 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000481 U	0.000483 U	0.000534	0.000518 U	0.000495 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000692	0.000483 U	0.000811	0.000644	0.000627	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000481 U	0.000483 U	0.000346	0.000518 U	0.000495 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000522	0.000518 U	0.000495 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000988	0.000579 U	0.00127	0.000943	0.000896	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000481 U	0.000483 U	0.000269	0.000518 U	0.000495 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000906	0.000518 U	0.000495 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000481 U	0.000483 U	0.000294	0.000518 U	0.000495 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000566	0.000483 U	0.000693	0.000518 U	0.000495 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000481 U	0.000483 U	0.000172	0.000518 U	0.000495 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.00100	0.000483 U	0.00132	0.000926	0.000864	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000481 U	0.000483 U	0.0000215	0.000518 U	0.000495 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000481 U	0.000483 U	0.000423	0.000518 U	0.000495 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000481 U	0.000483 U	0.000122	0.000518 U	0.000495 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000481 U	0.000483 U	0.000247	0.000518 U	0.000495 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.00143	0.000483 U	0.00174	0.00136	0.00133	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000395	0.000518 U	0.000495 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000485	0.000483 U	0.000587	0.000518 U	0.000495 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000709	0.000483 U	0.000823	0.000679	0.000666	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000379	0.000518 U	0.000495 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000198	0.000518 U	0.000495 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000481 U	0.000483 U	0.000103	0.000518 U	0.000495 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000481 U	0.000483 U	0.000166	0.000518 U	0.000495 U	--	--	--

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000675	0.000518 U	0.000495 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000481 U	0.000483 U	0.000327	0.000518 U	0.000495 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000578 U	0.000579 U	0.000240	0.000622 U	0.000594 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.000963 U	0.000965 U	0.000900	0.00104 U	0.000990 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000481 U	0.000483 U	0.000172	0.000518 U	0.000495 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000800	0.000483 U	0.00118 B	0.000932	0.000872	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000481 U	0.000483 U	0.000203 B	0.000518 U	0.000495 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000722 U	0.000724 U	0.0000784 U	0.000778 U	0.000742 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000605	0.000483 U	0.000879 B	0.000712	0.000656	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000481 U	0.000483 U	0.000532	0.000518 U	0.000495 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000481 U	0.000483 U	0.000553	0.000518 U	0.000495 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000559	0.000518 U	0.000495 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000481 U	0.000483 U	0.0000821	0.000518 U	0.000495 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00109	0.000483 U	0.00150 B	0.00125	0.00120	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.00481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000344	0.000518 U	0.000495 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000869	0.000483 U	0.00116 B	0.000867	0.000852	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000223	0.000518 U	0.000495 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000963 U	0.000965 U	0.000246 B	0.00104 U	0.000990 U	--	--	--
PCB 129/138/163	**2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB**	**ug/L**	**0.00107**	**0.000483 U**	**0.00151 B**	**0.00134**	**0.00130**	**--**	**--**	**--**
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000899 B	0.000518 U	0.000495 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000222	0.000518 U	0.000495 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.000497 B	0.000518 U	0.000495 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000729 B	0.000518 U	0.000495 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000481 U	0.000492 U	0.000348 B	0.000529 U	0.000505 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.000143 B	0.000518 U	0.000495 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000481 U	0.000483 U	0.0000828	0.000518 U	0.000495 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000392 U	0.000518 U	0.000495 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.000246 B	0.000518 U	0.000495 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000571 B	0.000518 U	0.000495 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.000166 B	0.000518 U	0.000495 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000651	0.000483 U	0.000967 B	0.000846	0.000832	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000736	0.000579 U	0.00106 B	0.000908	0.000904	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000481 U	0.000483 U	0.000202 B	0.000518 U	0.000495 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000481 U	0.000483 U	0.000158 B	0.000518 U	0.000495 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000953 B	0.000518 U	0.000495 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000623 B	0.000518 U	0.000495 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000481 U	0.000483 U	0.000292 B	0.000518 U	0.000495 U	--	--	--

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000911 B	0.000518 U	0.000495 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000623 B	0.000518 U	0.000495 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.000300 B	0.000518 U	0.000495 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000376 B	0.000518 U	0.000495 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000481 U	0.000483 U	0.000155 B	0.000518 U	0.000495 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000646 B	0.000518 U	0.000495 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.000127 B	0.000518 U	0.000495 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000541	0.000483 U	0.000723 B	0.000625	0.000632	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.000238 B	0.000518 U	0.000495 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.000533 B	0.000518 U	0.000495 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000629 B	0.000518 U	0.000495 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000481 U	0.000483 U	0.000345 B	0.000518 U	0.000495 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000481 U	0.000483 U	0.0000687 B	0.000518 U	0.000495 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000674 U	0.000676 U	0.000182 B	0.000726 U	0.000693 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00241 U	0.00241 U	0.0000674 B	0.00259 U	0.00247 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000481 U	0.000483 U	0.00124 B	0.000518 U	0.000495 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000481 U	0.000483 U	0.0000986 B	0.000518 U	0.000495 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000481 U	0.000483 U	0.000459	0.000518 U	0.000495 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000481 U	0.000483 U	0.000719 B	0.000518 U	0.000495 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000481 U	0.000483 U	0.0000196 U	0.000518 U	0.000495 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000481 U	0.000483 U	0.00187	0.000518 U	0.000495 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000481 U	0.000483 U	0.000165	0.000518 U	0.000495 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000481 U	0.000483 U	0.000850	0.000518 U	0.000495 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000568 B	0.000483 U	0.000465	0.000518 U	0.000495 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	0.0000636 (7)	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.000543	ND	0.00241 (7)	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.004694	ND	0.00815 (7)	0.00324	0.00315	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.00587	ND	0.00948	0.00455	0.00439	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.007654	ND	0.00807 (7)	0.00376	0.00358	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.002457	ND	0.00603 (7)	0.00309	0.00303	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000541	ND	0.00269 (7)	0.000625	0.000632	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	0.00318 (7)	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	0.00288	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	0.000568 (6)	ND	0.000465	ND	ND	--	--	--
	Total PCBs	ug/L	**0.022327** (6)	ND	**0.0434** (7)	**0.0153**	**0.0148**	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
-- = No JSCS screening level available.
B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.
U = The analyte was not detected above the reported sample quantification limit.
EMPC = Estimated Maximum Possible Concentration

Outfall Basin 53
2008 Stormwater Composite Samples
Sample Location: AAC614

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080172 1/26/2008	Event 1 FDB FO080171 1/26/2008	Event 2 FO080264 2/6/2008	Event 3 FO080409 3/12/2008	Event 3 DUP FO080414 3/12/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]

ng/L = Nanograms per liter.

ND = Not detected.

NA = Not analyzed

DUP = Duplicate

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on detection of PCB congener 209 in the laboratory method blank.

[7] Total homolog and total congener values are biased significantly high based on detection of numerous PCB congeners in the laboratory method blank.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

Class	Analyte	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements												
	Conductivity	umhos/cm	129	NA	189	229	NA	321	--	--	--	--
	pH	units	7.4	NA	7.3	6.8	NA	7	--	--	--	5.5 - 9.0
	Temperature	Deg. C	10.8	NA	9.2	9.7	NA	13.2	--	--	--	--
Total Suspended Solids (SM 2540D)												
	TSS	mg/L	106	2 U	85	246	2 U	40	--	--	--	130
Total Metals (EPA 200.8)												
	Arsenic	ug/L	**3.07**	0.10 U	**2.41**	**24.60**	0.10 U	**2.17**	0.14	0.045	150	--
	Cadmium	ug/L	**0.56**	0.10 U	**0.41**	**0.38**	0.10 U	**0.19**	--	5	0.094	--
	Chromium	ug/L	73.6	0.4 U	52.9	46.1	0.4 U	17.3	--	100	--	--
	Copper	ug/L	**29.8**	0.2 U	**25.7**	**20.2**	0.2 U	**18.3**	--	1300	2.7	100
	Lead	ug/L	**33.6**	0.1 U	**25.1**	**10.7**	0.1 U	**7.63**	--	15	0.54	400
	Mercury[5]	ug/L	0.0440	0.0020 U	0.0310	0.0403	0.0020 U	0.0220	0.146	2	0.77	--
	Nickel	ug/L	7.39	0.2 U	6.07	6.21	0.2 U	4.11	4600	730	16	--
	Silver	ug/L	**0.17**	0.10 U	0.16 U	0.10 U	0.10 U	0.10 U	--	100	0.12	--
	Zinc	ug/L	**516**	0.5 U	**453**	**655**	0.91	**289**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)												
	Acenaphthene	ug/L	0.0565	0.0192 U	0.056	**0.591**	0.0192 U	0.13	990	0.2	520	--
	Acenaphthylene	ug/L	0.02 U	0.0192 U	0.0194 U	0.0194 U	0.0192 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.02 U	0.0192 U	0.0577	0.0194 U	0.0192 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.0162	0.00962 U	**0.0482**	0.0194 U	0.00962 U	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.0131	0.00962 U	**0.0543**	0.0194 U	0.00962 U	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0238**	0.00962 U	**0.0838**	0.0194 U	0.00962 U	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0207	0.0192 U	0.0804	0.0388 U	0.0192 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0164	0.00962 U	**0.0627**	0.0194 U	0.00962 U	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.0398**	0.00962 U	**0.117**	**0.0195**	0.00962 U	**0.0228**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.01 U	0.00962 U	0.0291 U	0.0194 U	0.00962 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0909	0.0192 U	**0.204**	0.112	0.0192 U	0.0583 U	140	0.2	--	--
	Fluorene	ug/L	0.02 U	0.0192 U	0.0194 U	0.0779	0.0192 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0113	0.00962 U	**0.0399**	0.0194 U	0.00962 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.02 U	0.0192 U	0.0583 U	0.0309	0.0192 U	0.105	--	0.2	620	--
	Phenanthrene	ug/L	0.0572	0.0192 U	0.0912	0.128	0.0192 U	0.0582	--	0.2	--	--
	Pyrene	ug/L	0.0735	0.0192 U	0.124	0.0739	0.0192 U	0.083	4000	0.2	--	--
	Total PAHs	ug/L	0.4194	ND	1.0192	1.0332	ND	0.399	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)												
	Acenaphthene	ug/L	0.21 U	0.20 U	0.41 U	**0.46**	0.20 U	**0.21**	990	0.2	520	--
	Acenaphthylene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	**0.22**	--	0.2	--	--
	Anthracene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

Class	Analyte	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzo(g,h,i)perylene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Chrysene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.21 U	0.20 U	0.41 U	**0.63**	0.20 U	0.20 U	140	0.2	--	--
	Fluorene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	**0.53**	--	0.2	620	--
	Phenanthrene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	**0.25**	--	0.2	--	--
	Pyrene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	1.09	ND	1.21	--	--	--	--
Phthalates (EPA 8270-SIM)												
	Bis(2-ethylhexyl)phthalate	ug/L	0.618 [6]	1.12	2.07	0.585 J	0.962 U	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	1 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1 U	0.962 U	0.707 J	0.971 U	0.962 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	1 U	0.962 U	0.971 U	0.971 U	0.962 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	1 U	0.962 U	0.971 U	0.971 U	0.962 U	0.806 J	1100000	370000	3	--
Phthalates (EPA 8270C)												
	Bis(2-ethylhexyl)phthalate	ug/L	1.1 U	0.97 U	2.1 U	1 U	1 U	1	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.26	0.20 U	0.41 U	0.20 U	0.20 U	0.44	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.21 U	0.20 U	0.41 U	0.21	0.20 U	0.26	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	1500	3	--
	Diethylphthalate	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21 U	0.20 U	0.41 U	0.34	0.20 U	0.89	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)												
	1,2,4-Trichlorobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.2 U	3.9 U	8.1 U	4.0 U	4.0 U	4.0 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.2 U	3.9 U	8.1 U	4.0 U	4.0 U	4.0 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	150	30	2000	--

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

Class	Analyte	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	2-Methylnaphthalene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.51	--	180	13	--
	2-Nitroaniline	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	110	--	--
	2-Nitrophenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.1 U	2.0 U	4.1 U	2.0 U	2.0 U	2.0 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.1 U	0.97 U	2.1 U	1 U	1 U	0.99 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.1 U	2.0 U	4.1 U	2.0 U	2.0 U	2.0 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	0.50 U	--	--	--	--
	4-Chloroaniline	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	0.06	--	--
	4-Methylphenol	ug/L	0.52 U	0.49 U	1.10 U	0.50 U	0.50 U	1.00	--	180	--	--
	4-Nitroaniline	ug/L	1.1 U	0.97 U	2.1 U	1 U	1 U	0.99 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.1 U	2.0 U	4.1 U	2.0 U	2.0 U	2.0 U	--	290	150	--
	Benzoic acid	ug/L	5.2 U	4.9 U	11.0 U	5.0 U	5.0 U	5.0	--	150000	42	--
	Benzyl alcohol	ug/L	5.2 U	4.9 U	11.0 U	5.0 U	5.0 U	5.0 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.1 U	0.97 U	2.1 U	1 U	1 U	0.99 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	3.3	4.8	540	--
	Isophorone	ug/L	0.21 U	0.20 U	0.41 U	0.27	0.20 U	0.20 U	960	71	--	--
	Nitrobenzene	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.21 U	0.20 U	0.41 U	0.20 U	0.20 U	0.20 U	6	14	210	--
	Pentachlorophenol	ug/L	1.1 U	0.97 U	2.1 U	1 U	1 U	0.99 U	3	0.56	15	--
	Phenol	ug/L	0.52 U	0.49 U	1.10 U	0.59	0.50 U	1.40	1700000	11000	2560	--

Notes:

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit.

FDB= Field decontamination blank

NA = Not analyzed.

ND = Not detected.

U = The analyte was not detected above the reported sample quantification limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

Class	Analyte	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oa Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[5]Mercury analysis by WPCL SOP M-10.01.

[6] Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination proced

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)											
PCB 1	2-MoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000598 U	0.000583 U	0.000613 U	0.000601 U	0.000673 EMPC	0.000602 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000562	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000747	0.000486 U	0.000528	0.000895	0.000501 U	0.000502 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.00206	0.000583 U	0.00161	0.00137	0.000602 U	0.000912	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000665	0.000486 U	0.000656	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000706	0.000486 U	0.000616	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000498 U	0.000486 U	0.000512 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.00121	0.000486 U	0.000955	0.000800	0.000501 U	0.000604	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000716	0.000501 U	0.000502 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000823	0.000486 U	0.000674	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.00138	0.000486 U	0.00118	0.000829	0.000501 U	0.000659	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000570	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.00199	0.000583 U	0.00145	0.00169	0.000602 U	0.00107	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.00122	0.000486 U	0.000927	0.00131	0.000501 U	0.000693	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.00224	0.000486 U	0.00165	0.00257	0.000501 U	0.00130	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.00104	0.000486 U	0.00107	0.000591	0.000501 U	0.000502 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000546	0.000486 U	0.000577	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-	ug/L	0.00330	0.000486 U	0.00326	0.00219	0.000501 U	0.00143	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000941	0.000486 U	0.000815	0.000651	0.000501 U	0.000502 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.00191	0.000486 U	0.00190	0.00122	0.000501 U	0.000800	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000870	0.000486 U	0.000687	0.000971	0.000501 U	0.000742	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000598 U	0.000583 U	0.000613 U	0.000601 U	0.000602 U	0.000602 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00208	0.000971 U	0.00160	0.00148	0.00100 U	0.00103	--	--	--

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.00266	0.000486 U	0.00196	0.00226	0.000501 U	0.00128	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000525	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000748 U	0.000728 U	0.000766 U	0.000751 U	0.000752 U	0.000753 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00219	0.000486 U	0.00163	0.00218	0.000501 U	0.00197	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.00128	0.000486 U	0.000773	0.000995	0.000501 U	0.000599	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.00113	0.000486 U	0.000991	0.000624	0.000501 U	0.000573	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00376	0.000486 U	0.00267	0.00299	0.000501 U	0.00260	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.00232	0.000486 U	0.00187	0.00144	0.000501 U	0.00112	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000498 U	0.000971 U	0.00102 U	0.00100 U	0.00100 U	0.00100 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00337	0.000486 U	0.00246	0.00207	0.000501 U	0.00256	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.00135	0.000486 U	0.000987	0.000769	0.000501 U	0.00103	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000801	0.000495 U	0.000608	0.000560	0.000511 U	0.000886	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000504	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00232	0.000486 U	0.00180	0.00153	0.000501 U	0.00184	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00202	0.000583 U	0.00160	0.00138	0.000602 U	0.00140	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000553	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000532	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000559	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000513	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00108	0.000486 U	0.000749	0.000533	0.000501 U	0.00105	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--

Outfall Basin 53A
2008 Stormwater Grab Samples
Sample Location: AAA170

IUPAC Number[1]	Chemical Name	Units	Event 1 FO080314 2/29/2008	Event 1 FDB FO080320 2/29/2008	Event 2 FO080438 3/20/2008	Event 3 FO080507 4/4/2008	Event 3 FDB FO080514 4/4/2008	Event 4 FO080652 5/13/2008	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000620	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000630	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000698 U	0.000680 U	0.000715 U	0.000701 U	0.000702 U	0.000703 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00249 U	0.00243 U	0.00255 U	0.00250 U	0.00251 U	0.00251 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000498 U	0.000486 U	0.000511 U	0.000501 U	0.000501 U	0.000502 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.000562	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	0.00621	ND	0.00504	0.00378	ND	0.00152	--	--	--
	Total Tetrachlorobiphenyls	ug/L	0.0151	ND	0.0128	0.0111	ND	0.00595	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.0168	ND	0.0122	0.0129	ND	0.00992	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.0104	ND	0.00745	0.00631	ND	0.00772	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.00281	ND	0.000749	0.000533	ND	0.00273	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0519**	ND	**0.0382**	**0.0346**	ND	**0.0278**	0.000064	0.034	0.014

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
EMPC = Estimated maximum possible concentration.
ND = Not detected.
NA = Not analyzed
U = The analyte was not detected above the reported sample quantification limit.
-- = No JSCS screening level available.
ug/L = Micrograms per liter.

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-1

2007 Stormwater Grab Samples

Sample Location: AAM107

Class	Analyte	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements														
	Conductivity	umhos/cm	32	NA	17	NA	30	NA	29	NA	--	--	--	--
	pH	units	6.6	NA	6.6	NA	6.6	NA	6.9	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	14.1	NA	13	NA	12	NA	11.7	NA	--	--	--	--
Total Suspended Solids (SM 2540D)														
	TSS	mg/L	71	2 U	33	2 U	56	2 U	48	2 U	--	--	--	130
Total Metals (EPA 200.8)														
	Arsenic	ug/L	**0.7**	0.1 U	**0.52**	0.1 U	**1.22**	0.1 U	**0.9**	0.1 U	0.14	0.045	150	--
	Cadmium	ug/L	**0.42**	0.1 U	**0.21**	0.1 U	**0.71**	0.1 U	**0.37**	0.1 U	--	5	0.094	--
	Chromium	ug/L	1.72	0.4 U	1.29	0.4 U	4.26	0.4 U	2.88	0.4 U	--	100	--	--
	Copper	ug/L	**16.5**	0.2 U	**6.89**	0.2 U	**21.9**	0.2 U	**10.9**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**3.95**	0.1 U	**3.71**	0.1 U	**17.5**	0.1 U	**7.83**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.0084	0.002 U	0.0041	0.002 U	0.011	0.002 U	0.0076	0.002 U	0.146	2	0.77	--
	Nickel	ug/L	2.05	0.2 U	1.07	0.2 U	3.26	0.2 U	2.74	0.2 U	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**211**	8.76	**119**	1.49	**281**	2.42	**168**	0.6	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)														
	Acenaphthene	ug/L	0.0196 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0294 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0294 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.0196 U	0.00971 U	0.00971 U	0.0099 U	0.0196 U	0.0098 U	0.0128	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.0098 U	0.00971 U	0.00971 U	0.0099 U	0.016	0.0098 U	0.0114	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.0174	0.00971 U	0.0168	0.0099 U	**0.0484**	0.0098 U	0.0179	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0299	0.0194 U	0.0407	0.0198 U	0.0431	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0108	0.00971 U	0.0108	0.0099 U	**0.0208**	0.0098 U	0.0123	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.0263**	0.00971 U	**0.0253**	0.0099 U	**0.0512**	0.0098 U	**0.0244**	0.00971 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.0098 U	0.00971 U	0.00971 U	0.0099 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.118 U	0.0194 U	0.0446	0.0198 U	0.16	0.0196 U	0.0688	0.0194 U	140	0.2	--	--
	Fluorene	ug/L	0.0196 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0098 U	0.00971 U	0.0098	0.0099 U	0.0149	0.0098 U	0.00971 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0312	0.0194 U	0.0194 U	0.0198 U	0.0332	0.0196 U	0.0312	0.0194 U	--	0.2	620	--
	Phenanthrene	ug/L	0.0327	0.0194 U	0.036	0.0198 U	0.0571	0.0196 U	0.0312	0.0194 U	--	0.2	--	--
	Pyrene	ug/L	0.0784 U	0.0194 U	0.0474	0.0198 U	0.0869	0.0196 U	0.0384	0.0194 U	4000	0.2	--	--
	Total PAHs	ug/L	0.15	ND	0.23	ND	0.53	ND	0.25	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)														
	Acenaphthene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	**0.26**	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	**0.22**	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAH	ug/L	ND	ND	ND	ND	0.22	ND	0.26	ND	--	--	--	--

Outfall Basin M-1

2007 Stormwater Grab Samples

Sample Location: AAM107

Class	Analyte	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Phthalates (EPA 8270-SIM)														
	Bis(2-ethylhexyl)phthalate	ug/L	**8.42**	0.971 U	1.24	0.99 U	**2.32**	0.98 U	0.816 J	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.98 U	0.971 U	0.971 U	0.99 U	2.79	0.98 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.98 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.47 U	0.971 U	1.94 U	0.99 U	2.94 U	0.98 U	1.94 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.98 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.98 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)														
	Bis(2-ethylhexyl)phthalate	ug/L	**3.6**	1 U	1.7	1.1 U	**4.8**	1 U	**2.6**	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.39	0.2 U	0.23	0.21 U	0.4	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.55 B	0.54 B	0.24 [6]	0.24	0.3	0.2 U	0.2 U	0.2 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.1 U	1 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.21 U	0.2 U	0.4	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)														
	1,2,4-Trichlorobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.2 U	4 U	4 U	4.2 U	4.1 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.2 U	4 U	4 U	4.2 U	4.1 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.1 U	1 U	0.99 U	1.1 U	1.1 U	1 U	0.99 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	1.1 U	1 U	0.99 U	1.1 U	1.1 U	1 U	0.99 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5.2 U	5 U	5 U	5.2 U	5.1 U	5 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	5.2 U	5 U	5 U	5.2 U	5.1 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.1 U	1 U	0.99 U	1.1 U	1.1 U	1 U	0.99 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.24	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--

Outfall Basin M-1

2007 Stormwater Grab Samples

Sample Location: AAM107

Class	Analyte	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	N-Nitrosodi-n-propylamine	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	1.1 U	1 U	0.99 U	1.1 U	1.1 U	1 U	0.99 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.52 U	0.5 U	0.5 U	0.52 U	0.51 U	0.5 U	0.74	0.5 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method dection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not Detected

NA= Not analyzed

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

[6] Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination procedures.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-1
2007 Stormwater Grab Samples
Sample Location: AAM107

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)													
PCB 1	2-MoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000625 U	0.000600 U	0.000591 U	0.000620 U	0.000663 U	0.000614 U	0.000707 U	0.000625 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000625 U	0.000600 U	0.000591 U	0.000620 U	0.000663 U	0.000614 U	0.000707 U	0.000625 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000625 U	0.000600 U	0.000591 U	0.000620 U	0.000663 U	0.000614 U	0.000707 U	0.000625 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000650	0.000500 U	0.000682	0.000516 U	0.000552 U	0.000512 U	0.00134	0.000521 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000625 U	0.000600 U	0.000591 U	0.000620 U	0.000663 U	0.000614 U	0.000707 U	0.000625 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00104 U	0.000999 U	0.000985 U	0.00103 U	0.00110 U	0.00102 U	0.00118 U	0.001040 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.00125	0.000521 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000598	0.000500 U	0.000495	0.000516 U	0.000552 U	0.000512 U	0.000678	0.000521 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000781 U	0.000750 U	0.000739 U	0.000775 U	0.000829 U	0.000768 U	0.000884 U	0.000781 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00224	0.000500 U	0.00220	0.000516 U	0.00131	0.000512 U	0.00627	0.000521 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--

Outfall Basin M-1
2007 Stormwater Grab Samples
Sample Location: AAM107

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00124	0.000500 U	0.00244	0.000516 U	0.000876	0.000512 U	0.00333	0.000521 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00104 U	0.000999 U	0.000985 U	0.00103 U	0.00110 U	0.00102 U	0.00263	0.001040 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00238	0.000500 U	0.00340	0.000550	0.00248	0.00147	0.00768	0.000521 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.00126	0.000521 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.00152	0.000500 U	0.00260	0.000516 U	0.00166	0.000512 U	0.00649	0.000521 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000725	0.000521 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.00117	0.000510 U	0.00145	0.000527 U	0.00101	0.000522 U	0.00409	0.000531 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000565	0.000516 U	0.000552 U	0.000512 U	0.00178	0.000521 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.00103	0.000521 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000781	0.000516 U	0.000552 U	0.000512 U	0.00113	0.000521 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000736	0.000516 U	0.000552 U	0.000512 U	0.00158	0.000521 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00290	0.000500 U	0.00435	0.000516 U	0.00277	0.00119	0.0107	0.000521 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00171	0.000600 U	0.00233	0.000659	0.00157	0.00166	0.00494	0.000625 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000843	0.000521 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.00104	0.000521 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000629	0.000500 U	0.000699	0.000516 U	0.000552 U	0.000703	0.00167	0.000521 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000563	0.000500 U	0.000806	0.000516 U	0.000552 U	0.000589	0.00131	0.000521 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000827	0.000521 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00118	0.000500 U	0.00123	0.000516 U	0.00096	0.00151	0.00252	0.000521 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000520 U	0.000500 U	0.000575	0.000516 U	0.000552 U	0.000512 U	0.00103	0.000521 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000583	0.000500 U	0.000671	0.000516 U	0.000552 U	0.000610	0.00125	0.000521 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000729 U	0.000700 U	0.000689 U	0.000723 U	0.000773 U	0.000717 U	0.000825 U	0.000729 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00260 U	0.00250 U	0.00246 U	0.00258 U	0.00276 U	0.00256 U	0.00295 U	0.002600 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000520 U	0.000500 U	0.000492 U	0.000516 U	0.000552 U	0.000512 U	0.000589 U	0.000521 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00472	ND	0.00582 [6]	ND	0.00219 [7]	ND	0.0129	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00968	ND	0.0162	0.00121	0.009490	0.00431	0.0459	ND	--	--	--

Outfall Basin M-1
2007 Stormwater Grab Samples
Sample Location: AAM107

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071150 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071162 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071258 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071397 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
	Total Heptachlorobiphenyls	ug/L	0.00295	ND	0.00398	ND	0.000956	0.00341	0.00861	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0174**	ND	**0.0260** [6]	**0.00121**	**0.012600** [7]	**0.00773**	**0.0674**	ND	0.000064	0.034000	0.014000

Notes:
MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA= Not analyzed
[1]IUPAC = International Union of Pure and Applied Chemistry.
[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).
[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.
[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.
[6]Total homolog and total congener values are biased slightly high based on PCB congener 153/168 detection in the FDB.
[7] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, and 180/193 detection in the FDB.
= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.
bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

Class	Analyte	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	48	NA	51	NA	163	NA	170	--	--	--	--
	pH	units	6.3	NA	6.5	NA	6.6	NA	6.6	--	--	--	5.5 - 9.0
	Temperature	Deg. C	14.3	NA	12.3	NA	12.9	NA	8.1	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	30	2 U	120	2 U	104	2 U	48	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**0.94**	0.1 U	**6.15**	0.1 U	**1.65**	0.1 U	**1.33**	0.14	0.045	150	--
	Cadmium	ug/L	**0.29**	0.1 U	**0.49**	0.1 U	**0.26**	0.1 U	**0.28**	--	5	0.094	--
	Chromium	ug/L	1.67	0.4 U	3.9	0.4 U	1.75	0.4 U	1.93	--	100	--	--
	Copper	ug/L	**15.4**	0.2 U	**25.8**	0.2 U	**10.3**	0.2 U	**9.13**	--	1300	2.7	100
	Lead	ug/L	**3.27**	0.1 U	**7.13**	0.1 U	**3.66**	0.1 U	**3.81**	--	15	0.54	400
	Mercury[5]	ug/L	0.013	0.002 U	0.019	0.002 U	0.0037	0.002 U	0.0066	0.146	2	0.77	--
	Nickel	ug/L	2.28	0.2 U	3.33	0.2 U	2.14	0.2 U	2.53	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	**0.5**	0.1 U	0.1 U	0.1 U	**0.13**	--	100	0.12	--
	Zinc	ug/L	**145**	8.76	**210**	2.42	**86**	0.6	**107**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0388 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0291 U	0.0196 U	0.0388 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0388 U	0.0194 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.00973	0.00971 U	0.0136	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.0106	0.00971 U	0.0173	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.018	0.00971 U	**0.0284**	0.0098 U	0.00971 U	0.00971 U	0.0142	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0247	0.0194 U	0.0367	0.0196 U	0.0194 U	0.0194 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0101	0.00971 U	**0.0196**	0.0098 U	0.00971 U	0.00971 U	0.0105	0.018	0.2	--	--
	Chrysene	ug/L	**0.023**	0.00971 U	**0.0372**	0.0098 U	0.011	0.00971 U	**0.0229**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0476	0.0194 U	0.097	0.0196 U	0.0388 U	0.0194 U	0.0515	140	0.2	--	--
	Fluorene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0388 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.00971 U	0.00971 U	0.0163	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0194 U	0.0194 U	0.0461	0.0196 U	0.0388 U	0.0194 U	0.0366	--	0.2	620	--
	Phenanthrene	ug/L	0.039	0.0194 U	0.0534	0.0196 U	0.0388 U	0.0194 U	0.0541	--	0.2	--	--
	Pyrene	ug/L	0.061	0.0194 U	0.0726	0.0196 U	0.0301	0.0194 U	0.0585	4000	0.2	--	--
	Total PAHs	ug/L	0.24	ND	0.44	ND	0.04	ND	0.25	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.2	--	--
	Anthracene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.2	--	--
	Chrysene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	140	0.2	--	--
	Fluorene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.018	0.092	--	--

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

Class	Analyte	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Naphthalene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.2	620	--
	Phenanthrene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.2	--	--
	Pyrene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.03	0.971 U	1.07	0.98 U	0.971 U	0.971 U	0.569 J	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.971 U	0.971 U	0.793 J	0.98 U	0.971 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.3	1 U	1.9	1 U	1 U	1 U	1.1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.41	0.2 U	2.1	0.2 U	0.2 U	0.2 U	0.22 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.47 B	0.54 B	0.35	0.2 U	0.2 U	0.2 U	0.24	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.1 U	1 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	1500	3	--
	Diethylphthalate	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.25	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.2 U	4 U	4.1 U	4 U	4 U	4 U	4.3 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.2 U	4 U	4.1 U	4 U	4 U	4 U	4.3 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	--	180	13	--
	2-Nitroaniline	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	110	--	--
	2-Nitrophenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2.2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2.2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	--	--	--	--
	4-Chloroaniline	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	--	180	--	--
	4-Nitroaniline	ug/L	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2.2 U	--	290	150	--
	Benzoic acid	ug/L	5.2 U	5 U	5.2 U	5 U	5 U	5 U	5.4 U	--	150000	42	--

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

Class	Analyte	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzyl alcohol	ug/L	5.2 U	5 U	5.2 U	5 U	5 U	5 U	5.4 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	3.3	4.8	540	--
	Isophorone	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	960	71	--	--
	Nitrobenzene	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	6	14	210	--
	Pentachlorophenol	ug/L	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	3	0.56	15	--
	Phenol	ug/L	0.52 U	0.5 U	0.52 U	0.5 U	0.5 U	0.5 U	0.54 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method dection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Non detect

NA = Not analyzed

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000655 U	0.000600 U	0.000619 U	0.000614 U	0.000645 U	0.000625 U	0.000618 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000655 U	0.000600 U	0.000619 U	0.000614 U	0.000645 U	0.000625 U	0.000618 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000655 U	0.000600 U	0.000619 U	0.000614 U	0.000645 U	0.000625 U	0.000618 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000655 U	0.000600 U	0.000619 U	0.000614 U	0.000645 U	0.000625 U	0.000618 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00109 U	0.000999 U	0.00103 U	0.00102 U	0.00108 U	0.00104 U	0.00103 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.00271	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000819 U	0.000750 U	0.000774 U	0.000768 U	0.000806 U	0.000781 U	0.000773 U	--	--	--

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.00169	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.00133	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000815	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00109 U	0.000999 U	0.00103 U	0.00102 U	0.00108 U	0.00104 U	0.00103 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00863	0.000500 U	0.00086	0.00147	0.000538 U	0.000521 U	0.000608	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.00196	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.00254	0.000510 U	0.000526 U	0.000522 U	0.000548 U	0.000531 U	0.000526 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000824	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.00178	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000890	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.00634	0.000500 U	0.00069	0.00119	0.000538 U	0.000521 U	0.000663	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00925	0.000600 U	0.000748	0.00166	0.000645 U	0.000625 U	0.000618 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000596	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000765	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.00323	0.000500 U	0.000516 U	0.000703	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000962	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.00248	0.000500 U	0.000516 U	0.000589	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.00143	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000861	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.00715	0.000500 U	0.000663	0.00151	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.00230	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.00277	0.000500 U	0.000516 U	0.000610	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000651	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.00107	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--

Outfall Basin M-2
2007 Stormwater Grab Samples
Sample Location: AAM169

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071148 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071253 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071393 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071584 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000764 U	0.000700 U	0.000722 U	0.000717 U	0.000753 U	0.000729 U	0.000722 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00273 U	0.00250 U	0.00258 U	0.00256 U	0.00269 U	0.00260 U	0.00258 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000783	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000654	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000546 U	0.000500 U	0.000516 U	0.000512 U	0.000538 U	0.000521 U	0.000515 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00654	ND	ND	ND	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.0336	ND	0.00229 [6]	0.00431	ND	ND	0.00127	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.0218	ND	0.000663 [6]	0.00341	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	0.00250	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.0645**	ND	**0.002950** [6]	**0.00773**	ND	ND	**0.00127**	0.000064	0.034000	0.014000

Notes:
MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB=Field decontamination blank
-- = No JSCS screening level available.

U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, and 180/193 detection in the FDB.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

Class	Analyte	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements														
	Conductivity	umhos/cm	31	NA	14	NA	27	NA	31	NA	--	--	--	--
	pH	units	6.5	NA	6.5	NA	6.7	NA	6.3	NA	--	--	--	5.5 - 9.0
	Temperature	Deg. C	13.8	NA	12.9	NA	12	NA	12.8	NA	--	--	--	--
Total Suspended Solids (SM 2540D)														
	TSS	mg/L	16	2 U	6	2 U	40	2 U	8	2 U	--	--	--	130
Total Metals (EPA 200.8)														
	Arsenic	ug/L	**0.7**	0.1 U	**0.58**	0.1 U	**0.63**	0.1 U	**0.63**	0.1 U	0.14	0.045	150	--
	Cadmium	ug/L	**0.25**	0.1 U	**0.13**	0.1 U	**0.29**	0.1 U	**0.23**	0.1 U	--	5	0.094	--
	Chromium	ug/L	1.6	0.4 U	0.95	0.4 U	3.78	0.4 U	1.58	0.4 U	--	100	--	--
	Copper	ug/L	**15.6**	0.2 U	**10.2**	0.2 U	**20.1**	0.2 U	**21.7**	0.2 U	--	1300	2.7	100
	Lead	ug/L	**2.56**	0.1 U	**1.68**	0.1 U	**6.91**	0.1 U	**3.75**	0.1 U	--	15	0.54	400
	Mercury[5]	ug/L	0.0073	0.002 U	0.0038	0.002 U	0.0083	0.002 U	0.0035	0.002 U	0.146	2	0.77	--
	Nickel	ug/L	1.88	0.2 U	0.93	0.2 U	2.55	0.2 U	1.76	0.2 U	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**874**	8.76	**78.1**	1.49	**139**	2.42	**99.1**	0.6	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)														
	Acenaphthene	ug/L	0.0198 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0198 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0198 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.0104	0.00971 U	0.00971 U	0.0099 U	0.0134	0.0098 U	0.00971 U	0.00971 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.0099 U	0.00971 U	0.00971 U	0.0099 U	0.0148	0.0098 U	0.00971 U	0.00971 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.0142	0.00971 U	0.00971 U	0.0099 U	**0.0247**	0.0098 U	0.00971 U	0.00971 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0198 U	0.0194 U	0.0194 U	0.0198 U	0.0577	0.0196 U	0.0194 U	0.0194 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0099 U	0.00971 U	0.00971 U	0.0099 U	0.0143	0.0098 U	0.00971 U	0.00971 U	0.018	0.2	--	--
	Chrysene	ug/L	**0.0192**	0.00971 U	0.0108	0.0099 U	**0.0361**	0.0098 U	0.0126	0.00971 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.0099 U	0.00971 U	0.00971 U	0.0099 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0379	0.0194 U	0.0245	0.0198 U	0.101	0.0196 U	0.031	0.0194 U	140	0.2	--	--
	Fluorene	ug/L	0.0198 U	0.0194 U	0.0194 U	0.0198 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.0099 U	0.00971 U	0.00971 U	0.0099 U	0.0128	0.0098 U	0.00971 U	0.00971 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.0519	0.0194 U	0.0291	0.0198 U	0.0587	0.0196 U	0.0283	0.0194 U	--	0.2	620	--
	Phenanthrene	ug/L	0.0474	0.0194 U	0.0458	0.0198 U	0.0836	0.0196 U	0.023	0.0194 U	--	0.2	--	--
	Pyrene	ug/L	0.0585	0.0194 U	0.0275	0.0198 U	0.0736	0.0196 U	0.0276	0.0194 U	4000	0.2	--	--
	Total PAHs	ug/L	0.24	ND	0.14	ND	0.49	ND	0.12	ND	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)														
	Acenaphthene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

Class	Analyte	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Phthalates (EPA 8270-SIM)														
	Bis(2-ethylhexyl)phthalate	ug/L	1.09	0.971 U	1.44	0.99 U	1.59	0.98 U	0.887 J	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.99 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.99 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.99 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.99 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.99 U	0.971 U	0.971 U	0.99 U	0.98 U	0.98 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)														
	Bis(2-ethylhexyl)phthalate	ug/L	1.3	1 U	1.1 U	1.1 U	**2.6**	1 U	1 U	1 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.31	0.2 U	0.21 U	0.21 U	0.27	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.45 B	0.54 B	0.25 [6]	0.24	0.27	0.2 U	0.2 U	0.2 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1.2 U	1 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)														
	1,2,4-Trichlorobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4.5 U	4 U	4.1 U	4.2 U	4.4 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4.5 U	4 U	4.1 U	4.2 U	4.4 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2.3 U	2 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2.3 U	2 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.56 U	0.5 U	0.51 U	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2.3 U	2 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5.6 U	5 U	5.1 U	5.2 U	5.4 U	5 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	5.6 U	5 U	5.1 U	5.2 U	5.4 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

Class	Analyte	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Isophorone	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.23 U	0.2 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	2.1	0.5 U	0.67	0.52 U	0.54 U	0.5 U	0.5 U	0.5 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method dection limit. This data is of limited reliability.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not detected

NA = Not analyzed

(1) JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

(2) The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

(3) The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

(4) The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

(5) Mercury analysis by WPCL SOP M-10.01.

(6) Because this analyte was detected in the associated FDB, and the concentration in the sample is less than or equal to the FDB concentration, the result reported for the sample appears to be related to field decontamination procedures.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)													
PCB 1	2-MoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000649 U	0.000600 U	0.000608 U	0.000620 U	0.000642 U	0.000614 U	0.000633 U	0.000625 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000649 U	0.000600 U	0.000608 U	0.000620 U	0.000642 U	0.000614 U	0.000633 U	0.000625 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000649 U	0.000600 U	0.000608 U	0.000620 U	0.000642 U	0.000614 U	0.000633 U	0.000625 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000649 U	0.000600 U	0.000608 U	0.000620 U	0.000642 U	0.000614 U	0.000633 U	0.000625 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00108 U	0.000999 U	0.00101 U	0.00103 U	0.00107 U	0.00102 U	0.00105 U	0.001040 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.00108 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000541	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000811 U	0.000750 U	0.000760 U	0.000775 U	0.000802 U	0.000768 U	0.000791 U	0.000781 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00108 U	0.000999 U	0.00101 U	0.00103 U	0.00107 U	0.00102 U	0.00105 U	0.001040 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00135	0.000500 U	0.000506 U	0.000550	0.00104	0.00147	0.000527 U	0.000521 U	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000552 U	0.000510 U	0.000517 U	0.000527 U	0.000546 U	0.000522 U	0.000538 U	0.000531 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000880	0.000500 U	0.000506 U	0.000516 U	0.000550	0.00119	0.000527 U	0.000521 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00133	0.000600 U	0.000608 U	0.000659	0.000760	0.00166	0.000633 U	0.000625 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000703	0.000527 U	0.000521 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000589	0.000527 U	0.000521 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000825	0.000500 U	0.000506 U	0.000516 U	0.000863	0.00151	0.000527 U	0.000521 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000610	0.000527 U	0.000521 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000757 U	0.000700 U	0.000709 U	0.000723 U	0.000749 U	0.000717 U	0.000738 U	0.000729 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00270 U	0.00250 U	0.00253 U	0.00258 U	0.00267 U	0.00256 U	0.00264 U	0.002600 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--

Outfall Basin M-3
2007 Stormwater Grab Samples
Sample Location: AAQ004

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071149 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071161 9/30/2007	Event 2 FDB FO071165 9/30/2007	Event 3 FO071259 10/16/2007	Event 3 FDB FO071264 10/16/2007	Event 4 FO071392 11/16/2007	Event 4 FDB FO071394 11/16/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000541 U	0.000500 U	0.000506 U	0.000516 U	0.000535 U	0.000512 U	0.000527 U	0.000521 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.000541	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00356	ND	ND	0.00121 [6]	0.00235 [6]	0.00431	ND	ND	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000825	ND	ND	ND	0.000863 [6]	0.00341	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.00492**	ND	ND	**0.00121** [6]	**0.003210** [6]	**0.00773**	ND	ND	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quanitfication limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed

[1] IUPAC - International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, and 180/193 detection in the FDB.

: Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

Class	Analyte	Units	Event 1 FO071151 9/28/2007	Event FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	21	NA	24	NA	20	NA	45	--	--	--	--
	pH	units	6.6	NA	6.8	NA	7.2	NA	6.8	--	--	--	5.5 - 9.0
	Temperature	Deg. C	12.5	NA	12	NA	11.8	NA	6.8	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	11	2 U	22	2 U	78	2 U	22	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**0.67**	0.1 U	**0.85**	0.1 U	**1.18**	0.1 U	**0.89**	0.14	0.045	150	--
	Cadmium	ug/L	**0.36**	0.1 U	**0.32**	0.1 U	**0.36**	0.1 U	**0.42**	--	5	0.094	--
	Chromium	ug/L	1.82	0.4 U	2.66	0.4 U	6.09	0.4 U	2.8	--	100	--	--
	Copper	ug/L	**39.3**	0.2 U	**34.2**	0.2 U	**35.3**	0.2 U	**24.1**	--	1300	2.7	100
	Lead	ug/L	**5.1**	0.1 U	**10.3**	0.1 U	**22.2**	0.1 U	**8.04**	--	15	0.54	400
	Mercury[5]	ug/L	0.021	0.002 U	0.01	0.002 U	0.017	0.002 U	0.0082	0.146	2	0.77	--
	Nickel	ug/L	2.69	0.2 U	3.07	0.2 U	5.89	0.2 U	4.39	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**468**	8.76	**359**	2.42	**266**	0.6	**287**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0291 U	0.0194 U	0.0196 U	0.0196 U	0.192	0.0194 U	0.0724	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0348	0.0194 U	0.0227	--	0.2	--	--
	Anthracene	ug/L	0.0546	0.0194 U	0.042	0.0196 U	**0.423**	0.0194 U	0.171	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.0712**	0.00971 U	**0.22**	0.0098 U	**1.88**	0.00971 U	**0.508**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.0689**	0.00971 U	**0.203**	0.0098 U	**1.54**	0.00971 U	**0.396**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0922**	0.00971 U	**0.239**	0.0098 U	**1.6**	0.00971 U	**0.431**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.114	0.0194 U	0.187	0.0196 U	**0.967**	0.0194 U	**0.213**	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	**0.0877**	0.00971 U	**0.255**	0.0098 U	**1.64**	0.00971 U	**0.402**	0.018	0.2	--	--
	Chrysene	ug/L	**0.132**	0.00971 U	**0.381**	0.0098 U	**2.63**	0.00971 U	**0.739**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.0152	0.00971 U	**0.0413**	0.0098 U	**0.359**	0.00971 U	**0.0847**	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.435**	0.0194 U	**0.82**	0.0196 U	**4.21**	0.0194 U	**1.88**	140	0.2	--	--
	Fluorene	ug/L	0.0403	0.0194 U	0.0196 U	0.0196 U	0.147	0.0194 U	0.0518	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	**0.0401**	0.00971 U	**0.116**	0.0098 U	**0.842**	0.00971 U	**0.202**	0.018	0.092	--	--
	Naphthalene	ug/L	0.0307	0.0194 U	0.0213	0.0196 U	0.126	0.0194 U	**0.345**	--	0.2	620	--
	Phenanthrene	ug/L	0.132	0.0194 U	**0.24**	0.0196 U	**1.95**	0.0194 U	**0.737**	--	0.2	--	--
	Pyrene	ug/L	**0.21**	0.0194 U	**0.553**	0.0196 U	**4.4**	0.0194 U	**1.14**	4000	0.2	--	--
	Total PAHs	ug/L	1.52	ND	3.32	ND	22.94	ND	7.40	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**0.27**	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**0.57**	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	**0.27**	0.2 U	**2.7**	0.2 U	**0.84**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	**0.22**	0.2 U	0.2 U	0.2 U	**2.2**	0.2 U	**0.6**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	**0.39**	0.2 U	**2.2**	0.2 U	**1**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	**0.23**	0.2 U	**1.4**	0.2 U	**0.47**	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**2.5**	0.2 U	**0.37**	0.018	0.2	--	--
	Chrysene	ug/L	**0.23**	0.2 U	**0.43**	0.2 U	**4.1**	0.2 U	**1.2**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**0.6**	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	**0.33**	0.2 U	**0.53**	0.2 U	**5.4**	0.2 U	**1.7**	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	5300	0.2	3.9	--

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

Class	Analyte	Units	Event 1 FO071151 9/28/2007	Event FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Indeno(1,2,3-cd)pyrene	ug/L	**0.23**	0.2 U	0.2 U	0.2 U	**1.6**	0.2 U	**0.57**	0.018	0.092	--	--
	Naphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	**0.3**	--	0.2	620	--
	Phenanthrene	ug/L	0.2 U	0.2 U	**0.25**	0.2 U	**2.6**	0.2 U	**0.91**	--	0.2	--	--
	Pyrene	ug/L	**0.32**	0.2 U	**0.6**	0.2 U	**6.3**	0.2 U	**1.8**	4000	0.2	--	--
	Total PAHs	ug/L	1.3	ND	2.7	ND	32.4	ND	9.8	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	1.07	0.971 U	1.81	0.98 U	**8.73**	0.971 U	0.86 J	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.98	1 U	**2.4**	1 U	**2.3**	1 U	1.3	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.33	0.2 U	0.3	0.2 U	0.21 U	0.2 U	0.29	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.51 B	0.54 B	0.27	0.2 U	0.21 U	0.2 U	0.23	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.98 U	1 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	3.9 U	4 U	4 U	4 U	4.1 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	3.9 U	4 U	4 U	4 U	4.1 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.98 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.49 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	0.98 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	--	290	150	--

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

Class	Analyte	Units	Event 1 FO071151 9/28/2007	Event FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzoic acid	ug/L	4.9 U	5 U	5 U	5 U	5.1 U	5 U	5 U	--	150000	42	--
	Benzyl alcohol	ug/L	4.9 U	5 U	5 U	5 U	5.1 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.98 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	0.98 U	1 U	1 U	1 U	1.1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.49 U	0.5 U	0.61	0.5 U	0.51 U	0.5 U	0.5 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit. This data is of limited reliability.

-- No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

NA = Not analyzed

ND = Not detected

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071151 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000593 U	0.000600 U	0.000630 U	0.000614 U	0.000857	0.000625 U	0.000590 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000593 U	0.000600 U	0.000630 U	0.000614 U	0.000603 U	0.000625 U	0.000590 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000593 U	0.000600 U	0.000630 U	0.000614 U	0.000603 U	0.000625 U	0.000590 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000717	0.000521 U	0.000492 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000593 U	0.000600 U	0.000630 U	0.000614 U	0.000603 U	0.000625 U	0.000590 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.000988 U	0.000999 U	0.00105 U	0.00102 U	0.00101 U	0.00104 U	0.000984 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000561	0.000512 U	0.00141	0.000521 U	0.000629	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071151 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000741 U	0.000750 U	0.000788 U	0.000768 U	0.000754 U	0.000781 U	0.000738 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.00101	0.000521 U	0.000492 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000571	0.000521 U	0.000492 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000750	0.000512 U	0.00167	0.000521 U	0.000790	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000598	0.000512 U	0.00129	0.000521 U	0.000625	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.000988 U	0.000999 U	0.00105 U	0.00102 U	0.00101 U	0.00104 U	0.000984 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.000694	0.000500 U	0.00173	0.00147	0.00370	0.000521 U	0.00150	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.00110	0.000521 U	0.000492 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000504 U	0.000510 U	0.000536 U	0.000522 U	0.000998	0.000531 U	0.000502 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000587	0.000521 U	0.000492 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 147/149	**2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB**	**ug/L**	**0.000494 U**	**0.000500 U**	**0.00102**	**0.00119**	**0.00257**	**0.000521 U**	**0.000857**	**--**	**--**	**--**
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000593 U	0.000600 U	0.00133	0.00166	0.00330	0.000625 U	0.00115	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000494 U	0.000500 U	0.000678	0.000703	0.00127	0.000521 U	0.000601	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000574	0.000589	0.00101	0.000521 U	0.000492 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000634	0.000521 U	0.000492 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.00142	0.00151	0.00270	0.000521 U	0.00114	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000956	0.000521 U	0.000492 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000576	0.000610	0.00117	0.000521 U	0.000492 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--

Outfall Basin S-1
2007 Stormwater Grab Samples
Sample Location: AAM131

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071151 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071255 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071399 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071587 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000620	0.000521 U	0.000492 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000692 U	0.000700 U	0.000735 U	0.000717 U	0.000704 U	0.000729 U	0.000688 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00247 U	0.00250 U	0.00263 U	0.00256 U	0.00251 U	0.00260 U	0.00246 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000620	0.000521 U	0.000492 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000494 U	0.000500 U	0.000525 U	0.000512 U	0.000503 U	0.000521 U	0.000492 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	0.000857	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	0.000717	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	ND	ND	0.00191	ND	0.00595	ND	0.00204	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.000694	ND	0.00408 [6]	0.00431	0.0123	ND	0.00351	--	--	--
	Total Heptachlorobiphenyls	ug/L	ND	ND	0.00325 [6]	0.00341	0.00775	ND	0.00174	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	0.00124	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.000694**	ND	**0.00924** [6]	**0.00773**	**0.0288**	ND	**0.00729**	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed

[1] IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 detection in the FDB.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

Class	Analyte	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	36	NA	25	NA	36	NA	83	--	--	--	--
	pH	units	6.4	NA	6.7	NA	7.1	NA	7.5	--	--	--	5.5 - 9.0
	Temperature	Deg. C	14.2	NA	11.8	NA	12.6	NA	5.9	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	11	2 U	58	2 U	6	2 U	15	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**0.8**	0.1 U	**0.55**	0.1 U	**0.44**	0.1 U	**0.39**	0.14	0.045	150	--
	Cadmium	ug/L	**0.32**	0.1 U	**0.37**	0.1 U	**0.19**	0.1 U	**0.24**	--	5	0.094	--
	Chromium	ug/L	3.9	0.4 U	2.97	0.4 U	1.38	0.4 U	4	--	100	--	--
	Copper	ug/L	**20.4**	0.2 U	**21**	0.2 U	**9.85**	0.2 U	**10.5**	--	1300	2.7	100
	Lead	ug/L	**2.66**	0.1 U	**5.8**	0.1 U	**1.85**	0.1 U	**1.55**	--	15	0.54	400
	Mercury[5]	ug/L	0.0061	0.002 U	0.0065	0.002 U	0.0032	0.002 U	0.0039	0.146	2	0.77	--
	Nickel	ug/L	2.66	0.2 U	2.37	0.2 U	1.41	0.2 U	1.47	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**231**	8.76	**209**	2.42	**152**	0.6	**512**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0196 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0223	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0196 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.0108	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0235**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.00971 U	0.00971 U	0.0116	0.0098 U	0.00971 U	0.00971 U	**0.025**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.0133	0.00971 U	0.0139	0.0098 U	0.00971 U	0.00971 U	**0.0344**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0194 U	0.0194 U	0.0201	0.0196 U	0.0194 U	0.0194 U	0.0315	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0105	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0256**	0.018	0.2	--	--
	Chrysene	ug/L	**0.0206**	0.00971 U	**0.0199**	0.0098 U	0.00971 U	0.00971 U	**0.0499**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	0.0098 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0505	0.0194 U	0.0588 U	0.0196 U	0.0291 U	0.0194 U	0.119	140	0.2	--	--
	Fluorene	ug/L	0.0194 U	0.0194 U	0.0196 U	0.0196 U	0.0194 U	0.0194 U	0.0196 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.00971 U	0.00971 U	0.0098 U	0.0098 U	0.00971 U	0.00971 U	**0.0188**	0.018	0.092	--	--
	Naphthalene	ug/L	0.0194 U	0.0194 U	0.0237	0.0196 U	0.0194 U	0.0194 U	0.06	--	0.2	620	--
	Phenanthrene	ug/L	0.0457	0.0194 U	0.0475	0.0196 U	0.0194 U	0.0194 U	0.102	--	0.2	--	--
	Pyrene	ug/L	0.0574	0.0194 U	0.0515	0.0196 U	0.0291 U	0.0194 U	0.0846	4000	0.2	--	--
	Total PAHs	ug/L	0.21	ND	0.19	ND	ND	ND	0.60	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

Class	Analyte	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Naphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	**8.08**	0.971 U	1.06	0.98 U	0.971 U	0.971 U	**2.24**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	2.24 J	0.971 U	0.664 J	0.98 U	0.971 U	0.971 U	1.17	1900	7300	3	--
	Di-n-butylphthalate	ug/L	2.91 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.98 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	2.42 J	0.971 U	1.91	0.98 U	0.971 U	0.971 U	**4.08**	--	1500	3	--
	Diethylphthalate	ug/L	2.91 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.98 U	44000	29000	3	--
	Dimethylphthalate	ug/L	2.91 U	0.971 U	0.98 U	0.98 U	0.971 U	0.971 U	0.675 J	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.98 U	1 U	**2.7**	1 U	0.99 U	1 U	**8.5**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	1.2	0.2 U	1	0.2 U	0.2 U	0.2 U	1.7	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.36 B	0.54 B	0.23	0.2 U	0.2 U	0.2 U	0.23	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.98 U	1 U	2.1	0.2 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.84	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	3.9 U	4 U	4.1 U	4 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	3.9 U	4 U	4.1 U	4 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	0.98 U	1 U	1.1 U	1 U	0.99 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.49 U	0.5 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.49 U	0.5 U	0.76	0.5 U	0.5 U	0.5 U	0.57	--	180	--	--
	4-Nitroaniline	ug/L	0.98 U	1 U	1.1 U	1 U	0.99 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	4.9 U	5 U	5.1 U	5 U	5 U	5 U	5 U	--	150000	42	--

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

Class	Analyte	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzyl alcohol	ug/L	4.9 U	5 U	5.1 U	5 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	0.98 U	1 U	1.1 U	1 U	0.99 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	0.98 U	1 U	1.1 U	1 U	0.99 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.49 U	0.5 U	0.97	0.5 U	0.5 U	0.5 U	1.1	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method dection limit.

-- = No JSCS screening level available.

ND = Not detected

NA = Not analyzed

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000603 U	0.000600 U	0.000640 U	0.000614 U	0.000591 U	0.000625 U	0.000595 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000603 U	0.000600 U	0.000640 U	0.000614 U	0.000591 U	0.000625 U	0.000595 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000603 U	0.000600 U	0.000640 U	0.000614 U	0.000591 U	0.000625 U	0.000595 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000603 U	0.000600 U	0.000640 U	0.000614 U	0.000591 U	0.000625 U	0.000595 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00100 U	0.000999 U	0.00107 U	0.00102 U	0.000986 U	0.00104 U	0.000992 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.00197	0.000512 U	0.000493 U	0.000521 U	0.000870	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000754 U	0.000750 U	0.000799 U	0.000768 U	0.000739 U	0.000781 U	0.000744 U	--	--	--

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.00108	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000502 U	0.000500 U	0.00104	0.000512 U	0.000493 U	0.000521 U	0.000556	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000660	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00100 U	0.000999 U	0.00107 U	0.00102 U	0.000986 U	0.00104 U	0.000992 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.000502 U	0.000500 U	0.00606	0.00147	0.000493 U	0.000521 U	0.00234	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.00143	0.000512 U	0.000493 U	0.000521 U	0.000553	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000512 U	0.000510 U	0.00189	0.000522 U	0.000503 U	0.000531 U	0.000709	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000567	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.00126	0.000512 U	0.000493 U	0.000521 U	0.000512	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000705	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.00465	0.00119	0.000493 U	0.000521 U	0.00158	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000603 U	0.000600 U	0.00700	0.00166	0.000591 U	0.000625 U	0.00251	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000562	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000502 U	0.000500 U	0.00271	0.000703	0.000493 U	0.000521 U	0.00107	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000796	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.00200 J	0.000589	0.000493 U	0.000521 U	0.000815	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.00117	0.000512 U	0.000493 U	0.000521 U	0.000501	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000700	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.00614	0.00151	0.000493 U	0.000521 U	0.00226	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.00196	0.000512 U	0.000493 U	0.000521 U	0.000709	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.00234	0.000610	0.000493 U	0.000521 U	0.000962	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000558	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--

Outfall Basin S-2
2007 Stormwater Grab Samples
Sample Location: AAP957

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071156 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071254 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071395 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071582 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000502 U	0.000500 U	0.00102	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000703 U	0.000700 U	0.000746 U	0.000717 U	0.000690 U	0.000729 U	0.000694 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00251 U	0.00250 U	0.00266 U	0.00256 U	0.00246 U	0.00260 U	0.00248 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000789	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000502 U	0.000500 U	0.000653	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000502 U	0.000500 U	0.000533 U	0.000512 U	0.000493 U	0.000521 U	0.000496 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	ND	ND	0.00475	ND	ND	ND	0.00143	--	--	--
	Total Hexachlorobiphenyls	ug/L	ND	ND	0.0241 [6]	0.004310	ND	ND	0.00820	--	--	--
	Total Heptachlorobiphenyls	ug/L	ND	ND	0.0184 [6]	0.003410	ND	ND	0.00632	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	0.00247	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	ND	ND	**0.0497** [6]	**0.00773**	ND	ND	**0.0159**	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed

[1] IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 detection in the FDB.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

Class	Analyte	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements														
	Conductivity	umhos/cm	47	NA	48	NA	38	NA	NA	73	--	--	--	--
	pH	units	6.6	NA	7	NA	7	NA	NA	8.7	--	--	--	5.5 - 9.0
	Temperature	Deg. C	13.8	NA	13.2	NA	12.1	NA	NA	7.4	--	--	--	--
Total Suspended Solids (SM 2540D)														
	TSS	mg/L	13	2 U	16	2 U	29	27	2 U	38	--	--	--	130
Total Metals (EPA 200.8)														
	Arsenic	ug/L	**0.77**	0.1 U	**0.87**	0.1 U	**0.73**	**0.73**	0.1 U	**1.01**	0.14	0.045	150	--
	Cadmium	ug/L	**0.25**	0.1 U	**0.19**	0.1 U	**0.21**	**0.2**	0.1 U	**0.24**	--	5	0.094	--
	Chromium	ug/L	2.17	0.4 U	2.07	0.4 U	2.91	2.87	0.4 U	3.56	--	100	--	--
	Copper	ug/L	**24.5**	0.2 U	**19.8**	0.2 U	**15.7**	**15.4**	0.2 U	**17.6**	--	1300	2.7	100
	Lead	ug/L	**3.11**	0.1 U	**3.28**	0.1 U	**5.79**	**5.63**	0.1 U	**4.87**	--	15	0.54	400
	Mercury[5]	ug/L	0.0094	0.002 U	0.0077	0.002 U	0.0075	0.0071	0.002 U	0.0072	0.146	2	0.77	--
	Nickel	ug/L	2.14	0.2 U	1.99	0.2 U	2.61	2.62	0.2 U	2.66	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**288**	8.76	**216**	2.42	**345**	**344**	0.6	**304**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)														
	Acenaphthene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0194 U	0.0291 U	0.0194 U	0.0196 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0243 U	0.0194 U	0.0194 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	0.0205	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0219	0.167	0.0194 U	0.0417	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	**0.0432**	**0.0518**	0.00971 U	**0.1**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	**0.0349**	**0.0426**	0.00971 U	**0.0901**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.0102	0.00971 U	0.00971 U	0.0098 U	**0.0305**	**0.0407**	0.00971 U	**0.093**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0258	0.0348	0.0194 U	0.0752	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	**0.0377**	**0.0432**	0.00971 U	**0.0985**	0.018	0.2	--	--
	Chrysene	ug/L	0.0163	0.00971 U	0.0159	0.0098 U	**0.0609**	**0.0798**	0.00971 U	**0.164**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	0.00971 U	0.0103	0.00971 U	**0.0233**	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.0603	0.0194 U	0.0388 U	0.0196 U	0.169	**0.206**	0.0194 U	**0.383**	140	0.2	--	--
	Fluorene	ug/L	0.0194 U	0.0194 U	0.0194 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	0.0196 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.00971 U	0.00971 U	0.00971 U	0.0098 U	**0.0185**	**0.0232**	0.00971 U	**0.0592**	0.018	0.092	--	--
	Naphthalene	ug/L	0.0194 U	0.0194 U	0.0291 U	0.0196 U	0.0194 U	0.0206	0.0194 U	0.039	--	0.2	620	--
	Phenanthrene	ug/L	0.0469	0.0194 U	0.0277	0.0196 U	0.107	0.179	0.0194 U	0.195	--	0.2	--	--
	Pyrene	ug/L	0.0638	0.0194 U	0.0408	0.0196 U	0.0972	0.135	0.0194 U	**0.237**	4000	0.2	--	--
	Total PAHs	ug/L	0.20	ND	0.08	ND	0.65	1.03	ND	1.62	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)														
	Acenaphthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	**0.2**	0.2 U	0.22 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**0.25**	**0.31**	0.2 U	**0.39**	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.018	0.092	--	--
	Naphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.2	620	--
	Phenanthrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	**0.24**	0.2 U	**0.29**	--	0.2	--	--
	Pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	**0.29**	**0.37**	0.2 U	**0.4**	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	ND	ND	0.5	1.1	ND	1.1	--	--	--	--

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

Class	Analyte	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Phthalates (EPA 8270-SIM)														
	Bis(2-ethylhexyl)phthalate	ug/L	0.770 J	0.971 U	1.01	0.98 U	0.971 U	0.588 J	0.971 U	**2.29**	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.565 J	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	0.687 J	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	0.98 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	0.98 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	0.98 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.971 U	0.98 U	0.971 U	0.971 U	0.971 U	0.98 U	1100000	370000	3	--
Phthalates (EPA 8270C)														
	Bis(2-ethylhexyl)phthalate	ug/L	1 U	1 U	1.1	1 U	1.1 U	1.6	1 U	1.8	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.75	0.2 U	0.43	0.2 U	0.21 U	0.29	0.2 U	0.8	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.28 B	0.54 B	0.22	0.2 U	0.21 U	0.2 U	0.2 U	0.38	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1 U	1 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	1500	3	--
	Diethylphthalate	ug/L	0.3	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.21	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)														
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4 U	4 U	4 U	4 U	4.1 U	4 U	4 U	4.3 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4 U	4 U	4 U	4 U	4.1 U	4 U	4 U	4.3 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	110	--	--
	2-Nitrophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	2.2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	2.2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	0.53 U	--	180	--	--
	4-Nitroaniline	ug/L	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2 U	2 U	2.1 U	2 U	2 U	2.2 U	--	290	150	--
	Benzoic acid	ug/L	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5.3 U	--	150000	42	--
	Benzyl alcohol	ug/L	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5.3 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	960	71	--	--

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

Class	Analyte	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.22 U	6	14	210	--
	Pentachlorophenol	ug/L	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	3	0.56	15	--
	Phenol	ug/L	0.92	0.5 U	0.5 U	0.5 U	0.51 U	0.5 U	0.5 U	1.1	1700000	11000	2560	--

Notes:

B =The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

DUP = Duplicate

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method dection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not detected

NA = Not analyzed

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs) (EPA 1668A)													
PCB 1	2-MoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000602 U	0.000600 U	0.000612 U	0.000614 U	0.000611 U	0.000604 U	0.000625 U	0.000629	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000602 U	0.000600 U	0.000612 U	0.000614 U	0.000611 U	0.000604 U	0.000625 U	0.000597 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000602 U	0.000600 U	0.000612 U	0.000614 U	0.000611 U	0.000604 U	0.000625 U	0.000597 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000602 U	0.000600 U	0.000612 U	0.000614 U	0.000611 U	0.000604 U	0.000625 U	0.000597 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00100 U	0.000999 U	0.00102 U	0.00102 U	0.00102 U	0.00101 U	0.00104 U	0.000996 U	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000574	0.000500 U	0.000510 U	0.000512 U	0.00131	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000752 U	0.000750 U	0.000765 U	0.000768 U	0.000764 U	0.000755 U	0.000781 U	0.000747 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000801	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000511	0.000500 U	0.000510 U	0.000512 U	0.000912	0.000505	0.000521 U	0.000498 U	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000581	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00100 U	0.000999 U	0.00102 U	0.00102 U	0.00102 U	0.00101 U	0.00104 U	0.000996 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00116	0.000500 U	0.000510 U	0.00147	0.00362	0.000657	0.000521 U	0.000515	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000929	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000511 U	0.000510 U	0.000521 U	0.000522 U	0.00106	0.000514 U	0.000531 U	0.000508 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000609	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000659	0.000500 U	0.000510 U	0.00119	0.00266	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.00117	0.000600 U	0.000612 U	0.00166	0.00418	0.000604 U	0.000625 U	0.000597 U	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000703	0.00131	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000589	0.000989	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000592	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000658	0.000500 U	0.000510 U	0.00151	0.00301	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000968	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000610	0.00120	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000599	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000702 U	0.000700 U	0.000714 U	0.000717 U	0.000713 U	0.000705 U	0.000729 U	0.000697 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00251 U	0.00250 U	0.00255 U	0.00256 U	0.00255 U	0.00252 U	0.00260 U	0.00249 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--

Outfall Basin S-5
2007 Stormwater Grab Samples
Sample Location: AAP982

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071157 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071257 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071398 11/16/2007	Event 3 DUP FO071401 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071583 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000501 U	0.000500 U	0.000510 U	0.000512 U	0.000509 U	0.000504 U	0.000521 U	0.000498 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	0.000629	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	0.00109	ND	ND	ND	0.00361	0.000505	ND	ND	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00299	ND	ND	0.00431	0.0131	0.000657	ND	0.000515	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000658	ND	ND	0.00341	0.00807	ND	ND	ND	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	0.000599	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.00473**	ND	ND	**0.00773**	**0.0253**	**0.00116**	ND	**0.001140**	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.
U = The analyte was not detected above the reported sample quantification limit.
ug/L = Micrograms per liter.
ND = Not detected.
NA = Not analyzed
[1]IUPAC = International Union of Pure and Applied Chemistry.
[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).
[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.
[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.
[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.
- Highlighted values have been selected by DEQ for initial upland source control screening evaluations.
bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

Class	Analyte	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
Field Measurements													
	Conductivity	umhos/cm	44	NA	42	NA	22	NA	50	--	--	--	--
	pH	units	6.5	NA	6.7	NA	7.2	NA	6.8	--	--	--	5.5 - 9.0
	Temperature	Deg. C	13.1	NA	12.3	NA	12	NA	7.3	--	--	--	--
Total Suspended Solids (SM 2540D)													
	TSS	mg/L	22	2 U	43	2 U	7	2 U	8	--	--	--	130
Total Metals (EPA 200.8)													
	Arsenic	ug/L	**1.07**	0.1 U	**2.35**	0.1 U	**0.4**	0.1 U	**0.51**	0.14	0.045	150	--
	Cadmium	ug/L	**0.36**	0.1 U	**0.39**	0.1 U	**0.14**	0.1 U	**0.18**	--	5	0.094	--
	Chromium	ug/L	2.57	0.4 U	5.85	0.4 U	1.29	0.4 U	1.12	--	100	--	--
	Copper	ug/L	**51.5**	0.2 U	**54.4**	0.2 U	**22.7**	0.2 U	**21.3**	--	1300	2.7	100
	Lead	ug/L	**7.7**	0.1 U	**19.6**	0.1 U	**3.51**	0.1 U	**3.01**	--	15	0.54	400
	Mercury[5]	ug/L	0.015	0.002 U	0.02	0.002 U	0.0044	0.002 U	0.0047	0.146	2	0.77	--
	Nickel	ug/L	5.15	0.2 U	4.85	0.2 U	2.66	0.2 U	2.48	4600	730	16	--
	Silver	ug/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	100	0.12	--
	Zinc	ug/L	**551**	8.76	**415**	2.42	**299**	0.6	**320**	26000	5000	36	600
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270-SIM)													
	Acenaphthene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.0194 U	0.0194 U	0.0192 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	--	0.2	--	--
	Anthracene	ug/L	0.0194 U	0.0194 U	0.0255	0.0196 U	0.0194 U	0.0194 U	0.0402	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	**0.0195**	0.00971 U	**0.0749**	0.0098 U	**0.0347**	0.00971 U	**0.0611**	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.0117	0.00971 U	**0.0791**	0.0098 U	**0.0227**	0.00971 U	**0.041**	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	**0.0254**	0.00971 U	**0.132**	0.0098 U	**0.0321**	0.00971 U	**0.0488**	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.0288	0.0194 U	0.125	0.0196 U	0.0273	0.0194 U	0.0312	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.0166	0.00971 U	**0.112**	0.0098 U	**0.027**	0.00971 U	**0.0522**	0.018	0.2	--	--
	Chrysene	ug/L	**0.0416**	0.00971 U	**0.171**	0.0098 U	**0.0699**	0.00971 U	**0.0968**	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.00971 U	0.00971 U	0.0481 U	0.0098 U	0.00971 U	0.00971 U	0.00971 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.133	0.0194 U	**0.465**	0.0196 U	0.133	0.0194 U	**0.253**	140	0.2	--	--
	Fluorene	ug/L	0.0419	0.0194 U	0.0192 U	0.0196 U	0.0194 U	0.0194 U	0.0194 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.011	0.00971 U	**0.0754**	0.0098 U	0.013	0.00971 U	**0.0241**	0.018	0.092	--	--
	Naphthalene	ug/L	0.0194 U	0.0194 U	0.0201	0.0196 U	0.0194 U	0.0194 U	0.0353	--	0.2	620	--
	Phenanthrene	ug/L	0.0702	0.0194 U	0.107	0.0196 U	0.0575	0.0194 U	0.143	--	0.2	--	--
	Pyrene	ug/L	0.0903	0.0194 U	0.177	0.0196 U	0.102	0.0194 U	0.126	4000	0.2	--	--
	Total PAHs	ug/L	0.49	ND	1.56	ND	0.52	ND	0.95	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270C)													
	Acenaphthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	990	0.2	520	--
	Acenaphthylene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	40000	0.2	0.73	--
	Benzo(a)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	0.027	--
	Benzo(a)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	0.014	--
	Benzo(b)fluoranthene	ug/L	0.2 U	0.2 U	**0.27**	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--
	Benzo(g,h,i)perylene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Benzo(k)fluoranthene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Chrysene	ug/L	0.2 U	0.2 U	**0.28**	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.2	--	--
	Dibenzo(a,h)anthracene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.0092	--	--
	Fluoranthene	ug/L	0.2 U	0.2 U	**0.35**	0.2 U	0.2 U	0.2 U	0.2 U	140	0.2	--	--
	Fluorene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	5300	0.2	3.9	--
	Indeno(1,2,3-cd)pyrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.018	0.092	--	--

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

Class	Analyte	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Naphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	620	--
	Phenanthrene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	--	--
	Pyrene	ug/L	0.2 U	0.2 U	**0.45**	0.2 U	0.2 U	0.2 U	0.2 U	4000	0.2	--	--
	Total PAHs	ug/L	ND	ND	1.4	ND	ND	ND	ND	--	--	--	--
Phthalates (EPA 8270-SIM)													
	Bis(2-ethylhexyl)phthalate	ug/L	0.879 J	0.971 U	**3.68**	0.98 U	1.14	0.971 U	0.971 U	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.98 U	0.971 U	0.971 U	0.971 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.98 U	0.971 U	0.971 U	0.971 U	4500	3700	3	--
	Di-n-octylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.98 U	0.971 U	0.971 U	0.971 U	--	1500	3	--
	Diethylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.98 U	0.971 U	0.971 U	0.971 U	44000	29000	3	--
	Dimethylphthalate	ug/L	0.971 U	0.971 U	0.962 U	0.98 U	0.971 U	0.971 U	0.971 U	1100000	370000	3	--
Phthalates (EPA 8270C)													
	Bis(2-ethylhexyl)phthalate	ug/L	2	1 U	**3.7**	1 U	1.2	1 U	0.909 J	2.2	4.8	3	--
	Butylbenzylphthalate	ug/L	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1900	7300	3	--
	Di-n-butylphthalate	ug/L	0.28 B	0.54 B	0.21	0.2 U	0.2 U	0.2 U	0.23	4500	3700	3	--
	Di-n-octylphthalate	ug/L	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	1500	3	--
	Diethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.26	44000	29000	3	--
	Dimethylphthalate	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1100000	370000	3	--
Semivolatile Organic Compounds (SVOCs) (EPA 8270C)													
	1,2,4-Trichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	70	8.2	110	--
	1,2-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1300	49	763	--
	1,3-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	960	14	763	--
	1,4-Dichlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	190	2.8	763	--
	2,4,5-Trichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3600	3700	--	--
	2,4,6-Trichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.4	6.1	970	--
	2,4-Dichlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	290	110	365	--
	2,4-Dimethylphenol	ug/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	850	730	--	--
	2,4-Dinitrophenol	ug/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	5300	73	150	--
	2,4-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	3.4	73	--	--
	2,6-Dinitrotoluene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	37	--	--
	2-Chloronaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1600	490	--	--
	2-Chlorophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	150	30	2000	--
	2-Methylnaphthalene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2	2.1	--
	2-Methylphenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	13	--
	2-Nitroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	110	--	--
	2-Nitrophenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	1100	150	--
	3,3'-Dichlorobenzidine	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.028	0.15	763	--
	3-Nitroaniline	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4,6-Dinitro-2-methylphenol	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	280	--	150	--
	4-Bromophenylphenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	4-Chloro-3-methylphenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--
	4-Chloroaniline	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	150	--	--
	4-Chlorophenyl phenyl ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.06	--	--
	4-Methylphenol[5]	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	180	--	--
	4-Nitroaniline	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	3.2	--	--
	4-Nitrophenol	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	290	150	--
	Benzoic acid	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	150000	42	--

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

Class	Analyte	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[1] Human Health Fish Consumption[2]	JSCS Stormwater SLVs[1] Human Health Ingestion[3]	JSCS Stormwater SLVs[1] Ecological[4]	NPDES 1200Z Permit Benchmark
	Benzyl alcohol	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	11000	8.6	--
	Bis(2-chloroethoxy) methane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--
	Bis(2-chloroethyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.53	0.06	--	--
	Bis(2-chloroisopropyl) ether	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.95	--	--
	Dibenzofuran	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	12	3.7	--
	Hexachlorobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.00029	0.042	100	--
	Hexachlorobutadiene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	18	0.86	9.3	--
	Hexachlorocyclopentadiene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1100	50	5.2	--
	Hexachloroethane	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	3.3	4.8	540	--
	Isophorone	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	960	71	--	--
	Nitrobenzene	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	690	3.4	--	--
	N-Nitrosodi-n-propylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.51	0.0096	--	--
	N-Nitrosodiphenylamine	ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	6	14	210	--
	Pentachlorophenol	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3	0.56	15	--
	Phenol	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1700000	11000	2560	--

Notes:

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

FDB= Field decontamination blank

DUP = Duplicate

U = The analyte was not detected above the reported sample quantification limit.

J = Estimated value. Analyte detected at a concentration less than the reporting limit and greater than or equal to the method detection limit.

-- = No JSCS screening level available.

ug/L = Micrograms per liter.

mg/L = Milligrams per liter.

ND = Not detected

NA = Not analyzed

[1] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[2] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[3] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[4] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier I SCV Technology Benchmark values are listed for the constituent.

[5] Mercury analysis by WPCL SOP M-10.01.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
Polychlorinated Biphenyl Congeners (PCBs)(EPA 1668A)												
PCB 1	2-MoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 2	3-MoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 3	4-MoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 4	2,2'-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 5	2,3-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 6	2,3'-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 7	2,4-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 8	2,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 9	2,5-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 10	2,6-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 11	3,3'-DiCB	ug/L	0.000697 B	0.000600 U	0.000698	0.000614 U	0.000604 U	0.000625 U	0.000618 U	--	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 14	3,5-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 15	4,4'-DiCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 16	2,2',3-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 17	2,2',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 18/30	2,2',5-TriCB + 2,4,6-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 19	2,2',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 20/28	2,3,3'-TriCB + 2,4,4'-TriCB	ug/L	0.000603 U	0.000600 U	0.000600 U	0.000614 U	0.000604 U	0.000625 U	0.000618 U	--	--	--
PCB 21/33	2,3,4-TriCB + 2',3,4-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 22	2,3,4'-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 23	2,3,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 24	2,3,6-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 25	2,3',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 26/29	2,3',5-TriCB + 2,4,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 27	2,3',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 31	2,4',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 32	2,4',6-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 34	2',3,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 35	3,3',4-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 36	3,3',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 37	3,4,4'-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 38	3,4,5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 39	3,4',5-TriCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 40/41/71	2,2',3,3'-TeCB + 2,2',3,4-TeCB + 2,3',4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 42	2,2',3,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 43	2,2',3,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 44/47/65	2,2',3,5'-TeCB + 2,2',4,4'-TeCB + 2,3,5,6-TeCB	ug/L	0.000603 U	0.000600 U	0.000600 U	0.000614 U	0.000604 U	0.000625 U	0.000618 U	--	--	--
PCB 45/51	2,2',3,6-TeCB + 2,2',4,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 46	2,2',3,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 48	2,2',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 49/69	2,2',4,5'-TeCB + 2,3',4,6-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 50/53	2,2',4,6-TeCB + 2,2',5,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 52	2,2',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 54	2,2',6,6'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 55	2,3,3',4-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 56	2,3,3',4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 57	2,3,3',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 58	2,3,3',5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 59/62/75	2,3,3',6-TeCB + 2,3,4,6-TeCB + 2,4,4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 60	2,3,4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 61/70/74/76	2,3,4,5-TeCB + 2,3',4',5-TeCB + 2,4,4',5-TeCB + 2',3,4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000699	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 63	2,3,4',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 64	2,3,4',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 66	2,3',4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 67	2,3',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 68	2,3',4,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 72	2,3',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 73	2,3',5',6-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 77	3,3',4,4'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 78	3,3',4,5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 79	3,3',4,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 80	3,3',5,5'-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 81	3,4,4',5-TeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 82	2,2',3,3',4-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 83	2,2',3,3',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 84	2,2',3,3',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 85/116/117	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB + 2,3,4',5,6-PeCB	ug/L	0.000603 U	0.000600 U	0.000600 U	0.000614 U	0.000604 U	0.000625 U	0.000618 U	--	--	--
PCB 86/87/97/108/119/125	2,2',3,4,5-PeCB + 2,2',3,4,5'-PeCB + 2,2',3',4,5-PeCB + 2,3,3',4,5'-PeCB + 2,3',4,4',6-PeCB + 2',3,4,5,6'-PeCB	ug/L	0.00100 U	0.000999 U	0.00100 U	0.00102 U	0.00101 U	0.00104 U	0.00115	--	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 90/101/113	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB + 2,3,3',5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000840	0.000512 U	0.000504 U	0.000521 U	0.000574	--	--	--
PCB 92	2,2',3,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 93/98/100/102	2,2',3,5,6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,4',6-PeCB + 2,2',4,5,6'-PeCB	ug/L	0.000754 U	0.000750 U	0.000750 U	0.000768 U	0.000756 U	0.000781 U	0.000773 U	--	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 95	2,2',3,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 96	2,2',3,6,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 99	2,2',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 103	2,2',4,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 106	2,3,3',4,5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 107/124	2,3,3',4',5-PeCB + 2',3,4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 109	2,3,3',4,6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 110/115	2,3,3',4',6-PeCB + 2,3,4,4',6-PeCB	ug/L	0.000502 U	0.000500 U	0.00107	0.000512 U	0.000504 U	0.000521 U	0.000583	--	--	--
PCB 111	2,3,3',5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 112	2,3,3',5,6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 114	2,3,4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 118	2,3',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000935	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 121	2,3',4,5',6-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 122	2',3,3',4,5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 123	2',3,4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 126	3,3',4,4',5-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 127	3,3',4,5,5'-PeCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 128/166	2,2',3,3',4,4'-HxCB + 2,3,4,4',5,6-HxCB	ug/L	0.00100 U	0.000999 U	0.00100 U	0.00102 U	0.00101 U	0.00104 U	0.00103 U	--	--	--
PCB 129/138/163	2,2',3,3',4,5-HxCB + 2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB	ug/L	0.00103	0.000500 U	0.00247	0.00147	0.000683	0.000521 U	0.00133	--	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 132	2,2',3,3',4,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000704	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 133	2,2',3,3',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 135/151	2,2',3,3',5,6'-HxCB + 2,2',3,5,5',6-HxCB	ug/L	0.000512 U	0.000510 U	0.000556	0.000522 U	0.000514 U	0.000531 U	0.000526 U	--	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 139/140	2,2',3,4,4',6-HxCB + 2,2',3,4,4',6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 142	2,2',3,4,5,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 146	2,2',3,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 147/149	2,2',3,4',5,6-HxCB + 2,2',3,4',5',6-HxCB	ug/L	0.000625	0.000500 U	0.00150	0.00119	0.000504 U	0.000521 U	0.000818	--	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 153/168	2,2',4,4',5,5'-HxCB + 2,3',4,4',5',6-HxCB	ug/L	0.000879	0.000600 U	0.00201	0.00166	0.000604 U	0.000625 U	0.00103	--	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 156/157	2,3,3',4,4',5-HxCB + 2,3,3',4,4',5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 158	2,3,3',4,4',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 160	2,3,3',4,5,6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 161	2,3,3',4,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 162	2,3,3',4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 164	2,3,3',4',5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 165	2,3,3',5,5',6-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 170	2,2',3,3',4,4',5-HpCB	ug/L	0.000502 U	0.000500 U	0.000855	0.000703	0.000504 U	0.000521 U	0.000578	--	--	--
PCB 171/173	2,2',3,3',4,4',6-HpCB + 2,2',3,3',4,5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000827	0.000589	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 180/193	2,2',3,4,4',5,5'-HpCB + 2,3,3',4',5,5',6-HpCB	ug/L	0.000764	0.000500 U	0.00194	0.00151	0.000589	0.000521 U	0.00112	--	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 182	2,2',3,4,4',5,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 183/185	2,2',3,4,4',5',6-HpCB + 2,2',3,4,5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000602	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 187	2,2',3,4',5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000857	0.000610	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 190	2,3,3',4,4',5,6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--

Outfall Basin S-6
2007 Stormwater Grab Samples
Sample Location: AAM118

IUPAC Number[1]	Chemical Name	Units	Event 1 FO071158 9/28/2007	Event 1 FDB FO071154 9/28/2007	Event 2 FO071256 10/16/2007	Event 2 FDB FO071264 10/16/2007	Event 3 FO071396 11/16/2007	Event 3 FDB FO071394 11/16/2007	Event 4 FO071588 12/15/2007	JSCS Stormwater SLVs[2] Human Health Fish Consumption[3]	Human Health Ingestion[4]	Ecological[5]
PCB 191	2,3,3',4,4',5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 192	2,3,3',4,5,5',6-HpCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 196	2,2',3,3',4,4',5,6'-OcCB	ug/L	0.000703 U	0.000700 U	0.000700 U	0.000717 U	0.000705 U	0.000729 U	0.000721 U	--	--	--
PCB 197/200	2,2',3,3',4,4',6,6'-OcCB + 2,2',3,3',4,5,6,6'-OcCB	ug/L	0.00251 U	0.00250 U	0.00250 U	0.00256 U	0.00252 U	0.00260 U	0.00258 U	--	--	--
PCB 198/199	2,2',3,3',4,5,5',6-OcCB + 2,2',3,3',4,5,5',6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 203	2,2',3,4,4',5,5',6-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
PCB 209	Decachlorobiphenyl	ug/L	0.000502 U	0.000500 U	0.000500 U	0.000512 U	0.000504 U	0.000521 U	0.000515 U	--	--	--
	Total Monochlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Dichlorobiphenyls	ug/L	0.000697 [6]	ND	0.000698	ND	ND	ND	ND	--	--	--
	Total Trichlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Tetrachlorobiphenyls	ug/L	ND	ND	0.000699	ND	ND	ND	ND	--	--	--
	Total Pentachlorobiphenyls	ug/L	ND	ND	0.00285	ND	ND	ND	0.00231	--	--	--
	Total Hexachlorobiphenyls	ug/L	0.00254	ND	0.00724 [6]	0.00431	0.000683	ND	0.00318	--	--	--
	Total Heptachlorobiphenyls	ug/L	0.000764	ND	0.00508 [6]	0.00341	0.000589	ND	0.00170	--	--	--
	Total Octachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Nonachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total Decachlorobiphenyls	ug/L	ND	ND	ND	ND	ND	ND	ND	--	--	--
	Total PCBs	ug/L	**0.00400** [6]	ND	**0.0166** [6]	**0.00773**	**0.00127**	ND	**0.00719**	0.000064	0.034000	0.014000

Notes:

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
FDB= Field decontamination blank
-- = No JSCS screening level available.

U = The analyte was not detected above the reported sample quantification limit.

B = The analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result.

ug/L = Micrograms per liter.

ND = Not detected.

NA = Not analyzed

[1]IUPAC = International Union of Pure and Applied Chemistry.

[2] JSCS SLVs = Portland Harbor Joint Source Control Strategy Screening Level Values (DEQ/EPA Final December 2005, Amended July 2007).

[3] The SLVs for chemicals in water taken up by fish for human consumption represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent.

[4] The SLVs for chemicals in water for human ingestion represent the most conservative value between EPA's MCLs and Region 9 PRGs.

[5] The SLVs for chemicals in water for ecological exposure represent EPA's NRWQC values. If no NRWQC values are available, then DEQ's AWQC values are listed for the constituent. If no AWQC values are available, then Oak Ridge National Laboratory Tier II SCV Technology Benchmark values are listed for the constituent.

[6] Total homolog and total congener values are biased slightly high based on PCB congener 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 detection in the FDB.

= Highlighted values have been selected by DEQ for initial upland source control screening evaluations.

bold = Concentration exceeds DEQ's SLV.

Attachment A5

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Attachment A5
Laboratory Reports and Data Review Memoranda

Attachment A5
Laboratory Reports and Data Review Memoranda

Part 1: 2007 Stormwater Grab Sampling

September 28, 2007
Sampling Event

Laboratory Data QA/QC Review
Upland Source Control Investigation
September 28, 2007 Stormwater Sampling

To: File

From: Julia Fowler, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses conducted by the City of Portland (City) on September 28, 2007. Eleven stormwater samples, one field duplicate sample and one field decontamination blank were collected by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) laboratory and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The BES Laboratory Information Management System (LIMS) summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached.

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs, and PCB congeners. Di-n-butyl phthalate was detected in the method blank for the EPA 8270C analyses at a concentration that is significant relative to the sample results. The results reported as detected in the associated samples are flagged "B".

A low concentration of PCB congener 11 was detected in the method blank. Two samples (FO071158: OF S-6 and FO071159: OF52A) contained similar concentrations and are flagged "B". Both sample results for PCB congener 11 are considered the result of laboratory contamination because they are less than the method blank result. For OF 52A, the detection is not significant relative to the total PCB concentration. For OF S-6, the total PCB concentration is considered biased slightly high.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits, with two exceptions. One of the surrogates analyzed with the method blank during the PAH analysis was outside laboratory control limits. Surrogate recoveries were within laboratory control limits for the remaining surrogates. One of the surrogates analyzed with sample FO071154 during the PAH analysis was outside laboratory control limits. TA reports that the data quality is not impacted; see the TA laboratory report for additional detail.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within laboratory control limits with four exceptions. Pace Analytical reports the data were automatically corrected for recovery variations and accurate values were obtained.

Laboratory Control/Laboratory Control Duplicate Samples

Laboratory control/laboratory control duplicate samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB Congeners. All laboratory control sample recoveries were within laboratory control limits. The relative percent difference for benzoic acid between the laboratory control and laboratory control duplicate samples was outside of control limits. CAS did not report any data quality concerns associated with this result; see the CAS laboratory report for additional detail.

Other

The method reporting limit (MRL) for di-n-octyl phthalate by EPA 8270C was elevated because the initial calibration would not support the standard reporting limit. CAS reports that no other corrective action was possible.

A field decontamination blank (FDB) was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCB congeners. Zinc was detected in the FDB at a concentration of 8.76 ug/L. Zinc was detected in the primary and duplicate samples from OF 48 at concentrations less than 10 times the field blank concentration and is considered biased high for these samples. Concentrations in the remaining samples are greater than 10 times the blank detection.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9-28-07
Page: 1 of 1
Collected By: MJS, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

All times in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071148	5949 N. BASIN AVE	M2-SW1	9.28.07	0120	G							14.3	48	6.3
FO 071149	N. Basin Ave & Emerson St	M3 SW1	9/28/07	0138	G							13.8	31	6.5
FO 071150	6208 N Ensign	M1 SWT	9/28/07	0155	G							14.1	32	6.6
FO 071151	5555 N Channel	S1-SW1	9/28/07	0226	G							12.5	21	6.6
FO 071152	5828 N. Van Houten Pl.	48-SW1	9.28.07	0305	G							14.2	36	6.7
FO 071153	DUPLICATE	DUP	9.28.07	—	G							—	—	—
FO 071154	FIELD DECON BLANK	FDB	9.28.07	0317	G							—	—	—
FO 071155	CATHEDRAL PARK	52-SW1	9.28.07	0345	G							12.7	35	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Renee Chauvin Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EfD\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9/28/2007
Page: 1 of 1
Collected By: JJM, RCB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

All times in Pacific Daylight Time
PST = 1 hour earlier

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071156	5051 N Lagoon	S2-SW1	9/28/07	0245	G							14.2	36	6.4
FO 071157	4800 N Channel	S5-SW1	9/28/07	0258	G							13.8	47	6.6
FO 071158	5555 N Channel	S6-SW1	9/28/07	0330	G							13.1	44	6.5
FO 071159	8904 N Bradford	S2A-SW1	9/28/07	0414	G							13.4	28	7.0
FO 071160	6543 N Burlington	S0-SW1	9/28/07	0454	G							12.2	22	6.5

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Randy Beckston Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: RANDY BECKSTON Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0939	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Renee Chauvin Date: 9/28/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071148** **Sample Collected:** 9/28/2007 01:20 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-0907
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09049
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	48	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.3	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	14.3	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	30	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.013	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.94	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.29	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.67	µg/L	0.4	EPA 200.8	09/29/07
COPPER	15.4	µg/L	0.2	EPA 200.8	09/29/07
LEAD	3.27	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.28	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	145	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.00973	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0106	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0180	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0247	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0101	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.03	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0230	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071148** **Sample Collected:** 9/28/2007 01:20 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-0907
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09049
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0476	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0390	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0610	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/03/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071148** **Sample Collected:** 9/28/2007 01:20 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-0907
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09049
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/03/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/03/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/03/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	1.3	µg/L	1.1	EPA 8270	10/03/07
Butyl benzyl phthalate	0.41	µg/L	0.21	EPA 8270	10/03/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/03/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.47	µg/L	0.21	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.1	µg/L	1.1	EPA 8270	10/03/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/03/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/03/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071148** **Sample Collected:** 9/28/2007 01:20 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-0907
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09049
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/03/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/03/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07

End of Report for Sample ID: FO071148

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071149** **Sample Collected:** 9/28/2007 01:38 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09050
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	31	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	13.8	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	16	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.0073	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.70	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.25	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.60	µg/L	0.4	EPA 200.8	09/29/07
COPPER	15.6	µg/L	0.2	EPA 200.8	09/29/07
LEAD	2.56	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	1.88	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	874	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Anthracene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0104	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00990	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0142	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00990	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.09	µg/L	0.990	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Chrysene	0.0192	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00990	µg/L	0.00990	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071149** **Sample Collected:** 9/28/2007 01:38 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09050
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0379	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Fluorene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00990	µg/L	0.00990	EPA 8270M-SIM	10/05/07
Naphthalene	0.0519	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0474	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Pyrene	0.0585	µg/L	0.0198	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.5	µg/L	4.5	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.5	µg/L	4.5	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.23	µg/L	0.23	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.23	µg/L	0.23	EPA 8270	10/03/07
2-Chloronaphthalene	<0.23	µg/L	0.23	EPA 8270	10/03/07
2-Chlorophenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
2-Methylnaphthalene	<0.23	µg/L	0.23	EPA 8270	10/03/07
2-Methylphenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
2-Nitroaniline	<0.23	µg/L	0.23	EPA 8270	10/03/07
2-Nitrophenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.3	µg/L	2.3	EPA 8270	10/03/07
3-Nitroaniline	<1.2	µg/L	1.2	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.3	µg/L	2.3	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.23	µg/L	0.23	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
4-Chloroaniline	<0.23	µg/L	0.23	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071149** **Sample Collected:** 9/28/2007 01:38 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09050
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.23	µg/L	0.23	EPA 8270	10/03/07
4-Methylphenol	<0.56	µg/L	0.56	EPA 8270	10/03/07
4-Nitroaniline	<1.2	µg/L	1.2	EPA 8270	10/03/07
4-Nitrophenol	<2.3	µg/L	2.3	EPA 8270	10/03/07
Acenaphthene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Acenaphthylene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Anthracene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzo(a)anthracene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzo(a)pyrene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Benzoic acid	<5.6	µg/L	5.6	EPA 8270	10/03/07
Benzyl alcohol	<5.6	µg/L	5.6	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.23	µg/L	0.23	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.23	µg/L	0.23	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.23	µg/L	0.23	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	1.3	µg/L	1.2	EPA 8270	10/03/07
Butyl benzyl phthalate	0.31	µg/L	0.23	EPA 8270	10/03/07
Chrysene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Dibenzofuran	<0.23	µg/L	0.23	EPA 8270	10/03/07
Diethyl phthalate	<0.23	µg/L	0.23	EPA 8270	10/03/07
Dimethyl phthalate	<0.23	µg/L	0.23	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.45	µg/L	0.23	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.2	µg/L	1.2	EPA 8270	10/03/07
Fluoranthene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Fluorene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Hexachlorobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Hexachlorobutadiene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.2	µg/L	1.2	EPA 8270	10/03/07
Hexachloroethane	<0.23	µg/L	0.23	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Isophorone	<0.23	µg/L	0.23	EPA 8270	10/03/07
Naphthalene	<0.23	µg/L	0.23	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071149** **Sample Collected:** 9/28/2007 01:38 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09050
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.23	µg/L	0.23	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.23	µg/L	0.23	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.23	µg/L	0.23	EPA 8270	10/03/07
Pentachlorophenol	<1.2	µg/L	1.2	EPA 8270	10/03/07
Phenanthrene	<0.23	µg/L	0.23	EPA 8270	10/03/07
Phenol	2.1	µg/L	0.56	EPA 8270	10/03/07
Pyrene	<0.23	µg/L	0.23	EPA 8270	10/03/07

End of Report for Sample ID: FO071149

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071150** **Sample Collected:** 9/28/2007 01:55 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09051
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	32	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	14.1	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	71	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.0084	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.70	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.42	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.72	µg/L	0.4	EPA 200.8	09/29/07
COPPER	16.5	µg/L	0.2	EPA 200.8	09/29/07
LEAD	3.95	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.05	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	211	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0294	µg/L	0.0294	EPA 8270M-SIM	10/05/07
Anthracene	<0.0294	µg/L	0.0294	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0174	µg/L	0.00980	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0299	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0108	µg/L	0.00980	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	8.42	µg/L	0.980	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/05/07
Chrysene	0.0263	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071150** **Sample Collected:** 9/28/2007 01:55 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09051
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<1.47	µg/L	1.47	EPA 8270M-SIM	10/05/07
Fluoranthene	<0.118	µg/L	0.118	EPA 8270M-SIM	10/05/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/05/07
Naphthalene	0.0312	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0327	µg/L	0.0196	EPA 8270M-SIM	10/05/07
Pyrene	<0.0784	µg/L	0.0784	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/03/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/03/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071150** **Sample Collected:** 9/28/2007 01:55 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09051
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/03/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/03/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/03/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	3.6	µg/L	1.1	EPA 8270	10/03/07
Butyl benzyl phthalate	0.39	µg/L	0.21	EPA 8270	10/03/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/03/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/03/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.55	µg/L	0.21	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.1	µg/L	1.1	EPA 8270	10/03/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/03/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Isophorone	0.24	µg/L	0.21	EPA 8270	10/03/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071150** **Sample Collected:** 9/28/2007 01:55 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09051
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/03/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/03/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/03/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/03/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/03/07

End of Report for Sample ID: FO071150

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071151 **Sample Collected:** 9/28/2007 02:26 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-0907
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09052
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	21	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	12.5	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	11	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.021	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.67	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.36	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.82	µg/L	0.4	EPA 200.8	09/29/07
COPPER	39.3	µg/L	0.2	EPA 200.8	09/29/07
LEAD	5.10	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.69	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	468	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	0.0546	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0712	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0689	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0922	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.114	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0877	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.07	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.132	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	0.0152	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071151 **Sample Collected:** 9/28/2007 02:26 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-0907
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09052
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.435	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	0.0403	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0401	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	0.0307	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.132	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.210	µg/L	0.0777	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071151** **Sample Collected:** 9/28/2007 02:26 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-0907
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09052
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	0.22	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	10/03/07
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	0.98	µg/L	0.98	EPA 8270	10/03/07
Butyl benzyl phthalate	0.33	µg/L	0.20	EPA 8270	10/03/07
Chrysene	0.23	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.51	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Fluoranthene	0.33	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	0.23	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071151** **Sample Collected:** 9/28/2007 02:26 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-0907
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09052
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	10/03/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
Pyrene	0.32	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071151

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071152** **Sample Collected:** 9/28/2007 03:05 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-0907
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09053
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	36	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	14.2	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	46	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.011	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.62	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.69	µg/L	0.4	EPA 200.8	09/29/07
COPPER	15.1	µg/L	0.2	EPA 200.8	09/29/07
LEAD	4.04	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	3.18	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	26.3	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Anthracene	0.0363	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0912	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0334	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0630	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0363	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0495	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	5.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Chrysene	0.139	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071152** **Sample Collected:** 9/28/2007 03:05 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-0907
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09053
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Fluoranthene	0.554	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Fluorene	0.0451	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0197	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Phenanthrene	0.215	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Pyrene	0.317	µg/L	0.0388	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071152** **Sample Collected:** 9/28/2007 03:05 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-0907
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09053
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.29	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071152** **Sample Collected:** 9/28/2007 03:05 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-0907
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09053
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/03/07
Phenanthrene	0.22	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071152

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071153** **Sample Collected:** 9/28/2007 00:00 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

System ID: AL09054
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	48	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.011	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.65	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	1.61	µg/L	0.4	EPA 200.8	09/29/07
COPPER	14.8	µg/L	0.2	EPA 200.8	09/29/07
LEAD	3.99	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.93	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	28.1	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	0.0332	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0467	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0260	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0433	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0299	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0307	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0806	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071153** **Sample Collected:** 9/28/2007 00:00 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09054
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	0.332	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	0.0351	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0164	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	0.0343	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.200	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.211	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071153** **Sample Collected:** 9/28/2007 00:00 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09054
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	10/03/07
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.30	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071153** **Sample Collected:** 9/28/2007 00:00 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09054
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Phenanthrene	0.21	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071153

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071154** **Sample Collected:** 9/28/2007 03:17 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 1 of 4

System ID: AL09055
Sample Point Code: FDBLANK
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: DIWTR
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive. LAB: The result for Zinc was verified by re-analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	09/29/07
COPPER	<0.20	µg/L	0.2	EPA 200.8	09/29/07
LEAD	<0.10	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	<0.20	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	8.76	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071154** **Sample Collected:** 9/28/2007 03:17 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09055
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive. LAB: The result for Zinc was verified by re-analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071154** **Sample Collected:** 9/28/2007 03:17 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09055
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive. LAB: The result for Zinc was verified by re-analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.54	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071154** **Sample Collected:** 9/28/2007 03:17 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09055
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive. LAB: The result for Zinc was verified by re-analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071154

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071155** **Sample Collected:** 9/28/2007 03:45 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09056
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	35	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	12.7	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	86	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.019	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.25	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.34	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	6.79	µg/L	0.4	EPA 200.8	09/29/07
COPPER	60.5	µg/L	0.2	EPA 200.8	09/29/07
LEAD	19.1	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	7.07	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	226	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0349	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	0.0571	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0260	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0234	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0288	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0378	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0189	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.62	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0421	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071155** **Sample Collected:** 9/28/2007 03:45 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09056
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.232	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	0.0441	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0148	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	0.0344	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.141	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.138	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071155** **Sample Collected:** 9/28/2007 03:45 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09056
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	2.3	µg/L	1.0	EPA 8270	10/03/07
Butyl benzyl phthalate	0.33	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.56	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Fluoranthene	0.30	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071155** **Sample Collected:** 9/28/2007 03:45 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09056
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/03/07
Phenanthrene	0.31	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
Pyrene	0.26	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071155

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071156** **Sample Collected:** 9/28/2007 01:45 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-0907
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09057
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	36	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	14.2	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	11	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.0061	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.80	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.32	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	3.90	µg/L	0.4	EPA 200.8	09/29/07
COPPER	20.4	µg/L	0.2	EPA 200.8	09/29/07
LEAD	2.66	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.66	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	231	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0108	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0133	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0105	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	8.08	µg/L	2.91	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<2.91	µg/L	2.91	EPA 8270M-SIM	10/05/07
Chrysene	0.0206	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071156** **Sample Collected:** 9/28/2007 01:45 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-0907
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09057
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<2.91	µg/L	2.91	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<2.91	µg/L	2.91	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<2.91	µg/L	2.91	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<2.91	µg/L	2.91	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0505	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0457	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0574	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071156** **Sample Collected:** 9/28/2007 01:45 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-0907
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09057
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	10/03/07
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Butyl benzyl phthalate	1.2	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.36	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071156** **Sample Collected:** 9/28/2007 01:45 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-0907
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09057
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	10/03/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071156

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071157** **Sample Collected:** 9/28/2007 01:58 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-0907
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09058
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	47	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	13.8	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	13	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.0094	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.77	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.25	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	2.17	µg/L	0.4	EPA 200.8	09/29/07
COPPER	24.5	µg/L	0.2	EPA 200.8	09/29/07
LEAD	3.11	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.14	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	288	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0243	µg/L	0.0243	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0102	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0163	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071157** **Sample Collected:** 9/28/2007 01:58 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-0907
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09058
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0603	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0469	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0638	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071157** **Sample Collected:** 9/28/2007 01:58 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-0907
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09058
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Butyl benzyl phthalate	0.75	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	0.30	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	0.21	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.28	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071157** **Sample Collected:** 9/28/2007 01:58 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-0907
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09058
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/03/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Phenol	0.92	µg/L	0.50	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071157

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071158** **Sample Collected:** 9/28/2007 02:30 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-0907
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09059
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	44	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	13.1	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	22	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.015	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.07	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.36	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	2.57	µg/L	0.4	EPA 200.8	09/29/07
COPPER	51.5	µg/L	0.2	EPA 200.8	09/29/07
LEAD	7.70	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	5.15	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	551	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0195	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0117	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0254	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0288	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0166	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0416	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071158** **Sample Collected:** 9/28/2007 02:30 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-0907
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09059
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.133	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	0.0419	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0110	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0702	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0903	µg/L	0.0388	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071158** **Sample Collected:** 9/28/2007 02:30 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-0907
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09059
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	2.0	µg/L	1.0	EPA 8270	10/03/07
Butyl benzyl phthalate	0.31	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.28	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071158** **Sample Collected:** 9/28/2007 02:30 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-0907
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09059
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/03/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071158

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071159** **Sample Collected:** 9/28/2007 03:14 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-0907
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09060
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a high estimate.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	28	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	13.4	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	46	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.017	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.22	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.22	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	2.69	µg/L	0.4	EPA 200.8	09/29/07
COPPER	15.9	µg/L	0.2	EPA 200.8	09/29/07
LEAD	9.01	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.41	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	127	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.101	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Anthracene	0.252	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.375	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.164	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.314	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.157	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.236	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.19	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.749	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	0.0358	µg/L	0.0194	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071159** **Sample Collected:** 9/28/2007 03:14 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-0907
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09060
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a high estimate.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	1.06	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	4.37	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	1.42	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	4.27	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Fluorene	0.109	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0892	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Naphthalene	0.0884	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Phenanthrene	1.95	µg/L	0.0388	EPA 8270M-SIM	10/05/07
Pyrene	1.91	µg/L	0.0388	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071159** **Sample Collected:** 9/28/2007 03:14 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-0907
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09060
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a high estimate.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/03/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<0.99	µg/L	0.99	EPA 8270	10/03/07
Butyl benzyl phthalate	0.31	µg/L	0.20	EPA 8270	10/03/07
Chrysene	0.23	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	1.0	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 3.7	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<0.99	µg/L	0.99	EPA 8270	10/03/07
Fluoranthene	0.62	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	0.21	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071159** **Sample Collected:** 9/28/2007 03:14 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-0907
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09060
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a high estimate.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	10/03/07
Phenanthrene	0.65	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/03/07
Pyrene	0.45	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071159

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071160** **Sample Collected:** 9/28/2007 03:54 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-0907
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09061
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	22	µmhos/cm	1	SM 2510 B	09/28/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	09/28/07
TEMPERATURE	12.2	Deg. C	0.1	SM 2550 B	09/28/07
GENERAL					
TOTAL SUSPENDED SOLIDS	30	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.016	µg/L	0.002	WPCLSOP M-1(	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.88	µg/L	0.1	EPA 200.8	09/29/07
CADMIUM	0.22	µg/L	0.1	EPA 200.8	09/29/07
CHROMIUM	4.53	µg/L	0.4	EPA 200.8	09/29/07
COPPER	15.3	µg/L	0.2	EPA 200.8	09/29/07
LEAD	11.8	µg/L	0.1	EPA 200.8	09/29/07
NICKEL	2.22	µg/L	0.2	EPA 200.8	09/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	09/29/07
ZINC	138	µg/L	0.5	EPA 200.8	09/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0307	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	0.0388	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0174	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	0.0182	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0231	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0398	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0168	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.10	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0300	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071160** **Sample Collected:** 9/28/2007 03:54 **Sample Received:** 09/28/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-0907
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09061
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.137	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	0.0361	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.0127	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	0.0348	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.148	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0920	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	10/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/03/07
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071160** **Sample Collected:** 9/28/2007 03:54 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-0907
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09061
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	10/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	10/03/07
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	10/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/03/07
Bis(2-ethylhexyl) phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Butyl benzyl phthalate	0.32	µg/L	0.20	EPA 8270	10/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/03/07
Di-n-butyl phthalate	EST 0.41	µg/L	0.20	EPA 8270	10/03/07
Di-n-octyl phthalate	<0.98	µg/L	0.98	EPA 8270	10/03/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	10/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/03/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071160** **Sample Collected:** 9/28/2007 03:54 **Sample Received:** 09/28/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-0907
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09061
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/RCB

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, Di-n-butyl phthalate was detected in the Method Blank at 0.42 ug/L; the reported result may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/03/07
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	10/03/07
Phenanthrene	0.22	µg/L	0.20	EPA 8270	10/03/07
Phenol	<0.49	µg/L	0.49	EPA 8270	10/03/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/03/07

End of Report for Sample ID: FO071160

Report Date: 01/07/08 **Validated By: Signature on File**

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

November 15, 2007 Analytical Report for Service Request No: K0708884

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on September 28, 2007. For your reference, these analyses have been assigned our service request number K0708884.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071148
Lab Code: K0708884-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.2	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.2	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.2	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	

Comments:

0005

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071148	**Units:**	ug/L
Lab Code:	K0708884-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.2	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.47**	B	0.21	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.41**		0.21	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**1.3**		1.1	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	

Comments:

0006

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071148	**Units:**	ug/L
Lab Code:	K0708884-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	107	16-122	10/31/07	Acceptable
Phenol-d6	88	25-118	10/31/07	Acceptable
Nitrobenzene-d5	93	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	80	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	121	22-148	10/31/07	Acceptable
Terphenyl-d14	53	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0007

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071149
Lab Code: K0708884-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Phenol	**2.1**		0.56	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.6	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.5	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.6	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.2	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.56	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071149
Lab Code: K0708884-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.2	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.5	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.3	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.2	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.3	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.2	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.45**	B	0.23	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.31**		0.23	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.3	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**1.3**		1.2	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.2	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.23	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071149	**Units:**	ug/L
Lab Code:	K0708884-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	99	16-122	10/31/07	Acceptable
Phenol-d6	89	25-118	10/31/07	Acceptable
Nitrobenzene-d5	87	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	84	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	126	22-148	10/31/07	Acceptable
Terphenyl-d14	68	28-144	10/31/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071150
Lab Code: K0708884-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.2	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Isophorone	**0.24**		0.21	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.2	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.2	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	

Comments:

0011

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071150
Lab Code: K0708884-003

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.2	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.55**	B	0.21	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.39**		0.21	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**3.6**		1.1	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.1	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/03/07	10/31/07	KWG0710624	

Comments:

0012

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071150	**Units:**	ug/L
Lab Code:	K0708884-003	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	104	16-122	10/31/07	Acceptable
Phenol-d6	98	25-118	10/31/07	Acceptable
Nitrobenzene-d5	92	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	76	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	122	22-148	10/31/07	Acceptable
Terphenyl-d14	49	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0013

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071151
Lab Code: K0708884-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071151
Lab Code: K0708884-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.51**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	**0.33**		0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	**0.32**		0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.33**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	**0.23**		0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**0.98**		0.98	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	**0.22**		0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	**0.23**		0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0015

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071151	**Units:**	ug/L
Lab Code:	K0708884-004	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	119	16-122	10/31/07	Acceptable
Phenol-d6	104	25-118	10/31/07	Acceptable
Nitrobenzene-d5	98	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	79	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	131	22-148	10/31/07	Acceptable
Terphenyl-d14	73	28-144	10/31/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071152
Lab Code: K0708884-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0017

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071152
Lab Code: K0708884-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	**0.22**		0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.29**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071152	**Units:**	ug/L
Lab Code:	K0708884-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	120	16-122	10/31/07	Acceptable
Phenol-d6	104	25-118	10/31/07	Acceptable
Nitrobenzene-d5	101	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	88	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	91	22-148	10/31/07	Acceptable
Terphenyl-d14	75	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0019

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071153
Lab Code: K0708884-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Phenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
2-Chlorophenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Benzyl Alcohol	ND	U	4.9	1	10/03/07	10/29/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
2-Methylphenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Methylphenol†	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
2-Nitrophenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
2,4-Dimethylphenol	ND	U	3.9	1	10/03/07	10/29/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
Benzoic Acid	ND	U	4.9	1	10/03/07	10/29/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.49	1	10/03/07	10/29/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	

Comments:

0020

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071153
Lab Code: K0708884-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
3-Nitroaniline	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
2,4-Dinitrophenol	ND	U	3.9	1	10/03/07	10/29/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/29/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Nitroaniline	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/29/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Pentachlorophenol	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
Phenanthrene	**0.21**		0.20	1	10/03/07	10/29/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Di-n-butyl Phthalate	**0.30**	B	0.20	1	10/03/07	10/29/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/29/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.98	1	10/03/07	10/29/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/29/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071153	**Units:**	ug/L
Lab Code:	K0708884-006	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	98	16-122	10/29/07	Acceptable
Phenol-d6	109	25-118	10/29/07	Acceptable
Nitrobenzene-d5	85	24-131	10/29/07	Acceptable
2-Fluorobiphenyl	88	26-114	10/29/07	Acceptable
2,4,6-Tribromophenol	109	22-148	10/29/07	Acceptable
Terphenyl-d14	76	28-144	10/29/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0022

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071154
Lab Code: K0708884-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0023

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071154
Lab Code: K0708884-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.54**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071154	**Units:**	ug/L
Lab Code:	K0708884-007	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	98	16-122	10/31/07	Acceptable
Phenol-d6	98	25-118	10/31/07	Acceptable
Nitrobenzene-d5	104	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	83	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	121	22-148	10/31/07	Acceptable
Terphenyl-d14	77	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0025

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071155
Lab Code: K0708884-008

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0026

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071155
Lab Code: K0708884-008

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	**0.31**		0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.56**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	**0.30**		0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	**0.26**		0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.33**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**2.3**		1.0	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0027

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071155	**Units:**	ug/L
Lab Code:	K0708884-008	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	88	16-122	10/31/07	Acceptable
Phenol-d6	99	25-118	10/31/07	Acceptable
Nitrobenzene-d5	95	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	89	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	92	22-148	10/31/07	Acceptable
Terphenyl-d14	60	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0028

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071156
Lab Code: K0708884-009

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071156
Lab Code: K0708884-009

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.36**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**1.2**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0030

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071156	**Units:**	ug/L
Lab Code:	K0708884-009	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	85	16-122	10/31/07	Acceptable
Phenol-d6	95	25-118	10/31/07	Acceptable
Nitrobenzene-d5	89	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	80	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	99	22-148	10/31/07	Acceptable
Terphenyl-d14	58	28-144	10/31/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0031

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071157
Lab Code: K0708884-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	**0.92**		0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	**0.21**		0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071157
Lab Code: K0708884-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	**0.30**		0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.28**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.75**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071157	**Units:**	ug/L
Lab Code:	K0708884-010	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	88	16-122	10/31/07	Acceptable
Phenol-d6	106	25-118	10/31/07	Acceptable
Nitrobenzene-d5	101	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	86	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	91	22-148	10/31/07	Acceptable
Terphenyl-d14	63	28-144	10/31/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0034

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071158
Lab Code: K0708884-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0035

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071158
Lab Code: K0708884-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.28**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.31**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	**2.0**		1.0	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	1.0	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071158	**Units:**	ug/L
Lab Code:	K0708884-011	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	95	16-122	10/31/07	Acceptable
Phenol-d6	109	25-118	10/31/07	Acceptable
Nitrobenzene-d5	106	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	88	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	100	22-148	10/31/07	Acceptable
Terphenyl-d14	58	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071159
Lab Code: K0708884-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	5.0	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	**1.0**		0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0038

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071159
Lab Code: K0708884-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	4.0	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	**0.65**		0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**3.7**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	**0.62**		0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	**0.45**		0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.31**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	**0.23**		0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.99	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	**0.21**		0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0039

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071159	**Units:**	ug/L
Lab Code:	K0708884-012	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	88	16-122	10/31/07	Acceptable
Phenol-d6	98	25-118	10/31/07	Acceptable
Nitrobenzene-d5	98	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	83	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	115	22-148	10/31/07	Acceptable
Terphenyl-d14	58	28-144	10/31/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

5040

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071160
Lab Code: K0708884-013

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Phenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzyl Alcohol	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Hexachloroethane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Methylphenol†	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Nitrobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Isophorone	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitrophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4-Dimethylphenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
Benzoic Acid	ND	U	4.9	1	10/03/07	10/31/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Naphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.49	1	10/03/07	10/31/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2-Nitroaniline	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Acenaphthylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0041

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: 09/28/2007
Date Received: 09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO071160
Lab Code: K0708884-013

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
3-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrophenol	ND	U	3.9	1	10/03/07	10/31/07	KWG0710624	
Dibenzofuran	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluorene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Diethyl Phthalate	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Nitroaniline	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Hexachlorobenzene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pentachlorophenol	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Phenanthrene	**0.22**		0.20	1	10/03/07	10/31/07	KWG0710624	
Anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Di-n-butyl Phthalate	**0.41**	B	0.20	1	10/03/07	10/31/07	KWG0710624	
Fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Butyl Benzyl Phthalate	**0.32**		0.20	1	10/03/07	10/31/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/03/07	10/31/07	KWG0710624	
Benz(a)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Chrysene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.98	1	10/03/07	10/31/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/03/07	10/31/07	KWG0710624	

Comments:

0042

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Collected:**	09/28/2007
Sample Matrix:	Water	**Date Received:**	09/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO071160	**Units:**	ug/L
Lab Code:	K0708884-013	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	98	16-122	10/31/07	Acceptable
Phenol-d6	104	25-118	10/31/07	Acceptable
Nitrobenzene-d5	105	24-131	10/31/07	Acceptable
2-Fluorobiphenyl	89	26-114	10/31/07	Acceptable
2,4,6-Tribromophenol	97	22-148	10/31/07	Acceptable
Terphenyl-d14	62	28-144	10/31/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0043

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0710624-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Phenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
2-Chlorophenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
1,3-Dichlorobenzene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
1,4-Dichlorobenzene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
1,2-Dichlorobenzene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Benzyl Alcohol	ND	U	4.7	1	10/03/07	10/23/07	KWG0710624	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
2-Methylphenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
Hexachloroethane	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Methylphenol†	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
Nitrobenzene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Isophorone	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
2-Nitrophenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
2,4-Dimethylphenol	ND	U	3.8	1	10/03/07	10/23/07	KWG0710624	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
2,4-Dichlorophenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
Benzoic Acid	ND	U	4.7	1	10/03/07	10/23/07	KWG0710624	
1,2,4-Trichlorobenzene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Naphthalene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Chloroaniline	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Hexachlorobutadiene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Chloro-3-methylphenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
2-Methylnaphthalene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Hexachlorocyclopentadiene	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
2,4,6-Trichlorophenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
2,4,5-Trichlorophenol	ND	U	0.47	1	10/03/07	10/23/07	KWG0710624	
2-Chloronaphthalene	ND	U	0.38	1	10/03/07	10/23/07	KWG0710624	
2-Nitroaniline	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Acenaphthylene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Dimethyl Phthalate	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
2,6-Dinitrotoluene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	

Comments:

0044

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0710624-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
3-Nitroaniline	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
2,4-Dinitrophenol	ND	U	3.8	1	10/03/07	10/23/07	KWG0710624	
Dibenzofuran	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Nitrophenol	ND	U	1.9	1	10/03/07	10/23/07	KWG0710624	
2,4-Dinitrotoluene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Fluorene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Diethyl Phthalate	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Nitroaniline	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	10/03/07	10/23/07	KWG0710624	
N-Nitrosodiphenylamine	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Hexachlorobenzene	ND	U	0.38	1	10/03/07	10/23/07	KWG0710624	
Pentachlorophenol	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
Phenanthrene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Anthracene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Di-n-butyl Phthalate	**0.42**		0.19	1	10/03/07	10/23/07	KWG0710624	
Fluoranthene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Pyrene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Butyl Benzyl Phthalate	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
3,3'-Dichlorobenzidine	ND	U	1.9	1	10/03/07	10/23/07	KWG0710624	
Benz(a)anthracene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Chrysene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Bis(2-ethylhexyl) Phthalate	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
Di-n-octyl Phthalate	ND	U	0.94	1	10/03/07	10/23/07	KWG0710624	
Benzo(b)fluoranthene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Benzo(k)fluoranthene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Benzo(a)pyrene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Dibenz(a,h)anthracene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	
Benzo(g,h,i)perylene	ND	U	0.19	1	10/03/07	10/23/07	KWG0710624	

Comments:

0045

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0710624-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	78	16-122	10/23/07	Acceptable
Phenol-d6	83	25-118	10/23/07	Acceptable
Nitrobenzene-d5	82	24-131	10/23/07	Acceptable
2-Fluorobiphenyl	72	26-114	10/23/07	Acceptable
2,4,6-Tribromophenol	63	22-148	10/23/07	Acceptable
Terphenyl-d14	65	28-144	10/23/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0046

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0708884
Project:	Protland Harbor Stormwater	**Date Received:**	09/28/2007
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirteen water samples were received for analysis at Columbia Analytical Services on 09/28/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Method Blank Exceptions:
The Method Blank KWG0710624 contained low levels of di-n-Butyl Phthalate above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank are flagged as estimated.

Elevated Method Reporting Limits:
The method reporting limit for di-n-octyl Phthalate is elevated because the ICAL would not support the standard reporting limit. No other corrective action was possible.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ Date 11.15.07

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO071148	K0708884-001	107	88	93	80	121	53
FO071149	K0708884-002	99	89	87	84	126	68
FO071150	K0708884-003	104	98	92	76	122	49
FO071151	K0708884-004	119	104	98	79	131	73
FO071152	K0708884-005	120	104	101	88	91	75
FO071153	K0708884-006	98	109	85	88	109	76
FO071154	K0708884-007	98	98	104	83	121	77
FO071155	K0708884-008	88	99	95	89	92	60
FO071156	K0708884-009	85	95	89	80	99	58
FO071157	K0708884-010	88	106	101	86	91	63
FO071158	K0708884-011	95	109	106	88	100	58
FO071159	K0708884-012	88	98	98	83	115	58
FO071160	K0708884-013	98	104	105	89	97	62
Method Blank	KWG0710624-3	78	83	82	72	63	65
Lab Control Sample	KWG0710624-1	103	94	84	72	103	74
Duplicate Lab Control Sample	KWG0710624-2	99	92	84	71	94	73

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Portland, City of	**Service Request:**	K0708884
Project:	Portland Harbor Stormwater	**Date Extracted:**	10/03/2007
Sample Matrix:	Water	**Date Analyzed:**	10/23/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0710624

	Lab Control Sample KWG0710624-1 Lab Control Spike			Duplicate Lab Control Sample KWG0710624-2 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**		**RPD Limit**
Bis(2-chloroethyl) Ether	3.87	5.00	77	4.26	5.00	85	30-125	10		30
Phenol	4.09	5.00	82	4.37	5.00	87	32-117	7		30
2-Chlorophenol	4.17	5.00	83	4.50	5.00	90	32-117	8		30
1,3-Dichlorobenzene	2.07	5.00	41	2.27	5.00	45	10-79	9		30
1,4-Dichlorobenzene	2.13	5.00	43	2.38	5.00	48	10-81	11		30
1,2-Dichlorobenzene	2.26	5.00	45	2.52	5.00	50	15-86	11		30
Benzyl Alcohol	3.57	5.00	71	3.80	5.00	76	33-119	6		30
Bis(2-chloroisopropyl) Ether	3.47	5.00	69	3.80	5.00	76	29-116	9		30
2-Methylphenol	3.46	5.00	69	3.70	5.00	74	29-115	6		30
Hexachloroethane	1.43	5.00	29	1.60	5.00	32	10-76	11		30
N-Nitrosodi-n-propylamine	3.33	5.00	67	3.93	5.00	79	35-119	16		30
4-Methylphenol	3.54	5.00	71	3.83	5.00	77	30-116	8		30
Nitrobenzene	3.51	5.00	70	3.92	5.00	78	34-122	11		30
Isophorone	3.62	5.00	72	4.11	5.00	82	33-121	13		30
2-Nitrophenol	3.99	5.00	80	4.43	5.00	89	33-120	10		30
2,4-Dimethylphenol	2.51	5.00	50	2.40	5.00	48	10-116	4		30
Bis(2-chloroethoxy)methane	3.66	5.00	73	4.13	5.00	83	34-119	12		30
2,4-Dichlorophenol	3.97	5.00	79	4.44	5.00	89	33-120	11		30
Benzoic Acid	3.84	15.0	26	2.02	15.0	13	10-118	62	*	30
1,2,4-Trichlorobenzene	2.27	5.00	45	2.60	5.00	52	14-88	14		30
Naphthalene	3.16	5.00	63	3.50	5.00	70	27-103	10		30
4-Chloroaniline	3.28	5.00	66	4.26	5.00	85	10-110	26		30
Hexachlorobutadiene	1.45	5.00	29	1.72	5.00	34	10-75	17		30
4-Chloro-3-methylphenol	4.34	5.00	87	5.01	5.00	100	37-120	14		30
2-Methylnaphthalene	3.42	5.00	68	3.83	5.00	77	27-99	11		30
Hexachlorocyclopentadiene	0.746	5.00	15	0.663	5.00	13	10-54	12		30
2,4,6-Trichlorophenol	3.71	5.00	74	4.07	5.00	81	34-118	9		30
2,4,5-Trichlorophenol	3.75	5.00	75	4.15	5.00	83	36-119	10		30
2-Chloronaphthalene	2.84	5.00	57	3.17	5.00	63	30-108	11		30
2-Nitroaniline	3.90	5.00	78	4.39	5.00	88	35-122	12		30
Acenaphthylene	3.62	5.00	72	4.10	5.00	82	39-116	12		30
Dimethyl Phthalate	4.00	5.00	80	4.34	5.00	87	43-116	8		30
2,6-Dinitrotoluene	3.82	5.00	76	4.28	5.00	86	42-120	11		30
Acenaphthene	3.47	5.00	69	3.87	5.00	77	36-108	11		30
3-Nitroaniline	3.91	5.00	78	4.57	5.00	91	24-115	16		30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708884
Date Extracted: 10/03/2007
Date Analyzed: 10/23/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0710624

Analyte Name	Lab Control Sample KWG0710624-1 Lab Control Spike Result	Expected	%Rec	Duplicate Lab Control Sample KWG0710624-2 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD	RPD Limit
2,4-Dinitrophenol	3.03	5.00	61	2.63	5.00	53	10-121	14	30
Dibenzofuran	3.65	5.00	73	4.01	5.00	80	36-108	10	30
4-Nitrophenol	3.90	5.00	78	4.58	5.00	92	33-136	16	30
2,4-Dinitrotoluene	4.15	5.00	83	4.64	5.00	93	43-124	11	30
Fluorene	3.79	5.00	76	4.23	5.00	85	37-113	11	30
4-Chlorophenyl Phenyl Ether	3.59	5.00	72	3.99	5.00	80	36-112	11	30
Diethyl Phthalate	4.26	5.00	85	4.78	5.00	96	42-120	11	30
4-Nitroaniline	3.96	5.00	79	4.71	5.00	94	23-120	17	30
2-Methyl-4,6-dinitrophenol	3.67	5.00	73	3.92	5.00	78	24-123	7	30
N-Nitrosodiphenylamine	3.81	5.00	76	4.36	5.00	87	30-115	14	30
4-Bromophenyl Phenyl Ether	3.94	5.00	79	4.13	5.00	83	40-113	5	30
Hexachlorobenzene	3.64	5.00	73	3.80	5.00	76	40-114	4	30
Pentachlorophenol	3.22	5.00	64	2.89	5.00	58	24-123	11	30
Phenanthrene	3.65	5.00	73	4.00	5.00	80	42-113	9	30
Anthracene	3.40	5.00	68	3.87	5.00	77	40-113	13	30
Di-n-butyl Phthalate	3.82	5.00	76	4.96	5.00	99	46-119	26	30
Fluoranthene	3.75	5.00	75	3.83	5.00	77	44-116	2	30
Pyrene	2.76	5.00	55	3.39	5.00	68	42-121	20	30
Butyl Benzyl Phthalate	3.60	5.00	72	3.82	5.00	76	43-121	6	30
3,3'-Dichlorobenzidine	2.51	5.00	50	3.12	5.00	62	10-101	21	30
Benz(a)anthracene	3.66	5.00	73	4.11	5.00	82	43-121	12	30
Chrysene	3.57	5.00	71	4.04	5.00	81	45-119	13	30
Bis(2-ethylhexyl) Phthalate	4.19	5.00	84	4.99	5.00	100	34-136	17	30
Di-n-octyl Phthalate	4.09	5.00	82	4.38	5.00	88	39-123	7	30
Benzo(b)fluoranthene	4.03	5.00	81	4.22	5.00	84	42-119	5	30
Benzo(k)fluoranthene	3.54	5.00	71	3.78	5.00	76	43-120	7	30
Benzo(a)pyrene	3.70	5.00	74	4.12	5.00	82	39-116	11	30
Indeno(1,2,3-cd)pyrene	4.23	5.00	85	4.72	5.00	94	42-123	11	30
Dibenz(a,h)anthracene	3.93	5.00	79	4.42	5.00	88	38-130	12	30
Benzo(g,h,i)perylene	3.51	5.00	70	3.99	5.00	80	38-125	13	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K07D8884

PAGE 1 OF 2 COC #

PROJECT NAME: Portland Harbor Stormwater
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: NPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level SVOCs EPA 8270 c	2MH + Phthalates EPA 8270C-SIM			REMARKS
FO071148	9/28/07	0120		STORM WAT																X				
" " 1149		0138																		X				
1150		0155																		X				
1151		0226																		X				
1152		0305																		X				
1153		0000																		X				
1154		0317																		X				
1155		0345																		X				
1156		0145																		X				
1157		0159																		X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
X Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for low-level analysis of full-list 8270. Thanks-

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 9/28/07 12:30	Date/Time: 9/28/07 12:30	Date/Time: 9/28/07 2:30	Date/Time: 9/28/07 1430
Printed Name: Renee Chauvin	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland	Firm: CAS	Firm:	Firm: CAS

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SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: Portland Harbor Stormwater
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: INPCL - City of Portland BES
PHONE # / FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low level SVOCs EPA 8270C	PAH + Phthalates EPA 8270C SIM			REMARKS
F007 1158	9/28/07	0230		STORM WATER																X				
" 1159	↓	0314		↓																X				
" 1160	↓	0354		↓																X				

6040

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS: (see p. 1)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 9/28/07 1230	Date/Time: 9/28/07 1230	Date/Time: 9/28/07 2:30	Date/Time: 9/28/07 1430
Printed Name: Renee Chauvin	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland	Firm: CAS	Firm: CAS	Firm: CAS

PC 2V

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: City of Portland Service Request K07 8884

Received: 9.28.07 Opened: 9.28.07 By: DJ

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N
5. **Temperature of cooler(s) upon receipt (°C):** 0.7
   Temperature Blank (°C): N.P
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Sleeves* *Other*_____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
*	*		

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: * All samples have FO-07 then number

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

October 31, 2007

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 09/28/07 11:20. The following list is a summary of the Work Orders contained in this report, generated on 10/31/07 17:33.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQI1011	Portland Harbor	36238

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071148	PQI1011-01	Water	09/28/07 01:20	09/28/07 11:20
FO 071149	PQI1011-02	Water	09/28/07 01:38	09/28/07 11:20
FO 071150	PQI1011-03	Water	09/28/07 01:55	09/28/07 11:20
FO 071151	PQI1011-04	Water	09/28/07 02:26	09/28/07 11:20
FO 071152	PQI1011-05	Water	09/28/07 03:05	09/28/07 11:20
FO 071153	PQI1011-06	Water	09/28/07 00:00	09/28/07 11:20
FO 071154	PQI1011-07	Water	09/28/07 03:17	09/28/07 11:20
FO 071155	PQI1011-08	Water	09/28/07 03:45	09/28/07 11:20
FO 071156	PQI1011-09	Water	09/28/07 01:45	09/28/07 11:20
FO 071157	PQI1011-10	Water	09/28/07 01:58	09/28/07 11:20
FO 071158	PQI1011-11	Water	09/28/07 02:30	09/28/07 11:20
FO 071159	PQI1011-12	Water	09/28/07 03:14	09/28/07 11:20
FO 071160	PQI1011-13	Water	09/28/07 03:54	09/28/07 11:20

TestAmerica - Portland, OR

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-01 (FO 071148)		**Water**			**Sampled: 09/28/07 01:20**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/11/07 00:04	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.00973**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0106**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0180**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0247**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0101**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0230**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0476**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0390**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.03**	*0.511*	0.971	"	"	"	"	10/11/07 20:03	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0610**	*0.0194*	0.0194	"	"	"	"	10/11/07 00:04	
Surrogate(s): Fluorene-d10			*61.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*61.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*32.0%*		*10 - 125 %*	"			"	
PQI1011-02 (FO 071149)		**Water**			**Sampled: 09/28/07 01:38**					
Acenaphthene	EPA 8270m	ND	*0.0198*	0.0198	ug/l	1x	7100267	10/05/07 16:20	10/10/07 21:55	
Acenaphthylene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Anthracene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0104**	*0.00990*	0.00990	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0142**	*0.00990*	0.00990	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Chrysene	"	**0.0192**	*0.00990*	0.00990	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Fluoranthene	"	**0.0379**	*0.0198*	0.0198	"	"	"	"	"	
Fluorene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Naphthalene	"	**0.0519**	*0.0198*	0.0198	"	"	"	"	"	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-02 (FO 071149)		**Water**			**Sampled: 09/28/07 01:38**					
Phenanthrene	EPA 8270m	**0.0474**	*0.0198*	0.0198	ug/l	1x	7100267	10/05/07 16:20	10/10/07 21:55	
Bis(2-ethylhexyl)phthalate	"	**1.09**	*0.521*	0.990	"	"	"	"	10/17/07 21:26	
Butyl benzyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Pyrene	"	**0.0585**	*0.0198*	0.0198	"	"	"	"	10/10/07 21:55	
Surrogate(s): Fluorene-d10			*100%*		*25 - 125 %*	"			"	
Pyrene-d10			*112%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*56.8%*		*10 - 125 %*	"			"	
PQI1011-03 (FO 071150)		**Water**			**Sampled: 09/28/07 01:55**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100267	10/05/07 16:20	10/13/07 16:03	
Acenaphthylene	"	ND	*0.0294*	0.0294	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0294*	0.0294	"	"	"	"	"	**RL1**
Benzo (a) anthracene	"	ND	*0.0196*	0.0196	"	2x	"	"	10/16/07 14:55	**RL1**
Benzo (a) pyrene	"	ND	*0.00980*	0.00980	"	1x	"	"	10/13/07 16:03	
Benzo (b) fluoranthene	"	**0.0174**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0299**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0108**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0263**	*0.0196*	0.0196	"	2x	"	"	10/16/07 14:55	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	1x	"	"	10/13/07 16:03	
Fluoranthene	"	ND	*0.118*	0.118	"	"	"	"	"	**RL1**
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0312**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0327**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**8.42**	*0.516*	0.980	"	"	"	"	10/11/07 02:37	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.47*	1.47	"	"	"	"	"	**RL1**
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	ND	*0.0784*	0.0784	"	2x	"	"	10/16/07 14:55	**RL1**
Surrogate(s): Fluorene-d10			*79.1%*		*25 - 125 %*	*1x*			*10/13/07 16:03*	
Pyrene-d10			*69.9%*		*23 - 150 %*	*2x*			*10/16/07 14:55*	
Benzo (a) pyrene-d12			*45.6%*		*10 - 125 %*	*1x*			*10/13/07 16:03*	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-04 (FO 071151)		**Water**			**Sampled: 09/28/07 02:26**					
Acenaphthene	EPA 8270m	ND	*0.0291*	0.0291	ug/l	1x	7100267	10/05/07 16:20	10/13/07 19:18	**RL1**
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0546**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0712**	*0.0388*	0.0388	"	4x	"	"	10/16/07 15:27	
Benzo (a) pyrene	"	**0.0689**	*0.00971*	0.00971	"	1x	"	"	10/13/07 19:18	
Benzo (b) fluoranthene	"	**0.0922**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.114**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0877**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.132**	*0.0388*	0.0388	"	4x	"	"	10/16/07 15:27	
Dibenzo (a,h) anthracene	"	**0.0152**	*0.00971*	0.00971	"	1x	"	"	10/13/07 19:18	
Fluoranthene	"	**0.435**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0403**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0401**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0307**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.132**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.07**	*0.511*	0.971	"	"	"	"	10/11/07 03:13	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.210**	*0.0777*	0.0777	"	4x	"	"	10/16/07 15:27	
Surrogate(s): Fluorene-d10			*69.5%*		*25 - 125 %*	*1x*			*10/13/07 19:18*	
Pyrene-d10			*48.1%*		*23 - 150 %*	*4x*			*10/16/07 15:27*	
Benzo (a) pyrene-d12			*42.4%*		*10 - 125 %*	*1x*			*10/13/07 19:18*	
PQI1011-05 (FO 071152)		**Water**			**Sampled: 09/28/07 03:05**					
Acenaphthene	EPA 8270m	ND	*0.0388*	0.0388	ug/l	2x	7100267	10/05/07 16:20	10/16/07 15:59	**RL1**
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Anthracene	"	**0.0363**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0912**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0334**	*0.00971*	0.00971	"	1x	"	"	10/13/07 16:36	
Benzo (b) fluoranthene	"	**0.0630**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0363**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0495**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.139**	*0.0194*	0.0194	"	2x	"	"	10/16/07 15:59	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	1x	"	"	10/13/07 16:36	
Fluoranthene	"	**0.554**	*0.0388*	0.0388	"	2x	"	"	10/16/07 15:59	
Fluorene	"	**0.0451**	*0.0388*	0.0388	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0197**	*0.00971*	0.00971	"	1x	"	"	10/13/07 16:36	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-05 (FO 071152)		**Water**			**Sampled: 09/28/07 03:05**					
Naphthalene	EPA 8270m	ND	*0.0388*	0.0388	ug/l	2x	7100267	10/05/07 16:20	10/16/07 15:59	**RL1**
Phenanthrene	"	**0.215**	*0.0388*	0.0388	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**5.94**	*1.02*	1.94	"	"	"	"	10/17/07 22:02	
Butyl benzyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	**RL1**
Di-n-butyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	**RL1**
Di-n-octyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	**RL1**
Diethyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	**RL1**
Dimethyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	**RL1**
Pyrene	"	**0.317**	*0.0388*	0.0388	"	"	"	"	10/16/07 15:59	
Surrogate(s): Fluorene-d10			*100%*		*25 - 125 %*	"			"	
Pyrene-d10			*82.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*45.3%*		*10 - 125 %*	*1x*			*10/13/07 16:36*	
PQI1011-06 (FO 071153)		**Water**			**Sampled: 09/28/07 00:00**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 17:08	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0332**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0467**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0260**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0433**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0299**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0307**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0806**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.332**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0351**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0164**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0343**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.200**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.614**	*0.511*	0.971	"	"	"	"	10/11/07 04:25	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.211**	*0.0194*	0.0194	"	"	"	"	10/13/07 17:08	
Surrogate(s): Fluorene-d10			*115%*		*25 - 125 %*	"			"	
Pyrene-d10			*104%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*54.8%*		*10 - 125 %*	"			"	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-07 (FO 071154)		**Water**			**Sampled: 09/28/07 03:17**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 14:56	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	10/11/07 05:01	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	10/10/07 14:56	
Surrogate(s): Fluorene-d10			*145%*		*25 - 125 %*	"			"	***Z2***
Pyrene-d10			*127%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*117%*		*10 - 125 %*	"			"	
PQI1011-08 (FO 071155)		**Water**			**Sampled: 09/28/07 03:45**					
Acenaphthene	EPA 8270m	**0.0349**	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 17:41	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0571**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0260**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0234**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0288**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0378**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0189**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0421**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.232**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0441**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0148**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0344**	*0.0194*	0.0194	"	"	"	"	"	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-08 (FO 071155)		**Water**			**Sampled: 09/28/07 03:45**					
Phenanthrene	EPA 8270m	**0.141**	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 17:41	
Bis(2-ethylhexyl)phthalate	"	**1.62**	*0.511*	0.971	"	"	"	"	10/17/07 22:38	
Butyl benzyl phthalate	"	**0.588**	*0.511*	0.971	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.138**	*0.0194*	0.0194	"	"	"	"	10/13/07 17:41	
Surrogate(s): Fluorene-d10			*114%*		*25 - 125 %*	"			"	
Pyrene-d10			*114%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*64.3%*		*10 - 125 %*	"			"	
PQI1011-09 (FO 071156)		**Water**			**Sampled: 09/28/07 01:45**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 22:27	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0108**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0133**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0105**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0206**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0505**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0457**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**8.08**	*1.53*	2.91	"	3x	"	"	10/17/07 23:14	
Butyl benzyl phthalate	"	**2.24**	*1.53*	2.91	"	"	"	"	"	**RL1, J**
Di-n-butyl phthalate	"	ND	*1.53*	2.91	"	"	"	"	"	**RL1**
Di-n-octyl phthalate	"	**2.42**	*1.53*	2.91	"	"	"	"	"	**RL1, J**
Diethyl phthalate	"	ND	*1.53*	2.91	"	"	"	"	"	**RL1**
Dimethyl phthalate	"	ND	*1.53*	2.91	"	"	"	"	"	**RL1**
Pyrene	"	**0.0574**	*0.0194*	0.0194	"	1x	"	"	10/10/07 22:27	
Surrogate(s): Fluorene-d10			*99.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*107%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*54.2%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-10 (FO 071157)		**Water**			**Sampled: 09/28/07 01:58**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 22:59	
Acenaphthylene	"	ND	*0.0243*	0.0243	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0102**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0163**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0603**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0469**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.770**	*0.511*	0.971	"	"	"	"	10/11/07 20:39	**J**
Butyl benzyl phthalate	"	**0.565**	*0.511*	0.971	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0638**	*0.0194*	0.0194	"	"	"	"	10/10/07 22:59	
Surrogate(s): Fluorene-d10			*96.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*113%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*53.3%*		*10 - 125 %*	"			"	
PQI1011-11 (FO 071158)		**Water**			**Sampled: 09/28/07 02:30**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 18:13	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0195**	*0.0194*	0.0194	"	2x	"	"	10/17/07 13:15	
Benzo (a) pyrene	"	**0.0117**	*0.00971*	0.00971	"	1x	"	"	10/13/07 18:13	
Benzo (b) fluoranthene	"	**0.0254**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0288**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0166**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0416**	*0.0194*	0.0194	"	2x	"	"	10/17/07 13:15	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	1x	"	"	10/13/07 18:13	
Fluoranthene	"	**0.133**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0419**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0110**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-11 (FO 071158)		**Water**			**Sampled: 09/28/07 02:30**					
Phenanthrene	EPA 8270m	**0.0702**	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 18:13	
Bis(2-ethylhexyl)phthalate	"	**0.879**	*0.511*	0.971	"	"	"	"	10/11/07 06:50	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0903**	*0.0388*	0.0388	"	2x	"	"	10/17/07 13:15	
Surrogate(s): Fluorene-d10			*115%*		*25 - 125 %*	*1x*			*10/13/07 18:13*	
Pyrene-d10			*65.7%*		*23 - 150 %*	*2x*			*10/17/07 13:15*	
Benzo (a) pyrene-d12			*50.0%*		*10 - 125 %*	*1x*			*10/13/07 18:13*	
PQI1011-12 (FO 071159)		**Water**			**Sampled: 09/28/07 03:14**					
Acenaphthene	EPA 8270m	**0.101**	*0.0388*	0.0388	ug/l	2x	7100267	10/05/07 16:20	10/13/07 15:31	
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Anthracene	"	**0.252**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (a) anthracene	"	**0.375**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) pyrene	"	**0.164**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.314**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.157**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.236**	*0.0194*	0.0194	"	"	"	"	"	
Chrysene	"	**0.749**	*0.0194*	0.0194	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0358**	*0.0194*	0.0194	"	"	"	"	"	
Fluoranthene	"	**4.27**	*0.0388*	0.0388	"	"	"	"	"	
Fluorene	"	**0.109**	*0.0388*	0.0388	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0892**	*0.0194*	0.0194	"	"	"	"	"	
Naphthalene	"	**0.0884**	*0.0388*	0.0388	"	"	"	"	"	
Phenanthrene	"	**1.95**	*0.0388*	0.0388	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.19**	*0.511*	0.971	"	1x	"	"	10/17/07 23:50	
Butyl benzyl phthalate	"	**0.552**	*0.511*	0.971	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	**4.37**	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	**1.42**	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	**1.06**	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**1.91**	*0.0388*	0.0388	"	2x	"	"	10/13/07 15:31	
Surrogate(s): Fluorene-d10			*44.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*82.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*53.7%*		*10 - 125 %*	"			"	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQI1011-13 (FO 071160)		**Water**			**Sampled: 09/28/07 03:54**					
Acenaphthene	EPA 8270m	**0.0307**	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 18:45	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0388**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0174**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0182**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0231**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0398**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0168**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0300**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.137**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0361**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0127**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0348**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.148**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.10**	*0.511*	0.971	"	"	"	"	10/18/07 00:26	
Butyl benzyl phthalate	"	**0.593**	*0.511*	0.971	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.971*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0920**	*0.0194*	0.0194	"	"	"	"	10/13/07 18:45	
Surrogate(s):	*Fluorene-d10*		*102%*		*25 - 125 %*	"			"	
	Pyrene-d10		*96.7%*		*23 - 150 %*	"			"	
	Benzo (a) pyrene-d12		*59.0%*		*10 - 125 %*	"			"	

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6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100267-BLK1)									**Extracted: 10/05/07 16:20**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	10/10/07 16:01	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	10/09/07 21:50	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	10/10/07 16:01	
Surrogate(s): Fluorene-d10		*Recovery: 153%*			*Limits: 25-125%*	"							*10/10/07 16:01*	*Z2*
Pyrene-d10		*139%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*125%*			*10-125%*	"							"	
LCS (7100267-BS1)									**Extracted: 10/05/07 16:20**					
Acenaphthene	EPA 8270m	1.91	0.0400	0.0400	ug/l	2x	--	2.50	76.3%	(35-120)	--	--	10/16/07 14:23	
Acenaphthylene	"	1.99	0.0400	0.0400	"	"	--	"	79.4%	(34-116)	--	--	"	
Anthracene	"	1.81	0.0400	0.0400	"	"	--	"	72.3%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.07	0.0200	0.0200	"	"	--	"	82.7%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.90	0.0200	0.0200	"	"	--	"	75.9%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.23	0.0200	0.0200	"	"	--	"	89.1%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.44	0.0400	0.0400	"	"	--	"	97.5%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.25	0.0200	0.0200	"	"	--	"	90.0%	(18-145)	--	--	"	
Chrysene	"	2.10	0.0200	0.0200	"	"	--	"	83.9%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.35	0.0200	0.0200	"	"	--	"	94.0%	(20-141)	--	--	"	
Fluoranthene	"	2.30	0.0400	0.0400	"	"	--	"	92.0%	(31-125)	--	--	"	
Fluorene	"	2.18	0.0400	0.0400	"	"	--	"	87.2%	(27-124)	--	--	"	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7100267-BS1)									**Extracted: 10/05/07 16:20**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.41	0.0200	0.0200	ug/l	2x	--	2.50	96.3%	(30-135)	--	--	10/16/07 14:23	
Naphthalene	"	2.04	0.0400	0.0400	"	"	--	"	81.7%	(30-113)	--	--	"	
Phenanthrene	"	2.30	0.0400	0.0400	"	"	--	"	92.1%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.94	0.526	1.00	"	1x	--	4.00	98.5%	(20-150)	--	--	10/09/07 22:26	
Butyl benzyl phthalate	"	3.43	0.526	1.00	"	"	--	"	85.8%	"	--	--	"	
Di-n-butyl phthalate	"	3.47	0.526	1.00	"	"	--	"	86.6%	"	--	--	"	
Di-n-octyl phthalate	"	3.45	0.526	1.00	"	"	--	"	86.1%	"	--	--	"	
Diethyl phthalate	"	3.77	0.526	1.00	"	"	--	"	94.2%	"	--	--	"	
Dimethyl phthalate	"	3.50	0.526	1.00	"	"	--	"	87.6%	"	--	--	"	
Pyrene	"	2.02	0.0400	0.0400	"	2x	--	2.50	81.0%	(21-141)	--	--	10/16/07 14:23	
Surrogate(s): Fluorene-d10		*Recovery: 91.0%*			*Limits: 25-125%*	"							*10/16/07 14:23*	
Pyrene-d10		*85.2%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*90.0%*			*10-125%*	"							"	
LCS Dup (7100267-BSD1)									**Extracted: 10/05/07 16:20**					
Acenaphthene	EPA 8270m	1.91	0.0400	0.0400	ug/l	2x	--	2.50	76.5%	(35-120)	0.244%	(35)	10/10/07 14:23	
Acenaphthylene	"	1.99	0.0400	0.0400	"	"	--	"	79.5%	(34-116)	0.120%	"	"	
Anthracene	"	2.15	0.0400	0.0400	"	"	--	"	85.9%	(24-119)	17.2%	"	"	
Benzo (a) anthracene	"	2.13	0.0200	0.0200	"	"	--	"	85.2%	(36-128)	2.97%	"	"	
Benzo (a) pyrene	"	2.03	0.0200	0.0200	"	"	--	"	81.2%	(17-128)	6.78%	"	"	
Benzo (b) fluoranthene	"	2.24	0.0200	0.0200	"	"	--	"	89.7%	(37-131)	0.687%	"	"	
Benzo (ghi) perylene	"	3.11	0.0400	0.0400	"	"	--	"	124%	(26-126)	24.2%	"	"	
Benzo (k) fluoranthene	"	2.31	0.0200	0.0200	"	"	--	"	92.3%	(18-145)	2.55%	"	"	
Chrysene	"	2.14	0.0200	0.0200	"	"	--	"	85.4%	(16-137)	1.73%	"	"	
Dibenzo (a,h) anthracene	"	2.32	0.0200	0.0200	"	"	--	"	92.8%	(20-141)	1.35%	"	"	
Fluoranthene	"	2.35	0.0400	0.0400	"	"	--	"	94.0%	(31-125)	2.14%	"	"	
Fluorene	"	2.29	0.0400	0.0400	"	"	--	"	91.6%	(27-124)	4.94%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.34	0.0200	0.0200	"	"	--	"	93.6%	(30-135)	2.86%	"	"	
Naphthalene	"	1.97	0.0400	0.0400	"	"	--	"	78.9%	(30-113)	3.50%	"	"	
Phenanthrene	"	2.09	0.0400	0.0400	"	"	--	"	83.7%	(34-126)	9.56%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.96	0.526	1.00	"	1x	--	4.00	98.9%	(20-150)	0.421%	(50)	10/09/07 23:02	
Butyl benzyl phthalate	"	3.52	0.526	1.00	"	"	--	"	88.0%	"	2.55%	"	"	
Di-n-butyl phthalate	"	3.62	0.526	1.00	"	"	--	"	90.4%	"	4.29%	"	"	
Di-n-octyl phthalate	"	3.49	0.526	1.00	"	"	--	"	87.2%	"	1.21%	"	"	
Diethyl phthalate	"	3.54	0.526	1.00	"	"	--	"	88.6%	"	6.20%	"	"	
Dimethyl phthalate	"	3.60	0.526	1.00	"	"	--	"	90.0%	"	2.76%	"	"	
Pyrene	"	2.16	0.0400	0.0400	"	2x	--	2.50	86.4%	(21-141)	6.44%	(35)	10/10/07 14:23	
Surrogate(s): Fluorene-d10		*Recovery: 108%*			*Limits: 25-125%*	"							*10/10/07 14:23*	
Pyrene-d10		*101%*			*23-150%*	"							"	

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (7100267-BSD1)													**Extracted: 10/05/07 16:20**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 102%*			*Limits: 10-125%*	*2x*							*10/10/07 14:23*	

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 17:33

Notes and Definitions

Report Specific Notes:

J	-	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
RL1	-	Reporting limit raised due to sample matrix effects.
Z2	-	Surrogate recovery was above the acceptance limits. Data not impacted.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] 907-563-9200 FAX [illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PQ4101

CLIENT: City of Portland

REPORT TO: Jennifer Shackelford

ADDRESS:

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor Stormwater

PROJECT NUMBER:

SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: ~~10~~ STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	(*) PAH + Phthalates 8270 SIM	(**) PCB 209 Congeners	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO07I148	9/28/07 0120	X	X	W	2		
2	" "1149	0138	X	X				
3	1150	0155	X	X				
4	1151	0226	X	X				
5	1152	0305	X	X				
6	1153	—	X	X				
7	1154	0317	X	X				
8	1155	0345	X	X				
	1156	0145	X	X				
	1157	0153	X	X				

RELINQUISHED BY: [signature] DATE: 9/28/07
PRINT NAME: Daniel M. VanMeter FIRM: CoP TIME: 10:35

RECEIVED BY: [signature] DATE: 9/28/07
PRINT NAME: Bob F FIRM: TAP TIME: 10:35

RELEASED BY: [signature] DATE: 9/28/07
PRINT NAME: Bob F FIRM: TAP TIME: 1120

RECEIVED BY: Peggy Siegfried DATE: 9/28/07
PRINT NAME: Peggy Siegfried FIRM: TAP TIME: 1120

ADDITIONAL REMARKS: (*) PAH + Phthalates as for LLC project - same MRLs.
(**) PCB Congeners to PACE Analytical please.

TEMP: 6.4

COC REV 09 2004

PAGE 1 OF 2

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQ11011

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
PROJECT NAME: Portland Harbor Stormwater
PROJECT NUMBER:
SAMPLED BY:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [10] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	PRESERVATIVE (*)	PRESERVATIVE (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
	REQUESTED ANALYSES			PAH+PA Tables 8270-SIM	PCB 209 Congeners				
1	F007 1158	9/28/07	0230	X	X	W	2		
2	" 1159	↓	0314	X	X	W	2		
3	" 1160	↓	0354	X	X	W	2		
4									
5									
6									
7									
8									

RELEASED BY: PRINT NAME: Doug V. VanMeter FIRM: CH2 DATE: 9/28/07 TIME: 10:35
RECEIVED BY: PRINT NAME: Bob F FIRM: TAL DATE: 9/28/07 TIME: 10:35
RELEASED BY: PRINT NAME: Bob F FIRM: TAL DATE: 9/28/07 TIME: 11:20
RECEIVED BY: PRINT NAME: Peggy Stafford FIRM: TAL DATE: 9/28/07 TIME: 1120

ADDITIONAL REMARKS: (*) (**) Please see p. 1
TEMP: 6.4
PAGE 2 OF 2
62

COC REV 09 2004

TestAmerica Sample Receipt Checklist

Received by: *(section A)* Date: 9/28/07 Time: 1120 Initials: TA

Unpacked by: *(section B)* Date: 9/25/07 Initials: JC

Logged-in by: Date: 9-28 Initials: AA

Work Order No. PQ1011 Client: City of Portland Project: Portland Harbor

Cooler ID(s): 042 071

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 6.2 / 6.4 °C plastic (glass) NA *(oil/air samples, ESI client)*

Temperature out of range:
- ___ No Ice
- ___ Ice Melted
- X Win 4 Hours
- ___ Other: _____

A

Custody Seals: (#____)

Signature: Y N Dated:_____
X None

Container Type:
- 2 #Cooler(s)
- ____#Box(s)
- ____None (___#Other:_____)

Coolant Type:
- ____Gel Ice
- X Loose Ice
- ____None

Packing Material:
- ____Bubble Bags
- ____Styrofoam Cubbies
- ____None (____Other:_____)

Received from:
- X TA Courier
- ____Senvoy
- ____UPS
- ____Fed Ex
- ____Client
- ____TDP
- ____DHL
- ____SDS
- ____Mid-Valley
- ____GS/TA
- ____GS/Senvoy
- ____Other:_____

B

Sample Status:
(If N circled, see NOD)

General:
- Intact? (Y) N
- # Containers Match COC? (Y) N none given
- IDs Match COC? (Y) N

For Analyses Requested:
- Correct Type & Preservation? (Y) N
- Adequate Volume? (Y) N
- Within Hold Time? (Y) N

Volatiles:
- VOAs Free of Headspace? Y N (NA)
- TB on COC? not provided Y N (NA)

Metals:
- HNO3 Preserved? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: _____°C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

Was the Tracking paper keepable? YES NO

If circled NO, what is the Tracking Number? _____

UPS FED EX DHL OTHER: _____

Project Managers:

Comments:_____

*PM Reviewed:*_____ *(Initial/Date)*

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Pace Analytical Services, Inc.
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Phone: 612.607.1700
Fax: 612.607.6444

DETERMINATION OF PCB CONGENERS

Prepared for:
Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

ACCREDITED IN ACCORDANCE WITH nelac

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: PQI1011

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES

DATE: October 26, 2007

ISSUED TO: Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

REPORT NO: 07-1060388

INTRODUCTION

This report presents the results from the analyses performed on thirteen samples submitted by a representative of Test America. The samples were analyzed for the presence or absence of polychlorobiphenyl (PCB) congeners using USEPA Method 1668A.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
PQI1011-01 FO 071148	Water	10/05/07	1060388001
PQI1011-02 FO 071149	Water	10/05/07	1060388002
PQI1011-03 FO 071150	Water	10/05/07	1060388003
PQI1011-04 FO 071151	Water	10/05/07	1060388004
PQI1011-05 FO-071152	Water	10/05/07	1060388005
PQI1011-06 FO 071153	Water	10/05/07	1060388006
PQI1011-07 FO 071154	Water	10/05/07	1060388007
PQI1011-08 FO 071155	Water	10/05/07	1060388008
PQI1011-09 FO 071156	Water	10/05/07	1060388009
PQI1011-10 FO 071157	Water	10/05/07	1060388010
PQI1011-11 FO 071158	Water	10/05/07	1060388011
PQI1011-12 FO 071159	Water	10/05/07	1060388012
PQI1011-13 FO 071160	Water	10/05/07	1060388013

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES **DATE:** October 26, 2007

 REPORT NO: 07-1060388

RESULTS

The results from the analyses are included in the following:

Appendix A - Documentation
Appendix B - Sample Analysis Results

DISCUSSION

The recoveries of the isotopically labeled PCB internal standards in the sample extracts ranged from 40-164%. With the exceptions of four values, which were flagged "P" on the results tables; the labeled standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank, with the exception of a low level of PCB #11, to be free of PCB congeners at the reporting limits. Two samples contained similar levels of this congener and are flagged "B" on the results tables. These levels may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background. The results show that the sample preparation procedures did not significantly impact the results of the sample analyses.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The results show that spiked native compounds were recovered at 80-112%, with relative percent differences of 1.0-7.9%. These results indicate high degrees of accuracy and precision for these determinations.

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES **DATE:** October 26, 2007

 REPORT NO: 07-1060388

REMARKS

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

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APPENDIX A

REPORT OF LABORATORY ANALYSIS

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SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQI1011

1060388

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PQI1011-01	**Water**		Sampled: **09/28/07 01:20**	**FO 071148**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 01:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQI1011-02	**Water**		Sampled: **09/28/07 01:38**	**FO 071149**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 01:38	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQI1011-03	**Water**		Sampled: **09/28/07 01:55**	**FO 071150**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 01:55	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQI1011-04	**Water**		Sampled: **09/28/07 02:26**	**FO 071151**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 02:26	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQI1011-05	**Water**		Sampled: **09/28/07 03:05**	**FO 071152**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 03:05	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQI1011-06	**Water**		Sampled: **09/28/07 00:00**	**FO 071153**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

001
002
003
004
005
006

Jamie L. Ireland — Released By — 10/04/07 14:36 — Date/Time
Hong Thao Pace — Received By — 10/5/07 925 — Date/Time
T= 2.8 2.4 0.4°C

Released By — Date/Time — Received By — Date/Time

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQI1011

Analysis	Units	Due	Expires	Comments
Sample ID: PQI1011-07	**Water**		Sampled: **09/28/07 03:17**	**FO 071154**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 03:17	***209 Congeners***
Containers Supplied:				007
1L Amber - Unpres. (B)				
Sample ID: PQI1011-08	**Water**		Sampled: **09/28/07 03:45**	**FO 071155**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 03:45	***209 Congeners***
Containers Supplied:				008
1L Amber - Unpres. (B)				
Sample ID: PQI1011-09	**Water**		Sampled: **09/28/07 01:45**	**FO 071156**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 01:45	***209 Congeners***
Containers Supplied:				009
1L Amber - Unpres. (B)				
Sample ID: PQI1011-10	**Water**		Sampled: **09/28/07 01:58**	**FO 071157**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 01:58	***209 Congeners***
Containers Supplied:				010
1L Amber - Unpres. (B)				
Sample ID: PQI1011-11	**Water**		Sampled: **09/28/07 02:30**	**FO 071158**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 02:30	***209 Congeners***
Containers Supplied:				011
1L Amber - Unpres. (B)				
Sample ID: PQI1011-12	**Water**		Sampled: **09/28/07 03:14**	**FO 071159**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 03:14	***209 Congeners***
Containers Supplied:				012
1L Amber - Unpres. (B)				
Sample ID: PQI1011-13	**Water**		Sampled: **09/28/07 03:54**	**FO 071160**
1668 Coplanar PCBs - SUB	ug/l	10/18/07	03/26/08 03:54	***209 Congeners***
Containers Supplied:				013
1L Amber - Unpres. (B)				

* Please add the COC ID (FO 071148, 49, etc) to the TA ID for a combined sample ID. Thanks
HZ

received by: Yeng Thao 10/5/07
T= 2.8, 2.4, 0.4°C

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

APPENDIX B

REPORT OF LABORATORY ANALYSIS

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ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID	BLANK-14469		
Filename	P71024A_08		
Injected By	SMT	Matrix	Water
Total Amount Extracted	959 mL	Extracted	10/17/2007
ICAL Date	10/24/2007	Analyzed	10/24/2007 15:09
CCal Filename(s)	P71024A_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.900	3.38	2.0	0.429	21	P
13C-4-MoCB	3	9.883	2.74	2.0	0.563	28	
13C-2,2'-DiCB	4	10.194	1.56	2.0	0.606	30	
13C-4,4'-DiCB	15	18.173	1.60	2.0	0.734	37	
13C-2,2',6-TrCB	19	14.459	1.08	2.0	0.717	36	
13C-3,4,4'-TrCB	37	26.696	1.03	2.0	1.09	54	
13C-2,2',6,6'-TeCB	54	18.463	0.80	2.0	1.19	59	
13C-3,4,4',5-TeCB	81	34.292	0.76	2.0	1.28	64	
13C-3,3',4,4'-TeCB	77	34.896	0.78	2.0	1.24	62	
13C-2,2',4,6,6'-PeCB	104	25.187	1.59	2.0	1.34	67	
13C-2,3,3',4,4'-PeCB	105	38.668	1.60	2.0	1.36	68	
13C-2,3,4,4',5-PeCB	114	37.981	1.61	2.0	1.34	67	
13C-2,3',4,4',5-PeCB	118	37.427	1.54	2.0	1.46	73	
13C-2,3',4,4',5'-PeCB	123	37.075	1.60	2.0	1.36	68	
13C-3,3',4,4',5-PeCB	126	42.005	1.59	2.0	1.45	72	
13C-2,2',4,4',6,6'-HxCB	155	31.710	1.25	2.0	1.34	67	
13C-HxCB (156/157)	156/157	45.191	1.24	4.0	2.70	68	
13C-2,3',4,4',5,5'-HxCB	167	44.000	1.23	2.0	1.30	65	
13C-3,3',4,4',5,5'-HxCB	169	48.645	1.27	2.0	1.25	62	
13C-2,2',3,4',5,6,6'-HpCB	188	37.947	1.03	2.0	1.91	95	
13C-2,3,3',4,4',5,5'-HpCB	189	51.268	1.04	2.0	1.55	77	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.682	0.89	2.0	1.84	92	
13C-2,3,3',4,4',5,5',6-OcCB	205	53.940	0.91	2.0	1.75	88	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.751	0.76	2.0	1.84	92	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.707	0.81	2.0	1.84	92	
13C--DeCB	209	57.389	0.71	2.0	2.05	102	
Cleanup Standards							
13C-2,4,4'-TrCB	28	21.951	1.01	2.0	1.37	69	
13C-2,3,3',5,5'-PeCB	111	34.979	1.59	2.0	1.84	92	
13C-2,2',3,3',5,5',6-HpCB	178	41.234	1.05	2.0	1.81	91	
Recovery Standards							
13C-2,5-DiCB	9	12.986	1.55	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.131	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	31.978	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.748	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.445	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.521
2		---	---	ND	---	0.521
3		---	---	ND	---	0.521
4		---	---	ND	---	0.521
5		---	---	ND	---	0.521
6		---	---	ND	---	0.521
7		---	---	ND	---	0.521
8		---	---	ND	---	0.521
9		---	---	ND	---	0.521
10		---	---	ND	---	0.521
11		17.419	1.61	0.899	---	0.625
12	12/13	---	---	ND	---	0.521
13	12/13	---	---	ND	---	0.521
14		---	---	ND	---	0.521
15		---	---	ND	---	0.521
16		---	---	ND	---	0.521
17		---	---	ND	---	0.521
18	18/30	---	---	ND	---	0.521
19		---	---	ND	---	0.521
20	20/28	---	---	ND	---	0.625
21	21/33	---	---	ND	---	0.521
22		---	---	ND	---	0.521
23		---	---	ND	---	0.521
24		---	---	ND	---	0.521
25		---	---	ND	---	0.521
26	26/29	---	---	ND	---	0.521
27		---	---	ND	---	0.521
28	20/28	---	---	ND	---	0.625
29	26/29	---	---	ND	---	0.521
30	18/30	---	---	ND	---	0.521
31		---	---	ND	---	0.521
32		---	---	ND	---	0.521
33	21/33	---	---	ND	---	0.521
34		---	---	ND	---	0.521
35		---	---	ND	---	0.521
36		---	---	ND	---	0.521
37		---	---	ND	---	0.521
38		---	---	ND	---	0.521
39		---	---	ND	---	0.521
40	40/41/71	---	---	ND	---	0.521
41	40/41/71	---	---	ND	---	0.521
42		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1060388

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.521
44	44/47/65	---	---	ND	---	0.625
45	45/51	---	---	ND	---	0.521
46		---	---	ND	---	0.521
47	44/47/65	---	---	ND	---	0.625
48		---	---	ND	---	0.521
49	49/69	---	---	ND	---	0.521
50	50/53	---	---	ND	---	0.521
51	45/51	---	---	ND	---	0.521
52		---	---	ND	---	0.521
53	50/53	---	---	ND	---	0.521
54		---	---	ND	---	0.521
55		---	---	ND	---	0.521
56		---	---	ND	---	0.521
57		---	---	ND	---	0.521
58		---	---	ND	---	0.521
59	59/62/75	---	---	ND	---	0.521
60		---	---	ND	---	0.521
61	61/70/74/76	---	---	ND	---	0.521
62	59/62/75	---	---	ND	---	0.521
63		---	---	ND	---	0.521
64		---	---	ND	---	0.521
65	44/47/65	---	---	ND	---	0.625
66		---	---	ND	---	0.521
67		---	---	ND	---	0.521
68		---	---	ND	---	0.521
69	49/69	---	---	ND	---	0.521
70	61/70/74/76	---	---	ND	---	0.521
71	40/41/71	---	---	ND	---	0.521
72		---	---	ND	---	0.521
73		---	---	ND	---	0.521
74	61/70/74/76	---	---	ND	---	0.521
75	59/62/75	---	---	ND	---	0.521
76	61/70/74/76	---	---	ND	---	0.521
77		---	---	ND	---	0.521
78		---	---	ND	---	0.521
79		---	---	ND	---	0.521
80		---	---	ND	---	0.521
81		---	---	ND	---	0.521
82		---	---	ND	---	0.521
83		---	---	ND	---	0.521
84		---	---	ND	---	0.521

Conc = Concentration
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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.625
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.521
89		---	---	ND	---	0.521
90	90/101/113	---	---	ND	---	0.521
91	88/91	---	---	ND	---	0.521
92		---	---	ND	---	0.521
93	93/98/100/102	---	---	ND	---	0.782
94		---	---	ND	---	0.521
95		---	---	ND	---	0.521
96		---	---	ND	---	0.521
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.782
99		---	---	ND	---	0.521
100	93/98/100/102	---	---	ND	---	0.782
101	90/101/113	---	---	ND	---	0.521
102	93/98/100/102	---	---	ND	---	0.782
103		---	---	ND	---	0.521
104		---	---	ND	---	0.521
105		---	---	ND	---	0.521
106		---	---	ND	---	0.521
107	107/124	---	---	ND	---	0.521
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.521
110	110/115	---	---	ND	---	0.521
111		---	---	ND	---	0.521
112		---	---	ND	---	0.521
113	90/101/113	---	---	ND	---	0.521
114		---	---	ND	---	0.521
115	110/115	---	---	ND	---	0.521
116	85/116/117	---	---	ND	---	0.625
117	85/116/117	---	---	ND	---	0.625
118		---	---	ND	---	0.521
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.521
121		---	---	ND	---	0.521
122		---	---	ND	---	0.521
123		---	---	ND	---	0.521
124	107/124	---	---	ND	---	0.521
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.521

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
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Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.521
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.521
130		---	---	ND	---	0.521
131		---	---	ND	---	0.521
132		---	---	ND	---	0.521
133		---	---	ND	---	0.521
134	134/143	---	---	ND	---	0.521
135	135/151	---	---	ND	---	0.532
136		---	---	ND	---	0.521
137		---	---	ND	---	0.521
138	129/138/163	---	---	ND	---	0.521
139	139/140	---	---	ND	---	0.521
140	139/140	---	---	ND	---	0.521
141		---	---	ND	---	0.521
142		---	---	ND	---	0.521
143	134/143	---	---	ND	---	0.521
144		---	---	ND	---	0.521
145		---	---	ND	---	0.521
146		---	---	ND	---	0.521
147	147/149	---	---	ND	---	0.521
148		---	---	ND	---	0.521
149	147/149	---	---	ND	---	0.521
150		---	---	ND	---	0.521
151	135/151	---	---	ND	---	0.532
152		---	---	ND	---	0.521
153	153/168	---	---	ND	---	0.625
154		---	---	ND	---	0.521
155		---	---	ND	---	0.521
156	156/157	---	---	ND	---	0.521
157	156/157	---	---	ND	---	0.521
158		---	---	ND	---	0.521
159		---	---	ND	---	0.521
160		---	---	ND	---	0.521
161		---	---	ND	---	0.521
162		---	---	ND	---	0.521
163	129/138/163	---	---	ND	---	0.521
164		---	---	ND	---	0.521
165		---	---	ND	---	0.521
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.521
168	153/168	---	---	ND	---	0.625

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.521
170		---	---	ND	---	0.521
171	171/173	---	---	ND	---	0.521
172		---	---	ND	---	0.521
173	171/173	---	---	ND	---	0.521
174		---	---	ND	---	0.521
175		---	---	ND	---	0.521
176		---	---	ND	---	0.521
177		---	---	ND	---	0.521
178		---	---	ND	---	0.521
179		---	---	ND	---	0.521
180	180/193	---	---	ND	---	0.521
181		---	---	ND	---	0.521
182		---	---	ND	---	0.521
183	183/185	---	---	ND	---	0.521
184		---	---	ND	---	0.521
185	183/185	---	---	ND	---	0.521
186		---	---	ND	---	0.521
187		---	---	ND	---	0.521
188		---	---	ND	---	0.521
189		---	---	ND	---	0.521
190		---	---	ND	---	0.521
191		---	---	ND	---	0.521
192		---	---	ND	---	0.521
193	180/193	---	---	ND	---	0.521
194		---	---	ND	---	0.521
195		---	---	ND	---	0.521
196		---	---	ND	---	0.730
197	197/200	---	---	ND	---	2.61
198	198/199	---	---	ND	---	0.521
199	198/199	---	---	ND	---	0.521
200	197/200	---	---	ND	---	2.61
201		---	---	ND	---	0.521
202		---	---	ND	---	0.521
203		---	---	ND	---	0.521
204		---	---	ND	---	0.521
205		---	---	ND	---	0.521
206		---	---	ND	---	0.521
207		---	---	ND	---	0.521
208		---	---	ND	---	0.521
209		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1060388

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	BLANK-14469
Lab Sample ID	BLANK-14469
Filename	P71024A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.899
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	0.899

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-01 FO 071148		
Lab Sample ID	1060388001		
Filename	P71024A_11		
Injected By	SMT		
Total Amount Extracted	916 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/24/2007	Received	10/05/2007
CCal Filename(s)	P71024A_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/24/2007 18:28

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.888	3.10	2.0	1.19	60
13C-4-MoCB	3	9.883	3.28	2.0	1.13	57
13C-2,2'-DiCB	4	10.194	1.61	2.0	1.55	78
13C-4,4'-DiCB	15	18.174	1.57	2.0	1.39	69
13C-2,2',6-TrCB	19	14.460	1.06	2.0	1.52	76
13C-3,4,4'-TrCB	37	26.697	1.07	2.0	1.58	79
13C-2,2',6,6'-TeCB	54	18.464	0.80	2.0	2.17	108
13C-3,4,4',5-TeCB	81	34.293	0.75	2.0	1.62	81
13C-3,3',4,4'-TeCB	77	34.913	0.79	2.0	1.53	77
13C-2,2',4,6,6'-PeCB	104	25.205	1.66	2.0	2.00	100
13C-2,3,3',4,4'-PeCB	105	38.686	1.59	2.0	1.63	81
13C-2,3,4,4',5-PeCB	114	37.999	1.60	2.0	1.63	81
13C-2,3',4,4',5-PeCB	118	37.445	1.60	2.0	1.77	89
13C-2,3',4,4',5'-PeCB	123	37.093	1.61	2.0	1.73	86
13C-3,3',4,4',5-PeCB	126	42.040	1.54	2.0	1.59	80
13C-2,2',4,4',6,6'-HxCB	155	31.727	1.33	2.0	1.88	94
13C-HxCB (156/157)	156/157	45.209	1.27	4.0	2.99	75
13C-2,3',4,4',5,5'-HxCB	167	44.018	1.24	2.0	1.48	74
13C-3,3',4,4',5,5'-HxCB	169	48.680	1.27	2.0	1.29	65
13C-2,2',3,4',5,6,6'-HpCB	188	37.965	1.04	2.0	2.64	132
13C-2,3,3',4,4',5,5'-HpCB	189	51.312	1.03	2.0	1.74	87
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.700	0.90	2.0	2.31	115
13C-2,3,3',4,4',5,5',6-OcCB	205	53.985	0.93	2.0	1.86	93
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.774	0.78	2.0	1.93	96
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.730	0.76	2.0	2.06	103
13C--DeCB	209	57.412	0.71	2.0	2.12	106
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.952	1.06	2.0	1.73	86
13C-2,3,3',5,5'-PeCB	111	34.997	1.61	2.0	2.01	101
13C-2,2',3,3',5,5',6-HpCB	178	41.268	1.04	2.0	1.85	93
Recovery Standards						
13C-2,5-DiCB	9	12.986	1.57	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.148	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.996	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.765	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.489	0.92	2.0	NA	NA

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-01 FO 071148
Lab Sample ID	1060388001
Filename	P71024A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.546
2		---	---	ND	---	0.546
3		---	---	ND	---	0.546
4		---	---	ND	---	0.546
5		---	---	ND	---	0.546
6		---	---	ND	---	0.546
7		---	---	ND	---	0.546
8		---	---	ND	---	0.546
9		---	---	ND	---	0.546
10		---	---	ND	---	0.546
11		---	---	ND	---	0.655
12	12/13	---	---	ND	---	0.546
13	12/13	---	---	ND	---	0.546
14		---	---	ND	---	0.546
15		---	---	ND	---	0.546
16		---	---	ND	---	0.546
17		---	---	ND	---	0.546
18	18/30	---	---	ND	---	0.546
19		---	---	ND	---	0.546
20	20/28	---	---	ND	---	0.655
21	21/33	---	---	ND	---	0.546
22		---	---	ND	---	0.546
23		---	---	ND	---	0.546
24		---	---	ND	---	0.546
25		---	---	ND	---	0.546
26	26/29	---	---	ND	---	0.546
27		---	---	ND	---	0.546
28	20/28	---	---	ND	---	0.655
29	26/29	---	---	ND	---	0.546
30	18/30	---	---	ND	---	0.546
31		---	---	ND	---	0.546
32		---	---	ND	---	0.546
33	21/33	---	---	ND	---	0.546
34		---	---	ND	---	0.546
35		---	---	ND	---	0.546
36		---	---	ND	---	0.546
37		---	---	ND	---	0.546
38		---	---	ND	---	0.546
39		---	---	ND	---	0.546
40	40/41/71	---	---	ND	---	0.546
41	40/41/71	---	---	ND	---	0.546
42		---	---	ND	---	0.546

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-01 FO 071148
Lab Sample ID	1060388001
Filename	P71024A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.546
44	44/47/65	---	---	ND	---	0.655
45	45/51	---	---	ND	---	0.546
46		---	---	ND	---	0.546
47	44/47/65	---	---	ND	---	0.655
48		---	---	ND	---	0.546
49	49/69	---	---	ND	---	0.546
50	50/53	---	---	ND	---	0.546
51	45/51	---	---	ND	---	0.546
52		---	---	ND	---	0.546
53	50/53	---	---	ND	---	0.546
54		---	---	ND	---	0.546
55		---	---	ND	---	0.546
56		---	---	ND	---	0.546
57		---	---	ND	---	0.546
58		---	---	ND	---	0.546
59	59/62/75	---	---	ND	---	0.546
60		---	---	ND	---	0.546
61	61/70/74/76	---	---	ND	---	0.546
62	59/62/75	---	---	ND	---	0.546
63		---	---	ND	---	0.546
64		---	---	ND	---	0.546
65	44/47/65	---	---	ND	---	0.655
66		---	---	ND	---	0.546
67		---	---	ND	---	0.546
68		---	---	ND	---	0.546
69	49/69	---	---	ND	---	0.546
70	61/70/74/76	---	---	ND	---	0.546
71	40/41/71	---	---	ND	---	0.546
72		---	---	ND	---	0.546
73		---	---	ND	---	0.546
74	61/70/74/76	---	---	ND	---	0.546
75	59/62/75	---	---	ND	---	0.546
76	61/70/74/76	---	---	ND	---	0.546
77		---	---	ND	---	0.546
78		---	---	ND	---	0.546
79		---	---	ND	---	0.546
80		---	---	ND	---	0.546
81		---	---	ND	---	0.546
82		---	---	ND	---	0.546
83		---	---	ND	---	0.546
84		---	---	ND	---	0.546

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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1700 Elm Street - Suite 200
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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-01 FO 071148
Lab Sample ID 1060388001
Filename P71024A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.655
86	86/87/97/108/119/125	---	---	ND	---	1.09
87	86/87/97/108/119/125	---	---	ND	---	1.09
88	88/91	---	---	ND	---	0.546
89		---	---	ND	---	0.546
90	90/101/113	32.029	1.59	2.71	---	0.546
91	88/91	---	---	ND	---	0.546
92		---	---	ND	---	0.546
93	93/98/100/102	---	---	ND	---	0.819
94		---	---	ND	---	0.546
95		28.676	1.61	1.69	---	0.546
96		---	---	ND	---	0.546
97	86/87/97/108/119/125	---	---	ND	---	1.09
98	93/98/100/102	---	---	ND	---	0.819
99		---	---	ND	---	0.546
100	93/98/100/102	---	---	ND	---	0.819
101	90/101/113	32.029	1.59	(2.71)	---	0.546
102	93/98/100/102	---	---	ND	---	0.819
103		---	---	ND	---	0.546
104		---	---	ND	---	0.546
105		---	---	ND	---	0.546
106		---	---	ND	---	0.546
107	107/124	---	---	ND	---	0.546
108	86/87/97/108/119/125	---	---	ND	---	1.09
109		---	---	ND	---	0.546
110	110/115	34.159	1.57	1.33	---	0.546
111		---	---	ND	---	0.546
112		---	---	ND	---	0.546
113	90/101/113	32.029	1.59	(2.71)	---	0.546
114		---	---	ND	---	0.546
115	110/115	34.159	1.57	(1.33)	---	0.546
116	85/116/117	---	---	ND	---	0.655
117	85/116/117	---	---	ND	---	0.655
118		37.479	1.56	0.815	---	0.546
119	86/87/97/108/119/125	---	---	ND	---	1.09
120		---	---	ND	---	0.546
121		---	---	ND	---	0.546
122		---	---	ND	---	0.546
123		---	---	ND	---	0.546
124	107/124	---	---	ND	---	0.546
125	86/87/97/108/119/125	---	---	ND	---	1.09
126		---	---	ND	---	0.546

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-01 FO 071148
Lab Sample ID 1060388001
Filename P71024A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.546
128	128/166	---	---	ND	---	1.09
129	129/138/163	40.799	1.26	8.63	---	0.546
130		---	---	ND	---	0.546
131		---	---	ND	---	0.546
132		37.512	1.24	1.96	---	0.546
133		---	---	ND	---	0.546
134	134/143	---	---	ND	---	0.546
135	135/151	35.181	1.28	2.54	---	0.557
136		32.482	1.29	0.824	---	0.546
137		---	---	ND	---	0.546
138	129/138/163	40.799	1.26	(8.63)	---	0.546
139	139/140	---	---	ND	---	0.546
140	139/140	---	---	ND	---	0.546
141		39.675	1.29	1.78	---	0.546
142		---	---	ND	---	0.546
143	134/143	---	---	ND	---	0.546
144		---	---	ND	---	0.546
145		---	---	ND	---	0.546
146		38.837	1.21	0.890	---	0.546
147	147/149	36.188	1.26	6.34	---	0.546
148		---	---	ND	---	0.546
149	147/149	36.188	1.26	(6.34)	---	0.546
150		---	---	ND	---	0.546
151	135/151	35.181	1.28	(2.54)	---	0.557
152		---	---	ND	---	0.546
153	153/168	39.491	1.25	9.25	---	0.655
154		---	---	ND	---	0.546
155		---	---	ND	---	0.546
156	156/157	45.209	1.21	0.596	---	0.546
157	156/157	45.209	1.21	(0.596)	---	0.546
158		41.218	1.32	0.765	---	0.546
159		---	---	ND	---	0.546
160		---	---	ND	---	0.546
161		---	---	ND	---	0.546
162		---	---	ND	---	0.546
163	129/138/163	40.799	1.26	(8.63)	---	0.546
164		---	---	ND	---	0.546
165		---	---	ND	---	0.546
166	128/166	---	---	ND	---	1.09
167		---	---	ND	---	0.546
168	153/168	39.491	1.25	(9.25)	---	0.655

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-01 FO 071148
Lab Sample ID 1060388001
Filename P71024A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.546
170		48.009	1.03	3.23	---	0.546
171	171/173	44.253	0.98	0.962	---	0.546
172		---	---	ND	---	0.546
173	171/173	44.253	0.98	(0.962)	---	0.546
174		43.129	1.03	2.48	---	0.546
175		---	---	ND	---	0.546
176		---	---	ND	---	0.546
177		43.599	1.01	1.43	---	0.546
178		---	---	ND	---	0.546
179		38.334	1.04	0.861	---	0.546
180	180/193	46.701	1.03	7.15	---	0.546
181		---	---	ND	---	0.546
182		---	---	ND	---	0.546
183	183/185	42.911	1.00	2.30	---	0.546
184		---	---	ND	---	0.546
185	183/185	42.911	1.00	(2.30)	---	0.546
186		---	---	ND	---	0.546
187		42.258	1.04	2.77	---	0.546
188		---	---	ND	---	0.546
189		---	---	ND	---	0.546
190		48.562	1.05	0.651	---	0.546
191		---	---	ND	---	0.546
192		---	---	ND	---	0.546
193	180/193	46.701	1.03	(7.15)	---	0.546
194		53.510	0.87	1.07	---	0.546
195		---	---	ND	---	0.546
196		---	---	ND	---	0.764
197	197/200	---	---	ND	---	2.73
198	198/199	48.764	0.91	0.783	---	0.546
199	198/199	48.764	0.91	(0.783)	---	0.546
200	197/200	---	---	ND	---	2.73
201		---	---	ND	---	0.546
202		---	---	ND	---	0.546
203		49.652	0.88	0.654	---	0.546
204		---	---	ND	---	0.546
205		---	---	ND	---	0.546
206		---	---	ND	---	0.546
207		---	---	ND	---	0.546
208		---	---	ND	---	0.546
209		---	---	ND	---	0.546

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-01 FO 071148
Lab Sample ID 1060388001
Filename P71024A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	6.54
Total Hexachloro Biphenyls	33.6
Total Heptachloro Biphenyls	21.8
Total Octachloro Biphenyls	2.50
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	64.5

ND = Not Detected

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-02 FO 071149		
Lab Sample ID	1060388002		
Filename	P71024A_12		
Injected By	SMT		
Total Amount Extracted	924 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/24/2007	Received	10/05/2007
CCal Filename(s)	P71024A_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/24/2007 19:28

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.02	2.0	1.53	76
13C-4-MoCB	3	9.906	3.01	2.0	1.53	77
13C-2,2'-DiCB	4	10.206	1.62	2.0	1.87	93
13C-4,4'-DiCB	15	18.197	1.60	2.0	1.52	76
13C-2,2',6-TrCB	19	14.483	1.12	2.0	1.71	86
13C-3,4,4'-TrCB	37	26.713	1.09	2.0	1.73	86
13C-2,2',6,6'-TeCB	54	18.480	0.81	2.0	2.31	116
13C-3,4,4',5-TeCB	81	34.310	0.80	2.0	1.73	87
13C-3,3',4,4'-TeCB	77	34.930	0.81	2.0	1.67	84
13C-2,2',4,6,6'-PeCB	104	25.221	1.63	2.0	1.99	100
13C-2,3,3',4,4'-PeCB	105	38.686	1.60	2.0	1.66	83
13C-2,3,4,4',5-PeCB	114	37.999	1.63	2.0	1.67	83
13C-2,3',4,4',5-PeCB	118	37.462	1.59	2.0	1.79	90
13C-2,3',4,4',5'-PeCB	123	37.093	1.58	2.0	1.71	85
13C-3,3',4,4',5-PeCB	126	42.040	1.53	2.0	1.64	82
13C-2,2',4,4',6,6'-HxCB	155	31.727	1.27	2.0	1.98	99
13C-HxCB (156/157)	156/157	45.226	1.28	4.0	2.99	75
13C-2,3',4,4',5,5'-HxCB	167	44.018	1.25	2.0	1.51	75
13C-3,3',4,4',5,5'-HxCB	169	48.680	1.26	2.0	1.32	66
13C-2,2',3,4',5,6,6'-HpCB	188	37.982	1.03	2.0	2.70	135
13C-2,3,3',4,4',5,5'-HpCB	189	51.312	1.06	2.0	1.78	89
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.700	0.92	2.0	2.34	117
13C-2,3,3',4,4',5,5',6-OcCB	205	53.985	0.89	2.0	1.89	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.774	0.80	2.0	2.01	101
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.752	0.79	2.0	2.05	102
13C--DeCB	209	57.412	0.71	2.0	2.16	108
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.968	1.07	2.0	1.79	89
13C-2,3,3',5,5'-PeCB	111	34.997	1.60	2.0	1.97	98
13C-2,2',3,3',5,5',6-HpCB	178	41.268	1.06	2.0	1.78	89
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.165	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.012	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.765	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.489	0.97	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Report No.....1060388

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-02 FO 071149
Lab Sample ID 1060388002
Filename P71024A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.541
2		---	---	ND	---	0.541
3		---	---	ND	---	0.541
4		---	---	ND	---	0.541
5		---	---	ND	---	0.541
6		---	---	ND	---	0.541
7		---	---	ND	---	0.541
8		---	---	ND	---	0.541
9		---	---	ND	---	0.541
10		---	---	ND	---	0.541
11		---	---	ND	---	0.649
12	12/13	---	---	ND	---	0.541
13	12/13	---	---	ND	---	0.541
14		---	---	ND	---	0.541
15		---	---	ND	---	0.541
16		---	---	ND	---	0.541
17		---	---	ND	---	0.541
18	18/30	---	---	ND	---	0.541
19		---	---	ND	---	0.541
20	20/28	---	---	ND	---	0.649
21	21/33	---	---	ND	---	0.541
22		---	---	ND	---	0.541
23		---	---	ND	---	0.541
24		---	---	ND	---	0.541
25		---	---	ND	---	0.541
26	26/29	---	---	ND	---	0.541
27		---	---	ND	---	0.541
28	20/28	---	---	ND	---	0.649
29	26/29	---	---	ND	---	0.541
30	18/30	---	---	ND	---	0.541
31		---	---	ND	---	0.541
32		---	---	ND	---	0.541
33	21/33	---	---	ND	---	0.541
34		---	---	ND	---	0.541
35		---	---	ND	---	0.541
36		---	---	ND	---	0.541
37		---	---	ND	---	0.541
38		---	---	ND	---	0.541
39		---	---	ND	---	0.541
40	40/41/71	---	---	ND	---	0.541
41	40/41/71	---	---	ND	---	0.541
42		---	---	ND	---	0.541

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-02 FO 071149
Lab Sample ID 1060388002
Filename P71024A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.541
44	44/47/65	---	---	ND	---	0.649
45	45/51	---	---	ND	---	0.541
46		---	---	ND	---	0.541
47	44/47/65	---	---	ND	---	0.649
48		---	---	ND	---	0.541
49	49/69	---	---	ND	---	0.541
50	50/53	---	---	ND	---	0.541
51	45/51	---	---	ND	---	0.541
52		---	---	ND	---	0.541
53	50/53	---	---	ND	---	0.541
54		---	---	ND	---	0.541
55		---	---	ND	---	0.541
56		---	---	ND	---	0.541
57		---	---	ND	---	0.541
58		---	---	ND	---	0.541
59	59/62/75	---	---	ND	---	0.541
60		---	---	ND	---	0.541
61	61/70/74/76	---	---	ND	---	0.541
62	59/62/75	---	---	ND	---	0.541
63		---	---	ND	---	0.541
64		---	---	ND	---	0.541
65	44/47/65	---	---	ND	---	0.649
66		---	---	ND	---	0.541
67		---	---	ND	---	0.541
68		---	---	ND	---	0.541
69	49/69	---	---	ND	---	0.541
70	61/70/74/76	---	---	ND	---	0.541
71	40/41/71	---	---	ND	---	0.541
72		---	---	ND	---	0.541
73		---	---	ND	---	0.541
74	61/70/74/76	---	---	ND	---	0.541
75	59/62/75	---	---	ND	---	0.541
76	61/70/74/76	---	---	ND	---	0.541
77		---	---	ND	---	0.541
78		---	---	ND	---	0.541
79		---	---	ND	---	0.541
80		---	---	ND	---	0.541
81		---	---	ND	---	0.541
82		---	---	ND	---	0.541
83		---	---	ND	---	0.541
84		---	---	ND	---	0.541

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-02 FO 071149
Lab Sample ID 1060388002
Filename P71024A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.649
86	86/87/97/108/119/125	---	---	ND	---	1.08
87	86/87/97/108/119/125	---	---	ND	---	1.08
88	88/91	---	---	ND	---	0.541
89		---	---	ND	---	0.541
90	90/101/113	32.029	1.47	0.541	---	0.541
91	88/91	---	---	ND	---	0.541
92		---	---	ND	---	0.541
93	93/98/100/102	---	---	ND	---	0.811
94		---	---	ND	---	0.541
95		---	---	ND	---	0.541
96		---	---	ND	---	0.541
97	86/87/97/108/119/125	---	---	ND	---	1.08
98	93/98/100/102	---	---	ND	---	0.811
99		---	---	ND	---	0.541
100	93/98/100/102	---	---	ND	---	0.811
101	90/101/113	32.029	1.47	(0.541)	---	0.541
102	93/98/100/102	---	---	ND	---	0.811
103		---	---	ND	---	0.541
104		---	---	ND	---	0.541
105		---	---	ND	---	0.541
106		---	---	ND	---	0.541
107	107/124	---	---	ND	---	0.541
108	86/87/97/108/119/125	---	---	ND	---	1.08
109		---	---	ND	---	0.541
110	110/115	---	---	ND	---	0.541
111		---	---	ND	---	0.541
112		---	---	ND	---	0.541
113	90/101/113	32.029	1.47	(0.541)	---	0.541
114		---	---	ND	---	0.541
115	110/115	---	---	ND	---	0.541
116	85/116/117	---	---	ND	---	0.649
117	85/116/117	---	---	ND	---	0.649
118		---	---	ND	---	0.541
119	86/87/97/108/119/125	---	---	ND	---	1.08
120		---	---	ND	---	0.541
121		---	---	ND	---	0.541
122		---	---	ND	---	0.541
123		---	---	ND	---	0.541
124	107/124	---	---	ND	---	0.541
125	86/87/97/108/119/125	---	---	ND	---	1.08
126		---	---	ND	---	0.541

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-02 FO 071149
Lab Sample ID 1060388002
Filename P71024A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.541
128	128/166	---	---	ND	---	1.08
129	129/138/163	40.816	1.24	1.35	---	0.541
130		---	---	ND	---	0.541
131		---	---	ND	---	0.541
132		---	---	ND	---	0.541
133		---	---	ND	---	0.541
134	134/143	---	---	ND	---	0.541
135	135/151	---	---	ND	---	0.552
136		---	---	ND	---	0.541
137		---	---	ND	---	0.541
138	129/138/163	40.816	1.24	(1.35)	---	0.541
139	139/140	---	---	ND	---	0.541
140	139/140	---	---	ND	---	0.541
141		---	---	ND	---	0.541
142		---	---	ND	---	0.541
143	134/143	---	---	ND	---	0.541
144		---	---	ND	---	0.541
145		---	---	ND	---	0.541
146		---	---	ND	---	0.541
147	147/149	36.204	1.26	0.880	---	0.541
148		---	---	ND	---	0.541
149	147/149	36.204	1.26	(0.880)	---	0.541
150		---	---	ND	---	0.541
151	135/151	---	---	ND	---	0.552
152		---	---	ND	---	0.541
153	153/168	39.491	1.22	1.33	---	0.649
154		---	---	ND	---	0.541
155		---	---	ND	---	0.541
156	156/157	---	---	ND	---	0.541
157	156/157	---	---	ND	---	0.541
158		---	---	ND	---	0.541
159		---	---	ND	---	0.541
160		---	---	ND	---	0.541
161		---	---	ND	---	0.541
162		---	---	ND	---	0.541
163	129/138/163	40.816	1.24	(1.35)	---	0.541
164		---	---	ND	---	0.541
165		---	---	ND	---	0.541
166	128/166	---	---	ND	---	1.08
167		---	---	ND	---	0.541
168	153/168	39.491	1.22	(1.33)	---	0.649

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Method 1668A Polychlorobiphenyl Sample Analysis Results

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Lab Sample ID 1060388002
Filename P71024A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.541
170		---	---	ND	---	0.541
171	171/173	---	---	ND	---	0.541
172		---	---	ND	---	0.541
173	171/173	---	---	ND	---	0.541
174		---	---	ND	---	0.541
175		---	---	ND	---	0.541
176		---	---	ND	---	0.541
177		---	---	ND	---	0.541
178		---	---	ND	---	0.541
179		---	---	ND	---	0.541
180	180/193	46.718	1.00	0.825	---	0.541
181		---	---	ND	---	0.541
182		---	---	ND	---	0.541
183	183/185	---	---	ND	---	0.541
184		---	---	ND	---	0.541
185	183/185	---	---	ND	---	0.541
186		---	---	ND	---	0.541
187		---	---	ND	---	0.541
188		---	---	ND	---	0.541
189		---	---	ND	---	0.541
190		---	---	ND	---	0.541
191		---	---	ND	---	0.541
192		---	---	ND	---	0.541
193	180/193	46.718	1.00	(0.825)	---	0.541
194		---	---	ND	---	0.541
195		---	---	ND	---	0.541
196		---	---	ND	---	0.757
197	197/200	---	---	ND	---	2.70
198	198/199	---	---	ND	---	0.541
199	198/199	---	---	ND	---	0.541
200	197/200	---	---	ND	---	2.70
201		---	---	ND	---	0.541
202		---	---	ND	---	0.541
203		---	---	ND	---	0.541
204		---	---	ND	---	0.541
205		---	---	ND	---	0.541
206		---	---	ND	---	0.541
207		---	---	ND	---	0.541
208		---	---	ND	---	0.541
209		---	---	ND	---	0.541

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EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-02 FO 071149
Lab Sample ID 1060388002
Filename P71024A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	0.541
Total Hexachloro Biphenyls	3.56
Total Heptachloro Biphenyls	0.825
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	4.92

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-03 FO 071150		
Lab Sample ID	1060388003		
Filename	P71024A_13		
Injected By	SMT		
Total Amount Extracted	961 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/24/2007	Received	10/05/2007
CCal Filename(s)	P71024A_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/24/2007 20:32

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
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13C-4-MoCB	3	9.895	2.99	2.0	1.70	85
13C-2,2'-DiCB	4	10.206	1.59	2.0	2.05	103
13C-4,4'-DiCB	15	18.198	1.58	2.0	1.57	79
13C-2,2',6-TrCB	19	14.472	1.06	2.0	1.82	91
13C-3,4,4'-TrCB	37	26.714	1.05	2.0	1.68	84
13C-2,2',6,6'-TeCB	54	18.481	0.84	2.0	2.41	121
13C-3,4,4',5-TeCB	81	34.310	0.78	2.0	1.72	86
13C-3,3',4,4'-TeCB	77	34.930	0.78	2.0	1.64	82
13C-2,2',4,6,6'-PeCB	104	25.221	1.66	2.0	2.20	110
13C-2,3,3',4,4'-PeCB	105	38.703	1.62	2.0	1.69	85
13C-2,3,4,4',5-PeCB	114	37.999	1.62	2.0	1.71	85
13C-2,3',4,4',5-PeCB	118	37.462	1.57	2.0	1.82	91
13C-2,3',4,4',5'-PeCB	123	37.110	1.59	2.0	1.77	89
13C-3,3',4,4',5-PeCB	126	42.040	1.51	2.0	1.70	85
13C-2,2',4,4',6,6'-HxCB	155	31.728	1.26	2.0	2.05	102
13C-HxCB (156/157)	156/157	45.226	1.27	4.0	3.12	78
13C-2,3',4,4',5,5'-HxCB	167	44.035	1.26	2.0	1.55	78
13C-3,3',4,4',5,5'-HxCB	169	48.680	1.24	2.0	1.37	68
13C-2,2',3,4',5,6,6'-HpCB	188	37.982	1.05	2.0	2.86	143
13C-2,3,3',4,4',5,5'-HpCB	189	51.312	1.02	2.0	1.87	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.717	0.92	2.0	2.43	122
13C-2,3,3',4,4',5,5',6-OcCB	205	53.985	0.91	2.0	2.00	100
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.795	0.76	2.0	2.04	102
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.752	0.81	2.0	2.16	108
13C--DeCB	209	57.433	0.67	2.0	2.17	109
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.969	1.02	2.0	1.80	90
13C-2,3,3',5,5'-PeCB	111	34.997	1.61	2.0	1.98	99
13C-2,2',3,3',5,5',6-HpCB	178	41.269	1.08	2.0	1.78	89
Recovery Standards						
13C-2,5-DiCB	9	12.998	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.165	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.013	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.782	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.489	0.89	2.0	NA	NA

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Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-03 FO 071150
Lab Sample ID 1060388003
Filename P71024A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.520
2		---	---	ND	---	0.520
3		---	---	ND	---	0.520
4		---	---	ND	---	0.520
5		---	---	ND	---	0.520
6		---	---	ND	---	0.520
7		---	---	ND	---	0.520
8		---	---	ND	---	0.520
9		---	---	ND	---	0.520
10		---	---	ND	---	0.520
11		---	---	ND	---	0.625
12	12/13	---	---	ND	---	0.520
13	12/13	---	---	ND	---	0.520
14		---	---	ND	---	0.520
15		---	---	ND	---	0.520
16		---	---	ND	---	0.520
17		---	---	ND	---	0.520
18	18/30	---	---	ND	---	0.520
19		---	---	ND	---	0.520
20	20/28	---	---	ND	---	0.625
21	21/33	---	---	ND	---	0.520
22		---	---	ND	---	0.520
23		---	---	ND	---	0.520
24		---	---	ND	---	0.520
25		---	---	ND	---	0.520
26	26/29	---	---	ND	---	0.520
27		---	---	ND	---	0.520
28	20/28	---	---	ND	---	0.625
29	26/29	---	---	ND	---	0.520
30	18/30	---	---	ND	---	0.520
31		---	---	ND	---	0.520
32		---	---	ND	---	0.520
33	21/33	---	---	ND	---	0.520
34		---	---	ND	---	0.520
35		---	---	ND	---	0.520
36		---	---	ND	---	0.520
37		---	---	ND	---	0.520
38		---	---	ND	---	0.520
39		---	---	ND	---	0.520
40	40/41/71	---	---	ND	---	0.520
41	40/41/71	---	---	ND	---	0.520
42		---	---	ND	---	0.520

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-03 FO 071150
Lab Sample ID 1060388003
Filename P71024A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.520
44	44/47/65	---	---	ND	---	0.625
45	45/51	---	---	ND	---	0.520
46		---	---	ND	---	0.520
47	44/47/65	---	---	ND	---	0.625
48		---	---	ND	---	0.520
49	49/69	---	---	ND	---	0.520
50	50/53	---	---	ND	---	0.520
51	45/51	---	---	ND	---	0.520
52		---	---	ND	---	0.520
53	50/53	---	---	ND	---	0.520
54		---	---	ND	---	0.520
55		---	---	ND	---	0.520
56		---	---	ND	---	0.520
57		---	---	ND	---	0.520
58		---	---	ND	---	0.520
59	59/62/75	---	---	ND	---	0.520
60		---	---	ND	---	0.520
61	61/70/74/76	---	---	ND	---	0.520
62	59/62/75	---	---	ND	---	0.520
63		---	---	ND	---	0.520
64		---	---	ND	---	0.520
65	44/47/65	---	---	ND	---	0.625
66		---	---	ND	---	0.520
67		---	---	ND	---	0.520
68		---	---	ND	---	0.520
69	49/69	---	---	ND	---	0.520
70	61/70/74/76	---	---	ND	---	0.520
71	40/41/71	---	---	ND	---	0.520
72		---	---	ND	---	0.520
73		---	---	ND	---	0.520
74	61/70/74/76	---	---	ND	---	0.520
75	59/62/75	---	---	ND	---	0.520
76	61/70/74/76	---	---	ND	---	0.520
77		---	---	ND	---	0.520
78		---	---	ND	---	0.520
79		---	---	ND	---	0.520
80		---	---	ND	---	0.520
81		---	---	ND	---	0.520
82		---	---	ND	---	0.520
83		---	---	ND	---	0.520
84		29.883	1.55	0.650	---	0.520

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-03 FO 071150
Lab Sample ID 1060388003
Filename P71024A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.625
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.520
89		---	---	ND	---	0.520
90	90/101/113	32.029	1.61	0.598	---	0.520
91	88/91	---	---	ND	---	0.520
92		---	---	ND	---	0.520
93	93/98/100/102	---	---	ND	---	0.781
94		---	---	ND	---	0.520
95		28.692	1.61	2.24	---	0.520
96		---	---	ND	---	0.520
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.781
99		---	---	ND	---	0.520
100	93/98/100/102	---	---	ND	---	0.781
101	90/101/113	32.029	1.61	(0.598)	---	0.520
102	93/98/100/102	---	---	ND	---	0.781
103		---	---	ND	---	0.520
104		---	---	ND	---	0.520
105		---	---	ND	---	0.520
106		---	---	ND	---	0.520
107	107/124	---	---	ND	---	0.520
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.520
110	110/115	34.176	1.59	1.24	---	0.520
111		---	---	ND	---	0.520
112		---	---	ND	---	0.520
113	90/101/113	32.029	1.61	(0.598)	---	0.520
114		---	---	ND	---	0.520
115	110/115	34.176	1.59	(1.24)	---	0.520
116	85/116/117	---	---	ND	---	0.625
117	85/116/117	---	---	ND	---	0.625
118		---	---	ND	---	0.520
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.520
121		---	---	ND	---	0.520
122		---	---	ND	---	0.520
123		---	---	ND	---	0.520
124	107/124	---	---	ND	---	0.520
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.520

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-03 FO 071150
Lab Sample ID 1060388003
Filename P71024A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.520
128	128/166	---	---	ND	---	1.04
129	129/138/163	40.816	1.25	2.38	---	0.520
130		---	---	ND	---	0.520
131		---	---	ND	---	0.520
132		37.529	1.25	1.52	---	0.520
133		---	---	ND	---	0.520
134	134/143	---	---	ND	---	0.520
135	135/151	35.199	1.31	1.17	---	0.531
136		---	---	ND	---	0.520
137		---	---	ND	---	0.520
138	129/138/163	40.816	1.25	(2.38)	---	0.520
139	139/140	---	---	ND	---	0.520
140	139/140	---	---	ND	---	0.520
141		---	---	ND	---	0.520
142		---	---	ND	---	0.520
143	134/143	---	---	ND	---	0.520
144		---	---	ND	---	0.520
145		---	---	ND	---	0.520
146		---	---	ND	---	0.520
147	147/149	36.205	1.23	2.90	---	0.520
148		---	---	ND	---	0.520
149	147/149	36.205	1.23	(2.90)	---	0.520
150		---	---	ND	---	0.520
151	135/151	35.199	1.31	(1.17)	---	0.531
152		---	---	ND	---	0.520
153	153/168	39.508	1.23	1.71	---	0.625
154		---	---	ND	---	0.520
155		---	---	ND	---	0.520
156	156/157	---	---	ND	---	0.520
157	156/157	---	---	ND	---	0.520
158		---	---	ND	---	0.520
159		---	---	ND	---	0.520
160		---	---	ND	---	0.520
161		---	---	ND	---	0.520
162		---	---	ND	---	0.520
163	129/138/163	40.816	1.25	(2.38)	---	0.520
164		---	---	ND	---	0.520
165		---	---	ND	---	0.520
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.520
168	153/168	39.508	1.23	(1.71)	---	0.625

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-03 FO 071150
Lab Sample ID 1060388003
Filename P71024A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.520
170		48.026	1.10	0.629	---	0.520
171	171/173	---	---	ND	---	0.520
172		---	---	ND	---	0.520
173	171/173	---	---	ND	---	0.520
174		43.147	1.10	0.563	---	0.520
175		---	---	ND	---	0.520
176		---	---	ND	---	0.520
177		---	---	ND	---	0.520
178		---	---	ND	---	0.520
179		---	---	ND	---	0.520
180	180/193	46.718	1.02	1.18	---	0.520
181		---	---	ND	---	0.520
182		---	---	ND	---	0.520
183	183/185	---	---	ND	---	0.520
184		---	---	ND	---	0.520
185	183/185	---	---	ND	---	0.520
186		---	---	ND	---	0.520
187		42.258	1.05	0.583	---	0.520
188		---	---	ND	---	0.520
189		---	---	ND	---	0.520
190		---	---	ND	---	0.520
191		---	---	ND	---	0.520
192		---	---	ND	---	0.520
193	180/193	46.718	1.02	(1.18)	---	0.520
194		---	---	ND	---	0.520
195		---	---	ND	---	0.520
196		---	---	ND	---	0.729
197	197/200	---	---	ND	---	2.60
198	198/199	---	---	ND	---	0.520
199	198/199	---	---	ND	---	0.520
200	197/200	---	---	ND	---	2.60
201		---	---	ND	---	0.520
202		---	---	ND	---	0.520
203		---	---	ND	---	0.520
204		---	---	ND	---	0.520
205		---	---	ND	---	0.520
206		---	---	ND	---	0.520
207		---	---	ND	---	0.520
208		---	---	ND	---	0.520
209		---	---	ND	---	0.520

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-03 FO 071150
Lab Sample ID	1060388003
Filename	P71024A_13

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	4.72
Total Hexachloro Biphenyls	9.68
Total Heptachloro Biphenyls	2.95
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	17.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-04 FO 071151		
Lab Sample ID	1060388004		
Filename	P71024A_14		
Injected By	SMT		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/24/2007	Received	10/05/2007
CCal Filename(s)	P71024A_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/24/2007 21:37

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.924	3.09	2.0	1.50	75
13C-4-MoCB	3	9.907	3.26	2.0	1.43	71
13C-2,2'-DiCB	4	10.218	1.56	2.0	1.89	94
13C-4,4'-DiCB	15	18.197	1.55	2.0	1.51	76
13C-2,2',6-TrCB	19	14.483	1.06	2.0	1.71	85
13C-3,4,4'-TrCB	37	26.713	1.09	2.0	1.73	87
13C-2,2',6,6'-TeCB	54	18.480	0.81	2.0	2.38	119
13C-3,4,4',5-TeCB	81	34.309	0.77	2.0	1.84	92
13C-3,3',4,4'-TeCB	77	34.930	0.78	2.0	1.75	88
13C-2,2',4,6,6'-PeCB	104	25.221	1.65	2.0	2.14	107
13C-2,3,3',4,4'-PeCB	105	38.702	1.59	2.0	1.76	88
13C-2,3,4,4',5-PeCB	114	38.015	1.60	2.0	1.78	89
13C-2,3',4,4',5-PeCB	118	37.462	1.58	2.0	1.89	95
13C-2,3',4,4',5'-PeCB	123	37.109	1.58	2.0	1.83	92
13C-3,3',4,4',5-PeCB	126	42.056	1.59	2.0	1.78	89
13C-2,2',4,4',6,6'-HxCB	155	31.744	1.26	2.0	2.07	104
13C-HxCB (156/157)	156/157	45.225	1.27	4.0	3.33	83
13C-2,3',4,4',5,5'-HxCB	167	44.035	1.26	2.0	1.63	81
13C-3,3',4,4',5,5'-HxCB	169	48.696	1.27	2.0	1.48	74
13C-2,2',3,4',5,6,6'-HpCB	188	37.981	1.04	2.0	2.76	138
13C-2,3,3',4,4',5,5'-HpCB	189	51.312	1.04	2.0	1.87	93
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.716	0.90	2.0	2.41	120
13C-2,3,3',4,4',5,5',6-OcCB	205	53.984	0.88	2.0	2.03	101
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.773	0.77	2.0	2.05	103
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.751	0.80	2.0	2.14	107
13C--DeCB	209	57.433	0.68	2.0	2.20	110
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.968	1.03	2.0	1.72	86
13C-2,3,3',5,5'-PeCB	111	35.013	1.57	2.0	1.99	99
13C-2,2',3,3',5,5',6-HpCB	178	41.268	1.07	2.0	1.86	93
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.165	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.012	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.782	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.489	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
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Report No.....1060388

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-04 FO 071151
Lab Sample ID	1060388004
Filename	P71024A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.494
2		---	---	ND	---	0.494
3		---	---	ND	---	0.494
4		---	---	ND	---	0.494
5		---	---	ND	---	0.494
6		---	---	ND	---	0.494
7		---	---	ND	---	0.494
8		---	---	ND	---	0.494
9		---	---	ND	---	0.494
10		---	---	ND	---	0.494
11		---	---	ND	---	0.593
12	12/13	---	---	ND	---	0.494
13	12/13	---	---	ND	---	0.494
14		---	---	ND	---	0.494
15		---	---	ND	---	0.494
16		---	---	ND	---	0.494
17		---	---	ND	---	0.494
18	18/30	---	---	ND	---	0.494
19		---	---	ND	---	0.494
20	20/28	---	---	ND	---	0.593
21	21/33	---	---	ND	---	0.494
22		---	---	ND	---	0.494
23		---	---	ND	---	0.494
24		---	---	ND	---	0.494
25		---	---	ND	---	0.494
26	26/29	---	---	ND	---	0.494
27		---	---	ND	---	0.494
28	20/28	---	---	ND	---	0.593
29	26/29	---	---	ND	---	0.494
30	18/30	---	---	ND	---	0.494
31		---	---	ND	---	0.494
32		---	---	ND	---	0.494
33	21/33	---	---	ND	---	0.494
34		---	---	ND	---	0.494
35		---	---	ND	---	0.494
36		---	---	ND	---	0.494
37		---	---	ND	---	0.494
38		---	---	ND	---	0.494
39		---	---	ND	---	0.494
40	40/41/71	---	---	ND	---	0.494
41	40/41/71	---	---	ND	---	0.494
42		---	---	ND	---	0.494

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-04 FO 071151
Lab Sample ID 1060388004
Filename P71024A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.494
44	44/47/65	---	---	ND	---	0.593
45	45/51	---	---	ND	---	0.494
46		---	---	ND	---	0.494
47	44/47/65	---	---	ND	---	0.593
48		---	---	ND	---	0.494
49	49/69	---	---	ND	---	0.494
50	50/53	---	---	ND	---	0.494
51	45/51	---	---	ND	---	0.494
52		---	---	ND	---	0.494
53	50/53	---	---	ND	---	0.494
54		---	---	ND	---	0.494
55		---	---	ND	---	0.494
56		---	---	ND	---	0.494
57		---	---	ND	---	0.494
58		---	---	ND	---	0.494
59	59/62/75	---	---	ND	---	0.494
60		---	---	ND	---	0.494
61	61/70/74/76	---	---	ND	---	0.494
62	59/62/75	---	---	ND	---	0.494
63		---	---	ND	---	0.494
64		---	---	ND	---	0.494
65	44/47/65	---	---	ND	---	0.593
66		---	---	ND	---	0.494
67		---	---	ND	---	0.494
68		---	---	ND	---	0.494
69	49/69	---	---	ND	---	0.494
70	61/70/74/76	---	---	ND	---	0.494
71	40/41/71	---	---	ND	---	0.494
72		---	---	ND	---	0.494
73		---	---	ND	---	0.494
74	61/70/74/76	---	---	ND	---	0.494
75	59/62/75	---	---	ND	---	0.494
76	61/70/74/76	---	---	ND	---	0.494
77		---	---	ND	---	0.494
78		---	---	ND	---	0.494
79		---	---	ND	---	0.494
80		---	---	ND	---	0.494
81		---	---	ND	---	0.494
82		---	---	ND	---	0.494
83		---	---	ND	---	0.494
84		---	---	ND	---	0.494

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-04 FO 071151
Lab Sample ID 1060388004
Filename P71024A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.593
86	86/87/97/108/119/125	---	---	ND	---	0.988
87	86/87/97/108/119/125	---	---	ND	---	0.988
88	88/91	---	---	ND	---	0.494
89		---	---	ND	---	0.494
90	90/101/113	---	---	ND	---	0.494
91	88/91	---	---	ND	---	0.494
92		---	---	ND	---	0.494
93	93/98/100/102	---	---	ND	---	0.741
94		---	---	ND	---	0.494
95		---	---	ND	---	0.494
96		---	---	ND	---	0.494
97	86/87/97/108/119/125	---	---	ND	---	0.988
98	93/98/100/102	---	---	ND	---	0.741
99		---	---	ND	---	0.494
100	93/98/100/102	---	---	ND	---	0.741
101	90/101/113	---	---	ND	---	0.494
102	93/98/100/102	---	---	ND	---	0.741
103		---	---	ND	---	0.494
104		---	---	ND	---	0.494
105		---	---	ND	---	0.494
106		---	---	ND	---	0.494
107	107/124	---	---	ND	---	0.494
108	86/87/97/108/119/125	---	---	ND	---	0.988
109		---	---	ND	---	0.494
110	110/115	---	---	ND	---	0.494
111		---	---	ND	---	0.494
112		---	---	ND	---	0.494
113	90/101/113	---	---	ND	---	0.494
114		---	---	ND	---	0.494
115	110/115	---	---	ND	---	0.494
116	85/116/117	---	---	ND	---	0.593
117	85/116/117	---	---	ND	---	0.593
118		---	---	ND	---	0.494
119	86/87/97/108/119/125	---	---	ND	---	0.988
120		---	---	ND	---	0.494
121		---	---	ND	---	0.494
122		---	---	ND	---	0.494
123		---	---	ND	---	0.494
124	107/124	---	---	ND	---	0.494
125	86/87/97/108/119/125	---	---	ND	---	0.988
126		---	---	ND	---	0.494

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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-04 FO 071151
Lab Sample ID 1060388004
Filename P71024A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.494
128	128/166	---	---	ND	---	0.988
129	129/138/163	40.815	1.24	0.694	---	0.494
130		---	---	ND	---	0.494
131		---	---	ND	---	0.494
132		---	---	ND	---	0.494
133		---	---	ND	---	0.494
134	134/143	---	---	ND	---	0.494
135	135/151	---	---	ND	---	0.504
136		---	---	ND	---	0.494
137		---	---	ND	---	0.494
138	129/138/163	40.815	1.24	(0.694)	---	0.494
139	139/140	---	---	ND	---	0.494
140	139/140	---	---	ND	---	0.494
141		---	---	ND	---	0.494
142		---	---	ND	---	0.494
143	134/143	---	---	ND	---	0.494
144		---	---	ND	---	0.494
145		---	---	ND	---	0.494
146		---	---	ND	---	0.494
147	147/149	---	---	ND	---	0.494
148		---	---	ND	---	0.494
149	147/149	---	---	ND	---	0.494
150		---	---	ND	---	0.494
151	135/151	---	---	ND	---	0.504
152		---	---	ND	---	0.494
153	153/168	---	---	ND	---	0.593
154		---	---	ND	---	0.494
155		---	---	ND	---	0.494
156	156/157	---	---	ND	---	0.494
157	156/157	---	---	ND	---	0.494
158		---	---	ND	---	0.494
159		---	---	ND	---	0.494
160		---	---	ND	---	0.494
161		---	---	ND	---	0.494
162		---	---	ND	---	0.494
163	129/138/163	40.815	1.24	(0.694)	---	0.494
164		---	---	ND	---	0.494
165		---	---	ND	---	0.494
166	128/166	---	---	ND	---	0.988
167		---	---	ND	---	0.494
168	153/168	---	---	ND	---	0.593

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-04 FO 071151
Lab Sample ID 1060388004
Filename P71024A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.494
170		---	---	ND	---	0.494
171	171/173	---	---	ND	---	0.494
172		---	---	ND	---	0.494
173	171/173	---	---	ND	---	0.494
174		---	---	ND	---	0.494
175		---	---	ND	---	0.494
176		---	---	ND	---	0.494
177		---	---	ND	---	0.494
178		---	---	ND	---	0.494
179		---	---	ND	---	0.494
180	180/193	---	---	ND	---	0.494
181		---	---	ND	---	0.494
182		---	---	ND	---	0.494
183	183/185	---	---	ND	---	0.494
184		---	---	ND	---	0.494
185	183/185	---	---	ND	---	0.494
186		---	---	ND	---	0.494
187		---	---	ND	---	0.494
188		---	---	ND	---	0.494
189		---	---	ND	---	0.494
190		---	---	ND	---	0.494
191		---	---	ND	---	0.494
192		---	---	ND	---	0.494
193	180/193	---	---	ND	---	0.494
194		---	---	ND	---	0.494
195		---	---	ND	---	0.494
196		---	---	ND	---	0.692
197	197/200	---	---	ND	---	2.47
198	198/199	---	---	ND	---	0.494
199	198/199	---	---	ND	---	0.494
200	197/200	---	---	ND	---	2.47
201		---	---	ND	---	0.494
202		---	---	ND	---	0.494
203		---	---	ND	---	0.494
204		---	---	ND	---	0.494
205		---	---	ND	---	0.494
206		---	---	ND	---	0.494
207		---	---	ND	---	0.494
208		---	---	ND	---	0.494
209		---	---	ND	---	0.494

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-04 FO 071151
Lab Sample ID	1060388004
Filename	P71024A_14

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	0.694
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	0.694

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-05 FO 071152		
Lab Sample ID	1060388005		
Filename	P71025A_12		
Injected By	BAL		
Total Amount Extracted	906 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 11:34

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.911	2.90	2.0	1.59	79	
13C-4-MoCB	3	9.906	3.06	2.0	1.52	76	
13C-2,2'-DiCB	4	10.218	1.57	2.0	1.42	71	
13C-4,4'-DiCB	15	18.198	1.60	2.0	1.43	72	
13C-2,2',6-TrCB	19	14.483	1.10	2.0	1.34	67	
13C-3,4,4'-TrCB	37	26.713	1.03	2.0	1.68	84	
13C-2,2',6,6'-TeCB	54	18.481	0.79	2.0	3.28	164	P
13C-3,4,4',5-TeCB	81	34.309	0.78	2.0	1.79	90	
13C-3,3',4,4'-TeCB	77	34.929	0.77	2.0	1.70	85	
13C-2,2',4,6,6'-PeCB	104	25.221	1.65	2.0	2.02	101	
13C-2,3,3',4,4'-PeCB	105	38.702	1.59	2.0	1.81	90	
13C-2,3,4,4',5-PeCB	114	38.014	1.63	2.0	1.75	88	
13C-2,3',4,4',5-PeCB	118	37.461	1.58	2.0	1.89	94	
13C-2,3',4,4',5'-PeCB	123	37.109	1.61	2.0	1.80	90	
13C-3,3',4,4',5-PeCB	126	42.055	1.60	2.0	1.87	94	
13C-2,2',4,4',6,6'-HxCB	155	31.743	1.30	2.0	1.87	94	
13C-HxCB (156/157)	156/157	45.224	1.26	4.0	3.29	82	
13C-2,3',4,4',5,5'-HxCB	167	44.034	1.28	2.0	1.62	81	
13C-3,3',4,4',5,5'-HxCB	169	48.695	1.30	2.0	1.48	74	
13C-2,2',3,4',5,6,6'-HpCB	188	37.981	1.05	2.0	2.45	122	
13C-2,3,3',4,4',5,5'-HpCB	189	51.310	1.04	2.0	1.89	95	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.715	0.91	2.0	2.23	111	
13C-2,3,3',4,4',5,5',6-OcCB	205	53.983	0.88	2.0	1.99	99	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.793	0.76	2.0	2.04	102	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.750	0.80	2.0	2.10	105	
13C--DeCB	209	57.431	0.70	2.0	2.18	109	
Cleanup Standards							
13C-2,4,4'-TrCB	28	21.985	1.02	2.0	1.72	86	
13C-2,3,3',5,5'-PeCB	111	35.013	1.57	2.0	1.97	99	
13C-2,2',3,3',5,5',6-HpCB	178	41.284	1.06	2.0	1.76	88	
Recovery Standards							
13C-2,5-DiCB	9	13.010	1.59	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.165	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	32.012	1.64	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.781	1.34	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.487	0.90	2.0	NA	NA	

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-05 FO 071152
Lab Sample ID 1060388005
Filename P71025A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.552
2		---	---	ND	---	0.552
3		---	---	ND	---	0.552
4		---	---	ND	---	0.552
5		---	---	ND	---	0.552
6		---	---	ND	---	0.552
7		---	---	ND	---	0.552
8		---	---	ND	---	0.552
9		---	---	ND	---	0.552
10		---	---	ND	---	0.552
11		---	---	ND	---	0.662
12	12/13	---	---	ND	---	0.552
13	12/13	---	---	ND	---	0.552
14		---	---	ND	---	0.552
15		---	---	ND	---	0.552
16		---	---	ND	---	0.552
17		---	---	ND	---	0.552
18	18/30	---	---	ND	---	0.552
19		---	---	ND	---	0.552
20	20/28	---	---	ND	---	0.662
21	21/33	---	---	ND	---	0.552
22		---	---	ND	---	0.552
23		---	---	ND	---	0.552
24		---	---	ND	---	0.552
25		---	---	ND	---	0.552
26	26/29	---	---	ND	---	0.552
27		---	---	ND	---	0.552
28	20/28	---	---	ND	---	0.662
29	26/29	---	---	ND	---	0.552
30	18/30	---	---	ND	---	0.552
31		---	---	ND	---	0.552
32		---	---	ND	---	0.552
33	21/33	---	---	ND	---	0.552
34		---	---	ND	---	0.552
35		---	---	ND	---	0.552
36		---	---	ND	---	0.552
37		---	---	ND	---	0.552
38		---	---	ND	---	0.552
39		---	---	ND	---	0.552
40	40/41/71	---	---	ND	---	0.552
41	40/41/71	---	---	ND	---	0.552
42		---	---	ND	---	0.552

Conc = Concentration
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Report No.....1060388

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-05 FO 071152
Lab Sample ID 1060388005
Filename P71025A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.552
44	44/47/65	---	---	ND	---	0.662
45	45/51	---	---	ND	---	0.552
46		---	---	ND	---	0.552
47	44/47/65	---	---	ND	---	0.662
48		---	---	ND	---	0.552
49	49/69	---	---	ND	---	0.552
50	50/53	---	---	ND	---	0.552
51	45/51	---	---	ND	---	0.552
52		---	---	ND	---	0.552
53	50/53	---	---	ND	---	0.552
54		---	---	ND	---	0.552
55		---	---	ND	---	0.552
56		---	---	ND	---	0.552
57		---	---	ND	---	0.552
58		---	---	ND	---	0.552
59	59/62/75	---	---	ND	---	0.552
60		---	---	ND	---	0.552
61	61/70/74/76	---	---	ND	---	0.552
62	59/62/75	---	---	ND	---	0.552
63		---	---	ND	---	0.552
64		---	---	ND	---	0.552
65	44/47/65	---	---	ND	---	0.662
66		---	---	ND	---	0.552
67		---	---	ND	---	0.552
68		---	---	ND	---	0.552
69	49/69	---	---	ND	---	0.552
70	61/70/74/76	---	---	ND	---	0.552
71	40/41/71	---	---	ND	---	0.552
72		---	---	ND	---	0.552
73		---	---	ND	---	0.552
74	61/70/74/76	---	---	ND	---	0.552
75	59/62/75	---	---	ND	---	0.552
76	61/70/74/76	---	---	ND	---	0.552
77		---	---	ND	---	0.552
78		---	---	ND	---	0.552
79		---	---	ND	---	0.552
80		---	---	ND	---	0.552
81		---	---	ND	---	0.552
82		---	---	ND	---	0.552
83		---	---	ND	---	0.552
84		---	---	ND	---	0.552

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-05 FO 071152
Lab Sample ID 1060388005
Filename P71025A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.662
86	86/87/97/108/119/125	---	---	ND	---	1.10
87	86/87/97/108/119/125	---	---	ND	---	1.10
88	88/91	---	---	ND	---	0.552
89		---	---	ND	---	0.552
90	90/101/113	32.045	1.59	0.570	---	0.552
91	88/91	---	---	ND	---	0.552
92		---	---	ND	---	0.552
93	93/98/100/102	---	---	ND	---	0.828
94		---	---	ND	---	0.552
95		---	---	ND	---	0.552
96		---	---	ND	---	0.552
97	86/87/97/108/119/125	---	---	ND	---	1.10
98	93/98/100/102	---	---	ND	---	0.828
99		---	---	ND	---	0.552
100	93/98/100/102	---	---	ND	---	0.828
101	90/101/113	32.045	1.59	(0.570)	---	0.552
102	93/98/100/102	---	---	ND	---	0.828
103		---	---	ND	---	0.552
104		---	---	ND	---	0.552
105		---	---	ND	---	0.552
106		---	---	ND	---	0.552
107	107/124	---	---	ND	---	0.552
108	86/87/97/108/119/125	---	---	ND	---	1.10
109		---	---	ND	---	0.552
110	110/115	34.191	1.58	0.710	---	0.552
111		---	---	ND	---	0.552
112		---	---	ND	---	0.552
113	90/101/113	32.045	1.59	(0.570)	---	0.552
114		---	---	ND	---	0.552
115	110/115	34.191	1.58	(0.710)	---	0.552
116	85/116/117	---	---	ND	---	0.662
117	85/116/117	---	---	ND	---	0.662
118		---	---	ND	---	0.552
119	86/87/97/108/119/125	---	---	ND	---	1.10
120		---	---	ND	---	0.552
121		---	---	ND	---	0.552
122		---	---	ND	---	0.552
123		---	---	ND	---	0.552
124	107/124	---	---	ND	---	0.552
125	86/87/97/108/119/125	---	---	ND	---	1.10
126		---	---	ND	---	0.552

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-05 FO 071152
Lab Sample ID 1060388005
Filename P71025A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.552
128	128/166	---	---	ND	---	1.10
129	129/138/163	40.814	1.19	1.03	---	0.552
130		---	---	ND	---	0.552
131		---	---	ND	---	0.552
132		---	---	ND	---	0.552
133		---	---	ND	---	0.552
134	134/143	---	---	ND	---	0.552
135	135/151	---	---	ND	---	0.563
136		---	---	ND	---	0.552
137		---	---	ND	---	0.552
138	129/138/163	40.814	1.19	(1.03)	---	0.552
139	139/140	---	---	ND	---	0.552
140	139/140	---	---	ND	---	0.552
141		---	---	ND	---	0.552
142		---	---	ND	---	0.552
143	134/143	---	---	ND	---	0.552
144		---	---	ND	---	0.552
145		---	---	ND	---	0.552
146		---	---	ND	---	0.552
147	147/149	36.203	1.26	0.677	---	0.552
148		---	---	ND	---	0.552
149	147/149	36.203	1.26	(0.677)	---	0.552
150		---	---	ND	---	0.552
151	135/151	---	---	ND	---	0.563
152		---	---	ND	---	0.552
153	153/168	39.507	1.23	0.819	---	0.662
154		---	---	ND	---	0.552
155		---	---	ND	---	0.552
156	156/157	---	---	ND	---	0.552
157	156/157	---	---	ND	---	0.552
158		---	---	ND	---	0.552
159		---	---	ND	---	0.552
160		---	---	ND	---	0.552
161		---	---	ND	---	0.552
162		---	---	ND	---	0.552
163	129/138/163	40.814	1.19	(1.03)	---	0.552
164		---	---	ND	---	0.552
165		---	---	ND	---	0.552
166	128/166	---	---	ND	---	1.10
167		---	---	ND	---	0.552
168	153/168	39.507	1.23	(0.819)	---	0.662

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-05 FO 071152
Lab Sample ID 1060388005
Filename P71025A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.552
170		---	---	ND	---	0.552
171	171/173	---	---	ND	---	0.552
172		---	---	ND	---	0.552
173	171/173	---	---	ND	---	0.552
174		---	---	ND	---	0.552
175		---	---	ND	---	0.552
176		---	---	ND	---	0.552
177		---	---	ND	---	0.552
178		---	---	ND	---	0.552
179		---	---	ND	---	0.552
180	180/193	46.716	1.05	0.807	---	0.552
181		---	---	ND	---	0.552
182		---	---	ND	---	0.552
183	183/185	---	---	ND	---	0.552
184		---	---	ND	---	0.552
185	183/185	---	---	ND	---	0.552
186		---	---	ND	---	0.552
187		---	---	ND	---	0.552
188		---	---	ND	---	0.552
189		---	---	ND	---	0.552
190		---	---	ND	---	0.552
191		---	---	ND	---	0.552
192		---	---	ND	---	0.552
193	180/193	46.716	1.05	(0.807)	---	0.552
194		---	---	ND	---	0.552
195		---	---	ND	---	0.552
196		---	---	ND	---	0.773
197	197/200	---	---	ND	---	2.76
198	198/199	---	---	ND	---	0.552
199	198/199	---	---	ND	---	0.552
200	197/200	---	---	ND	---	2.76
201		---	---	ND	---	0.552
202		---	---	ND	---	0.552
203		---	---	ND	---	0.552
204		---	---	ND	---	0.552
205		---	---	ND	---	0.552
206		---	---	ND	---	0.552
207		---	---	ND	---	0.552
208		---	---	ND	---	0.552
209		---	---	ND	---	0.552

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-05 FO 071152
Lab Sample ID	1060388005
Filename	P71025A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	1.28
Total Hexachloro Biphenyls	2.52
Total Heptachloro Biphenyls	0.807
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	4.61

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-06 FO 071153		
Lab Sample ID	1060388006		
Filename	P71025A_04		
Injected By	SMT		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 02:59

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.900	3.16	2.0	1.48	74
13C-4-MoCB	3	9.895	3.08	2.0	1.51	75
13C-2,2'-DiCB	4	10.194	1.59	2.0	1.83	92
13C-4,4'-DiCB	15	18.185	1.59	2.0	1.40	70
13C-2,2',6-TrCB	19	14.471	1.08	2.0	1.58	79
13C-3,4,4'-TrCB	37	26.695	1.05	2.0	1.57	78
13C-2,2',6,6'-TeCB	54	18.463	0.80	2.0	2.27	114
13C-3,4,4',5-TeCB	81	34.291	0.78	2.0	1.65	83
13C-3,3',4,4'-TeCB	77	34.911	0.78	2.0	1.59	80
13C-2,2',4,6,6'-PeCB	104	25.203	1.65	2.0	2.03	102
13C-2,3,3',4,4'-PeCB	105	38.667	1.61	2.0	1.62	81
13C-2,3,4,4',5-PeCB	114	37.980	1.62	2.0	1.60	80
13C-2,3',4,4',5-PeCB	118	37.426	1.61	2.0	1.72	86
13C-2,3',4,4',5'-PeCB	123	37.074	1.59	2.0	1.67	83
13C-3,3',4,4',5-PeCB	126	42.021	1.57	2.0	1.68	84
13C-2,2',4,4',6,6'-HxCB	155	31.709	1.28	2.0	1.83	92
13C-HxCB (156/157)	156/157	45.206	1.26	4.0	3.02	75
13C-2,3',4,4',5,5'-HxCB	167	43.999	1.26	2.0	1.50	75
13C-3,3',4,4',5,5'-HxCB	169	48.660	1.30	2.0	1.38	69
13C-2,2',3,4',5,6,6'-HpCB	188	37.963	1.04	2.0	2.49	125
13C-2,3,3',4,4',5,5'-HpCB	189	51.288	1.00	2.0	1.77	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.680	0.91	2.0	2.26	113
13C-2,3,3',4,4',5,5',6-OcCB	205	53.960	0.89	2.0	1.97	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.749	0.77	2.0	2.07	104
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.727	0.80	2.0	2.06	103
13C--DeCB	209	57.408	0.72	2.0	2.23	111
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.951	1.05	2.0	1.75	88
13C-2,3,3',5,5'-PeCB	111	34.978	1.60	2.0	1.93	97
13C-2,2',3,3',5,5',6-HpCB	178	41.249	1.04	2.0	1.79	90
Recovery Standards						
13C-2,5-DiCB	9	12.986	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.147	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.994	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.763	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.464	0.89	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.502
2		---	---	ND	---	0.502
3		---	---	ND	---	0.502
4		---	---	ND	---	0.502
5		---	---	ND	---	0.502
6		---	---	ND	---	0.502
7		---	---	ND	---	0.502
8		---	---	ND	---	0.502
9		---	---	ND	---	0.502
10		---	---	ND	---	0.502
11		---	---	ND	---	0.603
12	12/13	---	---	ND	---	0.502
13	12/13	---	---	ND	---	0.502
14		---	---	ND	---	0.502
15		---	---	ND	---	0.502
16		---	---	ND	---	0.502
17		---	---	ND	---	0.502
18	18/30	---	---	ND	---	0.502
19		---	---	ND	---	0.502
20	20/28	---	---	ND	---	0.603
21	21/33	---	---	ND	---	0.502
22		---	---	ND	---	0.502
23		---	---	ND	---	0.502
24		---	---	ND	---	0.502
25		---	---	ND	---	0.502
26	26/29	---	---	ND	---	0.502
27		---	---	ND	---	0.502
28	20/28	---	---	ND	---	0.603
29	26/29	---	---	ND	---	0.502
30	18/30	---	---	ND	---	0.502
31		---	---	ND	---	0.502
32		---	---	ND	---	0.502
33	21/33	---	---	ND	---	0.502
34		---	---	ND	---	0.502
35		---	---	ND	---	0.502
36		---	---	ND	---	0.502
37		---	---	ND	---	0.502
38		---	---	ND	---	0.502
39		---	---	ND	---	0.502
40	40/41/71	---	---	ND	---	0.502
41	40/41/71	---	---	ND	---	0.502
42		---	---	ND	---	0.502

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! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.502
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.502
46		---	---	ND	---	0.502
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.502
49	49/69	---	---	ND	---	0.502
50	50/53	---	---	ND	---	0.502
51	45/51	---	---	ND	---	0.502
52		---	---	ND	---	0.502
53	50/53	---	---	ND	---	0.502
54		---	---	ND	---	0.502
55		---	---	ND	---	0.502
56		---	---	ND	---	0.502
57		---	---	ND	---	0.502
58		---	---	ND	---	0.502
59	59/62/75	---	---	ND	---	0.502
60		---	---	ND	---	0.502
61	61/70/74/76	---	---	ND	---	0.502
62	59/62/75	---	---	ND	---	0.502
63		---	---	ND	---	0.502
64		---	---	ND	---	0.502
65	44/47/65	---	---	ND	---	0.603
66		---	---	ND	---	0.502
67		---	---	ND	---	0.502
68		---	---	ND	---	0.502
69	49/69	---	---	ND	---	0.502
70	61/70/74/76	---	---	ND	---	0.502
71	40/41/71	---	---	ND	---	0.502
72		---	---	ND	---	0.502
73		---	---	ND	---	0.502
74	61/70/74/76	---	---	ND	---	0.502
75	59/62/75	---	---	ND	---	0.502
76	61/70/74/76	---	---	ND	---	0.502
77		---	---	ND	---	0.502
78		---	---	ND	---	0.502
79		---	---	ND	---	0.502
80		---	---	ND	---	0.502
81		---	---	ND	---	0.502
82		---	---	ND	---	0.502
83		---	---	ND	---	0.502
84		---	---	ND	---	0.502

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.502
89		---	---	ND	---	0.502
90	90/101/113	32.011	1.60	2.71	---	0.502
91	88/91	---	---	ND	---	0.502
92		---	---	ND	---	0.502
93	93/98/100/102	---	---	ND	---	0.753
94		---	---	ND	---	0.502
95		28.674	1.60	1.62	---	0.502
96		---	---	ND	---	0.502
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.753
99		---	---	ND	---	0.502
100	93/98/100/102	---	---	ND	---	0.753
101	90/101/113	32.011	1.60	(2.71)	---	0.502
102	93/98/100/102	---	---	ND	---	0.753
103		---	---	ND	---	0.502
104		---	---	ND	---	0.502
105		---	---	ND	---	0.502
106		---	---	ND	---	0.502
107	107/124	---	---	ND	---	0.502
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.502
110	110/115	34.157	1.64	1.60	---	0.502
111		---	---	ND	---	0.502
112		---	---	ND	---	0.502
113	90/101/113	32.011	1.60	(2.71)	---	0.502
114		---	---	ND	---	0.502
115	110/115	34.157	1.64	(1.60)	---	0.502
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		37.460	1.54	0.980	---	0.502
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.502
121		---	---	ND	---	0.502
122		---	---	ND	---	0.502
123		---	---	ND	---	0.502
124	107/124	---	---	ND	---	0.502
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.502

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.502
128	128/166	---	---	ND	---	1.00
129	129/138/163	40.797	1.26	8.28	---	0.502
130		---	---	ND	---	0.502
131		---	---	ND	---	0.502
132		37.510	1.25	1.99	---	0.502
133		---	---	ND	---	0.502
134	134/143	---	---	ND	---	0.502
135	135/151	35.180	1.28	2.46	---	0.512
136		32.463	1.27	0.797	---	0.502
137		---	---	ND	---	0.502
138	129/138/163	40.797	1.26	(8.28)	---	0.502
139	139/140	---	---	ND	---	0.502
140	139/140	---	---	ND	---	0.502
141		39.673	1.25	1.63	---	0.502
142		---	---	ND	---	0.502
143	134/143	---	---	ND	---	0.502
144		---	---	ND	---	0.502
145		---	---	ND	---	0.502
146		38.818	1.25	0.917	---	0.502
147	147/149	36.186	1.23	5.84	---	0.502
148		---	---	ND	---	0.502
149	147/149	36.186	1.23	(5.84)	---	0.502
150		---	---	ND	---	0.502
151	135/151	35.180	1.28	(2.46)	---	0.512
152		---	---	ND	---	0.502
153	153/168	39.489	1.23	9.17	---	0.603
154		---	---	ND	---	0.502
155		---	---	ND	---	0.502
156	156/157	45.206	1.22	0.642	---	0.502
157	156/157	45.206	1.22	(0.642)	---	0.502
158		41.199	1.22	0.711	---	0.502
159		---	---	ND	---	0.502
160		---	---	ND	---	0.502
161		---	---	ND	---	0.502
162		---	---	ND	---	0.502
163	129/138/163	40.797	1.26	(8.28)	---	0.502
164		---	---	ND	---	0.502
165		---	---	ND	---	0.502
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.502
168	153/168	39.489	1.23	(9.17)	---	0.603

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.502
170		47.990	1.07	3.24	---	0.502
171	171/173	44.250	1.03	0.969	---	0.502
172		---	---	ND	---	0.502
173	171/173	44.250	1.03	(0.969)	---	0.502
174		43.110	1.04	2.59	---	0.502
175		---	---	ND	---	0.502
176		---	---	ND	---	0.502
177		43.580	1.04	1.51	---	0.502
178		---	---	ND	---	0.502
179		38.315	1.07	0.920	---	0.502
180	180/193	46.698	1.05	7.46	---	0.502
181		---	---	ND	---	0.502
182		---	---	ND	---	0.502
183	183/185	42.892	1.08	2.37	---	0.502
184		---	---	ND	---	0.502
185	183/185	42.892	1.08	(2.37)	---	0.502
186		---	---	ND	---	0.502
187		42.239	1.06	3.19	---	0.502
188		---	---	ND	---	0.502
189		---	---	ND	---	0.502
190		48.543	1.06	0.662	---	0.502
191		---	---	ND	---	0.502
192		---	---	ND	---	0.502
193	180/193	46.698	1.05	(7.46)	---	0.502
194		53.486	0.90	1.43	---	0.502
195		51.007	0.94	0.555	---	0.502
196		49.432	0.90	0.759	---	0.703
197	197/200	---	---	ND	---	2.51
198	198/199	48.744	0.91	1.31	---	0.502
199	198/199	48.744	0.91	(1.31)	---	0.502
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.502
202		---	---	ND	---	0.502
203		49.633	0.87	0.997	---	0.502
204		---	---	ND	---	0.502
205		---	---	ND	---	0.502
206		---	---	ND	---	0.502
207		---	---	ND	---	0.502
208		---	---	ND	---	0.502
209		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-06 FO 071153
Lab Sample ID 1060388006
Filename P71025A_04

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	6.90
Total Hexachloro Biphenyls	32.4
Total Heptachloro Biphenyls	22.9
Total Octachloro Biphenyls	5.05
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	67.3

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-07 FO 071154		
Lab Sample ID	1060388007		
Filename	P71025A_05		
Injected By	SMT		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 04:03

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.924	2.92	2.0	1.01	51
13C-4-MoCB	3	9.907	3.51	2.0	0.794	40
13C-2,2'-DiCB	4	10.206	1.63	2.0	1.78	89
13C-4,4'-DiCB	15	18.185	1.57	2.0	1.44	72
13C-2,2',6-TrCB	19	14.471	1.07	2.0	1.56	78
13C-3,4,4'-TrCB	37	26.697	1.04	2.0	1.58	79
13C-2,2',6,6'-TeCB	54	18.480	0.79	2.0	2.27	113
13C-3,4,4',5-TeCB	81	34.293	0.78	2.0	1.68	84
13C-3,3',4,4'-TeCB	77	34.914	0.79	2.0	1.62	81
13C-2,2',4,6,6'-PeCB	104	25.204	1.60	2.0	2.00	100
13C-2,3,3',4,4'-PeCB	105	38.687	1.61	2.0	1.65	83
13C-2,3,4,4',5-PeCB	114	37.999	1.60	2.0	1.62	81
13C-2,3',4,4',5-PeCB	118	37.446	1.58	2.0	1.72	86
13C-2,3',4,4',5'-PeCB	123	37.094	1.54	2.0	1.67	84
13C-3,3',4,4',5-PeCB	126	42.024	1.57	2.0	1.70	85
13C-2,2',4,4',6,6'-HxCB	155	31.727	1.26	2.0	1.83	92
13C-HxCB (156/157)	156/157	45.210	1.26	4.0	3.09	77
13C-2,3',4,4',5,5'-HxCB	167	44.020	1.29	2.0	1.52	76
13C-3,3',4,4',5,5'-HxCB	169	48.665	1.27	2.0	1.41	71
13C-2,2',3,4',5,6,6'-HpCB	188	37.966	1.07	2.0	2.34	117
13C-2,3,3',4,4',5,5'-HpCB	189	51.293	1.07	2.0	1.70	85
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.701	0.90	2.0	2.14	107
13C-2,3,3',4,4',5,5',6-OcCB	205	53.966	0.88	2.0	1.89	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.755	0.78	2.0	1.93	96
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.732	0.80	2.0	1.94	97
13C--DeCB	209	57.414	0.70	2.0	2.10	105
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.968	1.06	2.0	1.60	80
13C-2,3,3',5,5'-PeCB	111	34.997	1.57	2.0	1.85	92
13C-2,2',3,3',5,5',6-HpCB	178	41.253	1.06	2.0	1.72	86
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.63	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.148	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.996	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.766	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.470	0.91	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-07 FO 071154
Lab Sample ID 1060388007
Filename P71025A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		---	---	ND	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500

Conc = Concentration
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Lab Sample ID 1060388007
Filename P71025A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.600
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.600
48		---	---	ND	---	0.500
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	---	---	ND	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.600
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	---	---	ND	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	---	---	ND	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	---	---	ND	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500

Conc = Concentration
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Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-07 FO 071154
Lab Sample ID 1060388007
Filename P71025A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.600
86	86/87/97/108/119/125	---	---	ND	---	0.999
87	86/87/97/108/119/125	---	---	ND	---	0.999
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	---	---	ND	---	0.500
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		---	---	ND	---	0.500
96		---	---	ND	---	0.500
97	86/87/97/108/119/125	---	---	ND	---	0.999
98	93/98/100/102	---	---	ND	---	0.750
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	---	---	ND	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	0.999
109		---	---	ND	---	0.500
110	110/115	---	---	ND	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	---	---	ND	---	0.500
114		---	---	ND	---	0.500
115	110/115	---	---	ND	---	0.500
116	85/116/117	---	---	ND	---	0.600
117	85/116/117	---	---	ND	---	0.600
118		---	---	ND	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	0.999
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	0.999
126		---	---	ND	---	0.500

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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQI1011-07 FO 071154
Lab Sample ID 1060388007
Filename P71025A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	0.999
129	129/138/163	---	---	ND	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		---	---	ND	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	---	---	ND	---	0.510
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	---	---	ND	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	---	---	ND	---	0.500
148		---	---	ND	---	0.500
149	147/149	---	---	ND	---	0.500
150		---	---	ND	---	0.500
151	135/151	---	---	ND	---	0.510
152		---	---	ND	---	0.500
153	153/168	---	---	ND	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	---	---	ND	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	0.999
167		---	---	ND	---	0.500
168	153/168	---	---	ND	---	0.600

Conc = Concentration
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-07 FO 071154
Lab Sample ID 1060388007
Filename P71025A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.500
170		---	---	ND	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		---	---	ND	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	---	---	ND	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	---	---	ND	---	0.500
184		---	---	ND	---	0.500
185	183/185	---	---	ND	---	0.500
186		---	---	ND	---	0.500
187		---	---	ND	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500
193	180/193	---	---	ND	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-07 FO 071154
Lab Sample ID	1060388007
Filename	P71025A_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-08 FO 071155		
Lab Sample ID	1060388008		
Filename	P71025A_06		
Injected By	SMT		
Total Amount Extracted	948 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 05:08

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.32	2.0	1.41	71
13C-4-MoCB	3	9.895	3.39	2.0	1.49	75
13C-2,2'-DiCB	4	10.206	1.59	2.0	1.79	89
13C-4,4'-DiCB	15	18.186	1.58	2.0	1.50	75
13C-2,2',6-TrCB	19	14.472	1.05	2.0	1.62	81
13C-3,4,4'-TrCB	37	26.697	1.04	2.0	1.67	83
13C-2,2',6,6'-TeCB	54	18.464	0.80	2.0	2.24	112
13C-3,4,4',5-TeCB	81	34.292	0.78	2.0	1.75	87
13C-3,3',4,4'-TeCB	77	34.913	0.78	2.0	1.69	84
13C-2,2',4,6,6'-PeCB	104	25.205	1.59	2.0	2.08	104
13C-2,3,3',4,4'-PeCB	105	38.685	1.57	2.0	1.71	86
13C-2,3,4,4',5-PeCB	114	37.998	1.60	2.0	1.70	85
13C-2,3',4,4',5-PeCB	118	37.444	1.59	2.0	1.81	90
13C-2,3',4,4',5'-PeCB	123	37.092	1.57	2.0	1.78	89
13C-3,3',4,4',5-PeCB	126	42.038	1.58	2.0	1.75	88
13C-2,2',4,4',6,6'-HxCB	155	31.727	1.28	2.0	1.99	100
13C-HxCB (156/157)	156/157	45.224	1.24	4.0	3.22	80
13C-2,3',4,4',5,5'-HxCB	167	44.034	1.28	2.0	1.57	79
13C-3,3',4,4',5,5'-HxCB	169	48.695	1.25	2.0	1.44	72
13C-2,2',3,4',5,6,6'-HpCB	188	37.981	1.04	2.0	2.58	129
13C-2,3,3',4,4',5,5'-HpCB	189	51.310	1.02	2.0	1.88	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.715	0.91	2.0	2.31	116
13C-2,3,3',4,4',5,5',6-OcCB	205	53.982	0.89	2.0	2.04	102
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.793	0.75	2.0	2.04	102
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.750	0.78	2.0	2.14	107
13C--DeCB	209	57.431	0.71	2.0	2.18	109
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.952	1.05	2.0	1.76	88
13C-2,3,3',5,5'-PeCB	111	34.997	1.56	2.0	1.95	97
13C-2,2',3,3',5,5',6-HpCB	178	41.267	1.04	2.0	1.79	90
Recovery Standards						
13C-2,5-DiCB	9	12.998	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.148	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.995	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.781	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.487	0.91	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-08 FO 071155
Lab Sample ID 1060388008
Filename P71025A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.527
2		---	---	ND	---	0.527
3		---	---	ND	---	0.527
4		---	---	ND	---	0.527
5		---	---	ND	---	0.527
6		---	---	ND	---	0.527
7		---	---	ND	---	0.527
8		---	---	ND	---	0.527
9		---	---	ND	---	0.527
10		---	---	ND	---	0.527
11		---	---	ND	---	0.633
12	12/13	---	---	ND	---	0.527
13	12/13	---	---	ND	---	0.527
14		---	---	ND	---	0.527
15		---	---	ND	---	0.527
16		---	---	ND	---	0.527
17		---	---	ND	---	0.527
18	18/30	17.000	1.04	0.621	---	0.527
19		---	---	ND	---	0.527
20	20/28	21.985	1.05	1.08	---	0.633
21	21/33	22.253	1.03	0.553	---	0.527
22		---	---	ND	---	0.527
23		---	---	ND	---	0.527
24		---	---	ND	---	0.527
25		---	---	ND	---	0.527
26	26/29	---	---	ND	---	0.527
27		---	---	ND	---	0.527
28	20/28	21.985	1.05	(1.08)	---	0.633
29	26/29	---	---	ND	---	0.527
30	18/30	17.000	1.04	(0.621)	---	0.527
31		21.633	1.03	0.809	---	0.527
32		---	---	ND	---	0.527
33	21/33	22.253	1.03	(0.553)	---	0.527
34		---	---	ND	---	0.527
35		---	---	ND	---	0.527
36		---	---	ND	---	0.527
37		---	---	ND	---	0.527
38		---	---	ND	---	0.527
39		---	---	ND	---	0.527
40	40/41/71	26.462	0.79	0.553	---	0.527
41	40/41/71	26.462	0.79	(0.553)	---	0.527
42		---	---	ND	---	0.527

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-08 FO 071155
Lab Sample ID 1060388008
Filename P71025A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.527
44	44/47/65	25.305	0.78	0.876	---	0.633
45	45/51	---	---	ND	---	0.527
46		---	---	ND	---	0.527
47	44/47/65	25.305	0.78	(0.876)	---	0.633
48		---	---	ND	---	0.527
49	49/69	---	---	ND	---	0.527
50	50/53	---	---	ND	---	0.527
51	45/51	---	---	ND	---	0.527
52		24.182	0.77	1.09	---	0.527
53	50/53	---	---	ND	---	0.527
54		---	---	ND	---	0.527
55		---	---	ND	---	0.527
56		---	---	ND	---	0.527
57		---	---	ND	---	0.527
58		---	---	ND	---	0.527
59	59/62/75	---	---	ND	---	0.527
60		---	---	ND	---	0.527
61	61/70/74/76	29.715	0.78	1.41	---	0.527
62	59/62/75	---	---	ND	---	0.527
63		---	---	ND	---	0.527
64		---	---	ND	---	0.527
65	44/47/65	25.305	0.78	(0.876)	---	0.633
66		30.067	0.76	0.632	---	0.527
67		---	---	ND	---	0.527
68		---	---	ND	---	0.527
69	49/69	---	---	ND	---	0.527
70	61/70/74/76	29.715	0.78	(1.41)	---	0.527
71	40/41/71	26.462	0.79	(0.553)	---	0.527
72		---	---	ND	---	0.527
73		---	---	ND	---	0.527
74	61/70/74/76	29.715	0.78	(1.41)	---	0.527
75	59/62/75	---	---	ND	---	0.527
76	61/70/74/76	29.715	0.78	(1.41)	---	0.527
77		---	---	ND	---	0.527
78		---	---	ND	---	0.527
79		---	---	ND	---	0.527
80		---	---	ND	---	0.527
81		---	---	ND	---	0.527
82		---	---	ND	---	0.527
83		---	---	ND	---	0.527
84		---	---	ND	---	0.527

Conc = Concentration
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Filename P71025A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.633
86	86/87/97/108/119/125	33.253	1.61	1.41	---	1.05
87	86/87/97/108/119/125	33.253	1.61	(1.41)	---	1.05
88	88/91	---	---	ND	---	0.527
89		---	---	ND	---	0.527
90	90/101/113	32.029	1.57	2.41	---	0.527
91	88/91	---	---	ND	---	0.527
92		---	---	ND	---	0.527
93	93/98/100/102	---	---	ND	---	0.791
94		---	---	ND	---	0.527
95		28.676	1.57	1.60	---	0.527
96		---	---	ND	---	0.527
97	86/87/97/108/119/125	33.253	1.61	(1.41)	---	1.05
98	93/98/100/102	---	---	ND	---	0.791
99		32.666	1.58	0.698	---	0.527
100	93/98/100/102	---	---	ND	---	0.791
101	90/101/113	32.029	1.57	(2.41)	---	0.527
102	93/98/100/102	---	---	ND	---	0.791
103		---	---	ND	---	0.527
104		---	---	ND	---	0.527
105		38.719	1.55	0.904	---	0.527
106		---	---	ND	---	0.527
107	107/124	---	---	ND	---	0.527
108	86/87/97/108/119/125	33.253	1.61	(1.41)	---	1.05
109		---	---	ND	---	0.527
110	110/115	34.175	1.57	2.84	---	0.527
111		---	---	ND	---	0.527
112		---	---	ND	---	0.527
113	90/101/113	32.029	1.57	(2.41)	---	0.527
114		---	---	ND	---	0.527
115	110/115	34.175	1.57	(2.84)	---	0.527
116	85/116/117	---	---	ND	---	0.633
117	85/116/117	---	---	ND	---	0.633
118		37.478	1.58	2.15	---	0.527
119	86/87/97/108/119/125	33.253	1.61	(1.41)	---	1.05
120		---	---	ND	---	0.527
121		---	---	ND	---	0.527
122		---	---	ND	---	0.527
123		---	---	ND	---	0.527
124	107/124	---	---	ND	---	0.527
125	86/87/97/108/119/125	33.253	1.61	(1.41)	---	1.05
126		---	---	ND	---	0.527

Conc = Concentration
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Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-08 FO 071155
Lab Sample ID 1060388008
Filename P71025A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.527
128	128/166	---	---	ND	---	1.05
129	129/138/163	40.814	1.24	7.93	---	0.527
130		---	---	ND	---	0.527
131		---	---	ND	---	0.527
132		37.528	1.21	2.13	---	0.527
133		---	---	ND	---	0.527
134	134/143	---	---	ND	---	0.527
135	135/151	35.198	1.28	1.91	---	0.538
136		32.482	1.30	0.596	---	0.527
137		---	---	ND	---	0.527
138	129/138/163	40.814	1.24	(7.93)	---	0.527
139	139/140	---	---	ND	---	0.527
140	139/140	---	---	ND	---	0.527
141		39.691	1.25	1.49	---	0.527
142		---	---	ND	---	0.527
143	134/143	---	---	ND	---	0.527
144		---	---	ND	---	0.527
145		---	---	ND	---	0.527
146		38.836	1.22	0.896	---	0.527
147	147/149	36.204	1.24	4.95	---	0.527
148		---	---	ND	---	0.527
149	147/149	36.204	1.24	(4.95)	---	0.527
150		---	---	ND	---	0.527
151	135/151	35.198	1.28	(1.91)	---	0.538
152		---	---	ND	---	0.527
153	153/168	39.507	1.23	6.88	---	0.633
154		---	---	ND	---	0.527
155		---	---	ND	---	0.527
156	156/157	45.224	1.23	0.702	---	0.527
157	156/157	45.224	1.23	(0.702)	---	0.527
158		41.234	1.28	0.727	---	0.527
159		---	---	ND	---	0.527
160		---	---	ND	---	0.527
161		---	---	ND	---	0.527
162		---	---	ND	---	0.527
163	129/138/163	40.814	1.24	(7.93)	---	0.527
164		---	---	ND	---	0.527
165		---	---	ND	---	0.527
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.527
168	153/168	39.507	1.23	(6.88)	---	0.633

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-08 FO 071155
Lab Sample ID 1060388008
Filename P71025A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.527
170		48.024	1.04	2.92	---	0.527
171	171/173	44.268	1.03	0.809	---	0.527
172		---	---	ND	---	0.527
173	171/173	44.268	1.03	(0.809)	---	0.527
174		43.145	1.05	2.56	---	0.527
175		---	---	ND	---	0.527
176		---	---	ND	---	0.527
177		43.598	1.02	1.46	---	0.527
178		---	---	ND	---	0.527
179		38.333	1.03	0.811	---	0.527
180	180/193	46.716	1.04	6.29	---	0.527
181		---	---	ND	---	0.527
182		---	---	ND	---	0.527
183	183/185	42.927	1.04	1.95	---	0.527
184		---	---	ND	---	0.527
185	183/185	42.927	1.04	(1.95)	---	0.527
186		---	---	ND	---	0.527
187		42.256	1.03	2.88	---	0.527
188		---	---	ND	---	0.527
189		---	---	ND	---	0.527
190		48.577	1.06	0.572	---	0.527
191		---	---	ND	---	0.527
192		---	---	ND	---	0.527
193	180/193	46.716	1.04	(6.29)	---	0.527
194		53.530	0.91	1.13	---	0.527
195		---	---	ND	---	0.527
196		---	---	ND	---	0.738
197	197/200	---	---	ND	---	2.64
198	198/199	48.762	0.89	1.15	---	0.527
199	198/199	48.762	0.89	(1.15)	---	0.527
200	197/200	---	---	ND	---	2.64
201		---	---	ND	---	0.527
202		---	---	ND	---	0.527
203		49.667	0.88	0.678	---	0.527
204		---	---	ND	---	0.527
205		---	---	ND	---	0.527
206		---	---	ND	---	0.527
207		---	---	ND	---	0.527
208		---	---	ND	---	0.527
209		---	---	ND	---	0.527

Conc = Concentration
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-08 FO 071155
Lab Sample ID 1060388008
Filename P71025A_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.07
Total Tetrachloro Biphenyls	4.56
Total Pentachloro Biphenyls	12.0
Total Hexachloro Biphenyls	28.2
Total Heptachloro Biphenyls	20.2
Total Octachloro Biphenyls	2.95
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	71.0

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-09 FO 071156		
Lab Sample ID	1060388009		
Filename	P71025A_07		
Injected By	SMT		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 06:12

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.924	3.12	2.0	1.27	64
13C-4-MoCB	3	9.907	3.18	2.0	1.25	62
13C-2,2'-DiCB	4	10.218	1.58	2.0	1.62	81
13C-4,4'-DiCB	15	18.198	1.59	2.0	1.38	69
13C-2,2',6-TrCB	19	14.484	1.05	2.0	1.47	74
13C-3,4,4'-TrCB	37	26.713	1.07	2.0	1.77	88
13C-2,2',6,6'-TeCB	54	18.480	0.79	2.0	2.24	112
13C-3,4,4',5-TeCB	81	34.309	0.78	2.0	2.28	114
13C-3,3',4,4'-TeCB	77	34.930	0.80	2.0	2.17	108
13C-2,2',4,6,6'-PeCB	104	25.221	1.60	2.0	1.87	94
13C-2,3,3',4,4'-PeCB	105	38.703	1.55	2.0	1.98	99
13C-2,3,4,4',5-PeCB	114	38.015	1.61	2.0	1.93	97
13C-2,3',4,4',5-PeCB	118	37.462	1.60	2.0	2.08	104
13C-2,3',4,4',5'-PeCB	123	37.110	1.57	2.0	2.02	101
13C-3,3',4,4',5-PeCB	126	42.056	1.58	2.0	2.07	104
13C-2,2',4,4',6,6'-HxCB	155	31.744	1.24	2.0	1.69	84
13C-HxCB (156/157)	156/157	45.226	1.24	4.0	3.46	87
13C-2,3',4,4',5,5'-HxCB	167	44.035	1.25	2.0	1.71	85
13C-3,3',4,4',5,5'-HxCB	169	48.696	1.26	2.0	1.57	78
13C-2,2',3,4',5,6,6'-HpCB	188	37.982	1.05	2.0	2.65	132
13C-2,3,3',4,4',5,5'-HpCB	189	51.312	1.07	2.0	2.05	102
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.716	0.91	2.0	2.44	122
13C-2,3,3',4,4',5,5',6-OcCB	205	53.985	0.90	2.0	2.01	101
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.795	0.79	2.0	1.99	99
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.752	0.80	2.0	2.21	110
13C--DeCB	209	57.433	0.72	2.0	2.04	102
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.968	1.05	2.0	1.78	89
13C-2,3,3',5,5'-PeCB	111	35.013	1.60	2.0	2.11	105
13C-2,2',3,3',5,5',6-HpCB	178	41.285	1.06	2.0	1.80	90
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.165	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.012	1.67	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.782	1.32	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.489	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-09 FO 071156
Lab Sample ID	1060388009
Filename	P71025A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.502
2		---	---	ND	---	0.502
3		---	---	ND	---	0.502
4		---	---	ND	---	0.502
5		---	---	ND	---	0.502
6		---	---	ND	---	0.502
7		---	---	ND	---	0.502
8		---	---	ND	---	0.502
9		---	---	ND	---	0.502
10		---	---	ND	---	0.502
11		---	---	ND	---	0.603
12	12/13	---	---	ND	---	0.502
13	12/13	---	---	ND	---	0.502
14		---	---	ND	---	0.502
15		---	---	ND	---	0.502
16		---	---	ND	---	0.502
17		---	---	ND	---	0.502
18	18/30	---	---	ND	---	0.502
19		---	---	ND	---	0.502
20	20/28	---	---	ND	---	0.603
21	21/33	---	---	ND	---	0.502
22		---	---	ND	---	0.502
23		---	---	ND	---	0.502
24		---	---	ND	---	0.502
25		---	---	ND	---	0.502
26	26/29	---	---	ND	---	0.502
27		---	---	ND	---	0.502
28	20/28	---	---	ND	---	0.603
29	26/29	---	---	ND	---	0.502
30	18/30	---	---	ND	---	0.502
31		---	---	ND	---	0.502
32		---	---	ND	---	0.502
33	21/33	---	---	ND	---	0.502
34		---	---	ND	---	0.502
35		---	---	ND	---	0.502
36		---	---	ND	---	0.502
37		---	---	ND	---	0.502
38		---	---	ND	---	0.502
39		---	---	ND	---	0.502
40	40/41/71	---	---	ND	---	0.502
41	40/41/71	---	---	ND	---	0.502
42		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-09 FO 071156
Lab Sample ID 1060388009
Filename P71025A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.502
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.502
46		---	---	ND	---	0.502
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.502
49	49/69	---	---	ND	---	0.502
50	50/53	---	---	ND	---	0.502
51	45/51	---	---	ND	---	0.502
52		---	---	ND	---	0.502
53	50/53	---	---	ND	---	0.502
54		---	---	ND	---	0.502
55		---	---	ND	---	0.502
56		---	---	ND	---	0.502
57		---	---	ND	---	0.502
58		---	---	ND	---	0.502
59	59/62/75	---	---	ND	---	0.502
60		---	---	ND	---	0.502
61	61/70/74/76	---	---	ND	---	0.502
62	59/62/75	---	---	ND	---	0.502
63		---	---	ND	---	0.502
64		---	---	ND	---	0.502
65	44/47/65	---	---	ND	---	0.603
66		---	---	ND	---	0.502
67		---	---	ND	---	0.502
68		---	---	ND	---	0.502
69	49/69	---	---	ND	---	0.502
70	61/70/74/76	---	---	ND	---	0.502
71	40/41/71	---	---	ND	---	0.502
72		---	---	ND	---	0.502
73		---	---	ND	---	0.502
74	61/70/74/76	---	---	ND	---	0.502
75	59/62/75	---	---	ND	---	0.502
76	61/70/74/76	---	---	ND	---	0.502
77		---	---	ND	---	0.502
78		---	---	ND	---	0.502
79		---	---	ND	---	0.502
80		---	---	ND	---	0.502
81		---	---	ND	---	0.502
82		---	---	ND	---	0.502
83		---	---	ND	---	0.502
84		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-09 FO 071156
Lab Sample ID 1060388009
Filename P71025A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.502
89		---	---	ND	---	0.502
90	90/101/113	---	---	ND	---	0.502
91	88/91	---	---	ND	---	0.502
92		---	---	ND	---	0.502
93	93/98/100/102	---	---	ND	---	0.754
94		---	---	ND	---	0.502
95		---	---	ND	---	0.502
96		---	---	ND	---	0.502
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.754
99		---	---	ND	---	0.502
100	93/98/100/102	---	---	ND	---	0.754
101	90/101/113	---	---	ND	---	0.502
102	93/98/100/102	---	---	ND	---	0.754
103		---	---	ND	---	0.502
104		---	---	ND	---	0.502
105		---	---	ND	---	0.502
106		---	---	ND	---	0.502
107	107/124	---	---	ND	---	0.502
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.502
110	110/115	---	---	ND	---	0.502
111		---	---	ND	---	0.502
112		---	---	ND	---	0.502
113	90/101/113	---	---	ND	---	0.502
114		---	---	ND	---	0.502
115	110/115	---	---	ND	---	0.502
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		---	---	ND	---	0.502
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.502
121		---	---	ND	---	0.502
122		---	---	ND	---	0.502
123		---	---	ND	---	0.502
124	107/124	---	---	ND	---	0.502
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.502

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™
Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-09 FO 071156
Lab Sample ID 1060388009
Filename P71025A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.502
128	128/166	---	---	ND	---	1.00
129	129/138/163	---	---	ND	---	0.502
130		---	---	ND	---	0.502
131		---	---	ND	---	0.502
132		---	---	ND	---	0.502
133		---	---	ND	---	0.502
134	134/143	---	---	ND	---	0.502
135	135/151	---	---	ND	---	0.512
136		---	---	ND	---	0.502
137		---	---	ND	---	0.502
138	129/138/163	---	---	ND	---	0.502
139	139/140	---	---	ND	---	0.502
140	139/140	---	---	ND	---	0.502
141		---	---	ND	---	0.502
142		---	---	ND	---	0.502
143	134/143	---	---	ND	---	0.502
144		---	---	ND	---	0.502
145		---	---	ND	---	0.502
146		---	---	ND	---	0.502
147	147/149	---	---	ND	---	0.502
148		---	---	ND	---	0.502
149	147/149	---	---	ND	---	0.502
150		---	---	ND	---	0.502
151	135/151	---	---	ND	---	0.512
152		---	---	ND	---	0.502
153	153/168	---	---	ND	---	0.603
154		---	---	ND	---	0.502
155		---	---	ND	---	0.502
156	156/157	---	---	ND	---	0.502
157	156/157	---	---	ND	---	0.502
158		---	---	ND	---	0.502
159		---	---	ND	---	0.502
160		---	---	ND	---	0.502
161		---	---	ND	---	0.502
162		---	---	ND	---	0.502
163	129/138/163	---	---	ND	---	0.502
164		---	---	ND	---	0.502
165		---	---	ND	---	0.502
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.502
168	153/168	---	---	ND	---	0.603

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-09 FO 071156
Lab Sample ID 1060388009
Filename P71025A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.502
170		---	---	ND	---	0.502
171	171/173	---	---	ND	---	0.502
172		---	---	ND	---	0.502
173	171/173	---	---	ND	---	0.502
174		---	---	ND	---	0.502
175		---	---	ND	---	0.502
176		---	---	ND	---	0.502
177		---	---	ND	---	0.502
178		---	---	ND	---	0.502
179		---	---	ND	---	0.502
180	180/193	---	---	ND	---	0.502
181		---	---	ND	---	0.502
182		---	---	ND	---	0.502
183	183/185	---	---	ND	---	0.502
184		---	---	ND	---	0.502
185	183/185	---	---	ND	---	0.502
186		---	---	ND	---	0.502
187		---	---	ND	---	0.502
188		---	---	ND	---	0.502
189		---	---	ND	---	0.502
190		---	---	ND	---	0.502
191		---	---	ND	---	0.502
192		---	---	ND	---	0.502
193	180/193	---	---	ND	---	0.502
194		---	---	ND	---	0.502
195		---	---	ND	---	0.502
196		---	---	ND	---	0.703
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.502
199	198/199	---	---	ND	---	0.502
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.502
202		---	---	ND	---	0.502
203		---	---	ND	---	0.502
204		---	---	ND	---	0.502
205		---	---	ND	---	0.502
206		---	---	ND	---	0.502
207		---	---	ND	---	0.502
208		---	---	ND	---	0.502
209		---	---	ND	---	0.502

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-09 FO 071156
Lab Sample ID	1060388009
Filename	P71025A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-10 FO 071157		
Lab Sample ID	1060388010		
Filename	P71025A_08		
Injected By	SMT		
Total Amount Extracted	997 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 07:17

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.06	2.0	1.60	80
13C-4-MoCB	3	9.895	3.32	2.0	1.54	77
13C-2,2'-DiCB	4	10.206	1.67	2.0	1.46	73
13C-4,4'-DiCB	15	18.198	1.60	2.0	1.20	60
13C-2,2',6-TrCB	19	14.472	1.08	2.0	1.32	66
13C-3,4,4'-TrCB	37	26.713	1.09	2.0	1.82	91
13C-2,2',6,6'-TeCB	54	18.481	0.81	2.0	2.60	130
13C-3,4,4',5-TeCB	81	34.309	0.78	2.0	2.13	106
13C-3,3',4,4'-TeCB	77	34.929	0.80	2.0	2.03	101
13C-2,2',4,6,6'-PeCB	104	25.221	1.65	2.0	2.01	101
13C-2,3,3',4,4'-PeCB	105	38.685	1.59	2.0	2.06	103
13C-2,3,4,4',5-PeCB	114	37.998	1.56	2.0	2.01	100
13C-2,3',4,4',5-PeCB	118	37.461	1.60	2.0	2.10	105
13C-2,3',4,4',5'-PeCB	123	37.092	1.60	2.0	2.02	101
13C-3,3',4,4',5-PeCB	126	42.038	1.56	2.0	2.20	110
13C-2,2',4,4',6,6'-HxCB	155	31.727	1.32	2.0	1.68	84
13C-HxCB (156/157)	156/157	45.224	1.26	4.0	3.63	91
13C-2,3',4,4',5,5'-HxCB	167	44.017	1.25	2.0	1.75	87
13C-3,3',4,4',5,5'-HxCB	169	48.678	1.26	2.0	1.69	85
13C-2,2',3,4',5,6,6'-HpCB	188	37.981	1.05	2.0	2.37	118
13C-2,3,3',4,4',5,5'-HpCB	189	51.310	1.03	2.0	1.98	99
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.698	0.91	2.0	2.29	115
13C-2,3,3',4,4',5,5',6-OcCB	205	53.983	0.93	2.0	2.08	104
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.772	0.78	2.0	2.00	100
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.750	0.80	2.0	2.15	107
13C--DeCB	209	57.431	0.69	2.0	2.08	104
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.968	1.00	2.0	2.15	107
13C-2,3,3',5,5'-PeCB	111	34.996	1.56	2.0	2.22	111
13C-2,2',3,3',5,5',6-HpCB	178	41.267	1.05	2.0	1.82	91
Recovery Standards						
13C-2,5-DiCB	9	12.998	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.165	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.995	1.69	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.764	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.487	0.89	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.501
2		---	---	ND	---	0.501
3		---	---	ND	---	0.501
4		---	---	ND	---	0.501
5		---	---	ND	---	0.501
6		---	---	ND	---	0.501
7		---	---	ND	---	0.501
8		---	---	ND	---	0.501
9		---	---	ND	---	0.501
10		---	---	ND	---	0.501
11		---	---	ND	---	0.602
12	12/13	---	---	ND	---	0.501
13	12/13	---	---	ND	---	0.501
14		---	---	ND	---	0.501
15		---	---	ND	---	0.501
16		---	---	ND	---	0.501
17		---	---	ND	---	0.501
18	18/30	---	---	ND	---	0.501
19		---	---	ND	---	0.501
20	20/28	---	---	ND	---	0.602
21	21/33	---	---	ND	---	0.501
22		---	---	ND	---	0.501
23		---	---	ND	---	0.501
24		---	---	ND	---	0.501
25		---	---	ND	---	0.501
26	26/29	---	---	ND	---	0.501
27		---	---	ND	---	0.501
28	20/28	---	---	ND	---	0.602
29	26/29	---	---	ND	---	0.501
30	18/30	---	---	ND	---	0.501
31		---	---	ND	---	0.501
32		---	---	ND	---	0.501
33	21/33	---	---	ND	---	0.501
34		---	---	ND	---	0.501
35		---	---	ND	---	0.501
36		---	---	ND	---	0.501
37		---	---	ND	---	0.501
38		---	---	ND	---	0.501
39		---	---	ND	---	0.501
40	40/41/71	---	---	ND	---	0.501
41	40/41/71	---	---	ND	---	0.501
42		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.501
44	44/47/65	---	---	ND	---	0.602
45	45/51	---	---	ND	---	0.501
46		---	---	ND	---	0.501
47	44/47/65	---	---	ND	---	0.602
48		---	---	ND	---	0.501
49	49/69	---	---	ND	---	0.501
50	50/53	---	---	ND	---	0.501
51	45/51	---	---	ND	---	0.501
52		---	---	ND	---	0.501
53	50/53	---	---	ND	---	0.501
54		---	---	ND	---	0.501
55		---	---	ND	---	0.501
56		---	---	ND	---	0.501
57		---	---	ND	---	0.501
58		---	---	ND	---	0.501
59	59/62/75	---	---	ND	---	0.501
60		---	---	ND	---	0.501
61	61/70/74/76	---	---	ND	---	0.501
62	59/62/75	---	---	ND	---	0.501
63		---	---	ND	---	0.501
64		---	---	ND	---	0.501
65	44/47/65	---	---	ND	---	0.602
66		---	---	ND	---	0.501
67		---	---	ND	---	0.501
68		---	---	ND	---	0.501
69	49/69	---	---	ND	---	0.501
70	61/70/74/76	---	---	ND	---	0.501
71	40/41/71	---	---	ND	---	0.501
72		---	---	ND	---	0.501
73		---	---	ND	---	0.501
74	61/70/74/76	---	---	ND	---	0.501
75	59/62/75	---	---	ND	---	0.501
76	61/70/74/76	---	---	ND	---	0.501
77		---	---	ND	---	0.501
78		---	---	ND	---	0.501
79		---	---	ND	---	0.501
80		---	---	ND	---	0.501
81		---	---	ND	---	0.501
82		---	---	ND	---	0.501
83		---	---	ND	---	0.501
84		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.602
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.501
89		---	---	ND	---	0.501
90	90/101/113	32.028	1.60	0.574	---	0.501
91	88/91	---	---	ND	---	0.501
92		---	---	ND	---	0.501
93	93/98/100/102	---	---	ND	---	0.752
94		---	---	ND	---	0.501
95		---	---	ND	---	0.501
96		---	---	ND	---	0.501
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.752
99		---	---	ND	---	0.501
100	93/98/100/102	---	---	ND	---	0.752
101	90/101/113	32.028	1.60	(0.574)	---	0.501
102	93/98/100/102	---	---	ND	---	0.752
103		---	---	ND	---	0.501
104		---	---	ND	---	0.501
105		---	---	ND	---	0.501
106		---	---	ND	---	0.501
107	107/124	---	---	ND	---	0.501
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.501
110	110/115	34.175	1.64	0.511	---	0.501
111		---	---	ND	---	0.501
112		---	---	ND	---	0.501
113	90/101/113	32.028	1.60	(0.574)	---	0.501
114		---	---	ND	---	0.501
115	110/115	34.175	1.64	(0.511)	---	0.501
116	85/116/117	---	---	ND	---	0.602
117	85/116/117	---	---	ND	---	0.602
118		---	---	ND	---	0.501
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.501
121		---	---	ND	---	0.501
122		---	---	ND	---	0.501
123		---	---	ND	---	0.501
124	107/124	---	---	ND	---	0.501
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.501

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.501
128	128/166	---	---	ND	---	1.00
129	129/138/163	40.798	1.23	1.16	---	0.501
130		---	---	ND	---	0.501
131		---	---	ND	---	0.501
132		---	---	ND	---	0.501
133		---	---	ND	---	0.501
134	134/143	---	---	ND	---	0.501
135	135/151	---	---	ND	---	0.511
136		---	---	ND	---	0.501
137		---	---	ND	---	0.501
138	129/138/163	40.798	1.23	(1.16)	---	0.501
139	139/140	---	---	ND	---	0.501
140	139/140	---	---	ND	---	0.501
141		---	---	ND	---	0.501
142		---	---	ND	---	0.501
143	134/143	---	---	ND	---	0.501
144		---	---	ND	---	0.501
145		---	---	ND	---	0.501
146		---	---	ND	---	0.501
147	147/149	36.203	1.23	0.659	---	0.501
148		---	---	ND	---	0.501
149	147/149	36.203	1.23	(0.659)	---	0.501
150		---	---	ND	---	0.501
151	135/151	---	---	ND	---	0.511
152		---	---	ND	---	0.501
153	153/168	39.507	1.25	1.17	---	0.602
154		---	---	ND	---	0.501
155		---	---	ND	---	0.501
156	156/157	---	---	ND	---	0.501
157	156/157	---	---	ND	---	0.501
158		---	---	ND	---	0.501
159		---	---	ND	---	0.501
160		---	---	ND	---	0.501
161		---	---	ND	---	0.501
162		---	---	ND	---	0.501
163	129/138/163	40.798	1.23	(1.16)	---	0.501
164		---	---	ND	---	0.501
165		---	---	ND	---	0.501
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.501
168	153/168	39.507	1.25	(1.17)	---	0.602

Conc = Concentration
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Report No.....1060388

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.501
170		---	---	ND	---	0.501
171	171/173	---	---	ND	---	0.501
172		---	---	ND	---	0.501
173	171/173	---	---	ND	---	0.501
174		---	---	ND	---	0.501
175		---	---	ND	---	0.501
176		---	---	ND	---	0.501
177		---	---	ND	---	0.501
178		---	---	ND	---	0.501
179		---	---	ND	---	0.501
180	180/193	46.717	1.08	0.658	---	0.501
181		---	---	ND	---	0.501
182		---	---	ND	---	0.501
183	183/185	---	---	ND	---	0.501
184		---	---	ND	---	0.501
185	183/185	---	---	ND	---	0.501
186		---	---	ND	---	0.501
187		---	---	ND	---	0.501
188		---	---	ND	---	0.501
189		---	---	ND	---	0.501
190		---	---	ND	---	0.501
191		---	---	ND	---	0.501
192		---	---	ND	---	0.501
193	180/193	46.717	1.08	(0.658)	---	0.501
194		---	---	ND	---	0.501
195		---	---	ND	---	0.501
196		---	---	ND	---	0.702
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.501
199	198/199	---	---	ND	---	0.501
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.501
202		---	---	ND	---	0.501
203		---	---	ND	---	0.501
204		---	---	ND	---	0.501
205		---	---	ND	---	0.501
206		---	---	ND	---	0.501
207		---	---	ND	---	0.501
208		---	---	ND	---	0.501
209		---	---	ND	---	0.501

Conc = Concentration
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-10 FO 071157
Lab Sample ID 1060388010
Filename P71025A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	1.09
Total Hexachloro Biphenyls	2.99
Total Heptachloro Biphenyls	0.658
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	4.73

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-11 FO 071158		
Lab Sample ID	1060388011		
Filename	P71025A_09		
Injected By	SMT		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 08:21

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.923	3.02	2.0	1.57	79	
13C-4-MoCB	3	9.907	3.21	2.0	1.55	78	
13C-2,2'-DiCB	4	10.218	1.59	2.0	1.43	71	
13C-4,4'-DiCB	15	18.209	1.58	2.0	1.27	63	
13C-2,2',6-TrCB	19	14.483	1.06	2.0	1.32	66	
13C-3,4,4'-TrCB	37	26.730	1.09	2.0	1.92	96	
13C-2,2',6,6'-TeCB	54	18.480	0.80	2.0	2.45	122	
13C-3,4,4',5-TeCB	81	34.327	0.80	2.0	2.22	111	
13C-3,3',4,4'-TeCB	77	34.947	0.79	2.0	2.17	109	
13C-2,2',4,6,6'-PeCB	104	25.237	1.57	2.0	1.85	92	
13C-2,3,3',4,4'-PeCB	105	38.721	1.61	2.0	2.05	103	
13C-2,3,4,4',5-PeCB	114	38.016	1.57	2.0	1.99	100	
13C-2,3',4,4',5-PeCB	118	37.479	1.60	2.0	2.18	109	
13C-2,3',4,4',5'-PeCB	123	37.127	1.60	2.0	2.07	103	
13C-3,3',4,4',5-PeCB	126	42.075	1.56	2.0	1.98	99	
13C-2,2',4,4',6,6'-HxCB	155	31.744	1.30	2.0	1.67	84	
13C-HxCB (156/157)	156/157	45.244	1.26	4.0	3.08	77	
13C-2,3',4,4',5,5'-HxCB	167	44.054	1.29	2.0	1.56	78	
13C-3,3',4,4',5,5'-HxCB	169	48.715	1.26	2.0	1.24	62	
13C-2,2',3,4',5,6,6'-HpCB	188	37.999	1.08	2.0	3.20	160	P
13C-2,3,3',4,4',5,5'-HpCB	189	51.336	1.07	2.0	1.91	96	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.735	0.92	2.0	2.72	136	
13C-2,3,3',4,4',5,5',6-OcCB	205	54.030	0.88	2.0	1.97	98	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.819	0.77	2.0	1.96	98	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.776	0.81	2.0	2.18	109	
13C--DeCB	209	57.457	0.73	2.0	2.01	100	
Cleanup Standards							
13C-2,4,4'-TrCB	28	21.984	1.08	2.0	2.06	103	
13C-2,3,3',5,5'-PeCB	111	35.031	1.60	2.0	2.21	111	
13C-2,2',3,3',5,5',6-HpCB	178	41.286	1.04	2.0	1.73	86	
Recovery Standards							
13C-2,5-DiCB	9	13.010	1.60	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.181	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	32.029	1.57	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.800	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.513	0.91	2.0	NA	NA	

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-11 FO 071158
Lab Sample ID 1060388011
Filename P71025A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.502
2		---	---	ND	---	0.502
3		---	---	ND	---	0.502
4		---	---	ND	---	0.502
5		---	---	ND	---	0.502
6		---	---	ND	---	0.502
7		---	---	ND	---	0.502
8		---	---	ND	---	0.502
9		---	---	ND	---	0.502
10		---	---	ND	---	0.502
11		17.442	1.48	0.697 B	---	0.603
12	12/13	---	---	ND	---	0.502
13	12/13	---	---	ND	---	0.502
14		---	---	ND	---	0.502
15		---	---	ND	---	0.502
16		---	---	ND	---	0.502
17		---	---	ND	---	0.502
18	18/30	---	---	ND	---	0.502
19		---	---	ND	---	0.502
20	20/28	---	---	ND	---	0.603
21	21/33	---	---	ND	---	0.502
22		---	---	ND	---	0.502
23		---	---	ND	---	0.502
24		---	---	ND	---	0.502
25		---	---	ND	---	0.502
26	26/29	---	---	ND	---	0.502
27		---	---	ND	---	0.502
28	20/28	---	---	ND	---	0.603
29	26/29	---	---	ND	---	0.502
30	18/30	---	---	ND	---	0.502
31		---	---	ND	---	0.502
32		---	---	ND	---	0.502
33	21/33	---	---	ND	---	0.502
34		---	---	ND	---	0.502
35		---	---	ND	---	0.502
36		---	---	ND	---	0.502
37		---	---	ND	---	0.502
38		---	---	ND	---	0.502
39		---	---	ND	---	0.502
40	40/41/71	---	---	ND	---	0.502
41	40/41/71	---	---	ND	---	0.502
42		---	---	ND	---	0.502

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-11 FO 071158
Lab Sample ID 1060388011
Filename P71025A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.502
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.502
46		---	---	ND	---	0.502
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.502
49	49/69	---	---	ND	---	0.502
50	50/53	---	---	ND	---	0.502
51	45/51	---	---	ND	---	0.502
52		---	---	ND	---	0.502
53	50/53	---	---	ND	---	0.502
54		---	---	ND	---	0.502
55		---	---	ND	---	0.502
56		---	---	ND	---	0.502
57		---	---	ND	---	0.502
58		---	---	ND	---	0.502
59	59/62/75	---	---	ND	---	0.502
60		---	---	ND	---	0.502
61	61/70/74/76	---	---	ND	---	0.502
62	59/62/75	---	---	ND	---	0.502
63		---	---	ND	---	0.502
64		---	---	ND	---	0.502
65	44/47/65	---	---	ND	---	0.603
66		---	---	ND	---	0.502
67		---	---	ND	---	0.502
68		---	---	ND	---	0.502
69	49/69	---	---	ND	---	0.502
70	61/70/74/76	---	---	ND	---	0.502
71	40/41/71	---	---	ND	---	0.502
72		---	---	ND	---	0.502
73		---	---	ND	---	0.502
74	61/70/74/76	---	---	ND	---	0.502
75	59/62/75	---	---	ND	---	0.502
76	61/70/74/76	---	---	ND	---	0.502
77		---	---	ND	---	0.502
78		---	---	ND	---	0.502
79		---	---	ND	---	0.502
80		---	---	ND	---	0.502
81		---	---	ND	---	0.502
82		---	---	ND	---	0.502
83		---	---	ND	---	0.502
84		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQI1011-11 FO 071158
Lab Sample ID 1060388011
Filename P71025A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.502
89		---	---	ND	---	0.502
90	90/101/113	---	---	ND	---	0.502
91	88/91	---	---	ND	---	0.502
92		---	---	ND	---	0.502
93	93/98/100/102	---	---	ND	---	0.754
94		---	---	ND	---	0.502
95		---	---	ND	---	0.502
96		---	---	ND	---	0.502
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.754
99		---	---	ND	---	0.502
100	93/98/100/102	---	---	ND	---	0.754
101	90/101/113	---	---	ND	---	0.502
102	93/98/100/102	---	---	ND	---	0.754
103		---	---	ND	---	0.502
104		---	---	ND	---	0.502
105		---	---	ND	---	0.502
106		---	---	ND	---	0.502
107	107/124	---	---	ND	---	0.502
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.502
110	110/115	---	---	ND	---	0.502
111		---	---	ND	---	0.502
112		---	---	ND	---	0.502
113	90/101/113	---	---	ND	---	0.502
114		---	---	ND	---	0.502
115	110/115	---	---	ND	---	0.502
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		---	---	ND	---	0.502
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.502
121		---	---	ND	---	0.502
122		---	---	ND	---	0.502
123		---	---	ND	---	0.502
124	107/124	---	---	ND	---	0.502
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-11 FO 071158
Lab Sample ID 1060388011
Filename P71025A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.502
128	128/166	---	---	ND	---	1.00
129	129/138/163	40.834	1.25	1.03	---	0.502
130		---	---	ND	---	0.502
131		---	---	ND	---	0.502
132		---	---	ND	---	0.502
133		---	---	ND	---	0.502
134	134/143	---	---	ND	---	0.502
135	135/151	---	---	ND	---	0.512
136		---	---	ND	---	0.502
137		---	---	ND	---	0.502
138	129/138/163	40.834	1.25	(1.03)	---	0.502
139	139/140	---	---	ND	---	0.502
140	139/140	---	---	ND	---	0.502
141		---	---	ND	---	0.502
142		---	---	ND	---	0.502
143	134/143	---	---	ND	---	0.502
144		---	---	ND	---	0.502
145		---	---	ND	---	0.502
146		---	---	ND	---	0.502
147	147/149	36.222	1.23	0.625	---	0.502
148		---	---	ND	---	0.502
149	147/149	36.222	1.23	(0.625)	---	0.502
150		---	---	ND	---	0.502
151	135/151	---	---	ND	---	0.512
152		---	---	ND	---	0.502
153	153/168	39.526	1.27	0.879	---	0.603
154		---	---	ND	---	0.502
155		---	---	ND	---	0.502
156	156/157	---	---	ND	---	0.502
157	156/157	---	---	ND	---	0.502
158		---	---	ND	---	0.502
159		---	---	ND	---	0.502
160		---	---	ND	---	0.502
161		---	---	ND	---	0.502
162		---	---	ND	---	0.502
163	129/138/163	40.834	1.25	(1.03)	---	0.502
164		---	---	ND	---	0.502
165		---	---	ND	---	0.502
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.502
168	153/168	39.526	1.27	(0.879)	---	0.603

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ng's = Nanograms

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-11 FO 071158
Lab Sample ID 1060388011
Filename P71025A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.502
170		---	---	ND	---	0.502
171	171/173	---	---	ND	---	0.502
172		---	---	ND	---	0.502
173	171/173	---	---	ND	---	0.502
174		---	---	ND	---	0.502
175		---	---	ND	---	0.502
176		---	---	ND	---	0.502
177		---	---	ND	---	0.502
178		---	---	ND	---	0.502
179		---	---	ND	---	0.502
180	180/193	46.737	1.03	0.764	---	0.502
181		---	---	ND	---	0.502
182		---	---	ND	---	0.502
183	183/185	---	---	ND	---	0.502
184		---	---	ND	---	0.502
185	183/185	---	---	ND	---	0.502
186		---	---	ND	---	0.502
187		---	---	ND	---	0.502
188		---	---	ND	---	0.502
189		---	---	ND	---	0.502
190		---	---	ND	---	0.502
191		---	---	ND	---	0.502
192		---	---	ND	---	0.502
193	180/193	46.737	1.03	(0.764)	---	0.502
194		---	---	ND	---	0.502
195		---	---	ND	---	0.502
196		---	---	ND	---	0.703
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.502
199	198/199	---	---	ND	---	0.502
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.502
202		---	---	ND	---	0.502
203		---	---	ND	---	0.502
204		---	---	ND	---	0.502
205		---	---	ND	---	0.502
206		---	---	ND	---	0.502
207		---	---	ND	---	0.502
208		---	---	ND	---	0.502
209		---	---	ND	---	0.502

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-11 FO 071158
Lab Sample ID	1060388011
Filename	P71025A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.697
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	2.54
Total Heptachloro Biphenyls	0.764
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	4.00

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-12 FO 071159		
Lab Sample ID	1060388012		
Filename	P71025B_07		
Injected By	SMT		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 21:51

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.912	3.10	2.0	1.34	67
13C-4-MoCB	3	9.907	3.14	2.0	1.31	66
13C-2,2'-DiCB	4	10.207	1.63	2.0	1.11	56
13C-4,4'-DiCB	15	18.199	1.61	2.0	1.28	64
13C-2,2',6-TrCB	19	14.484	1.11	2.0	1.22	61
13C-3,4,4'-TrCB	37	26.701	1.09	2.0	1.96	98
13C-2,2',6,6'-TeCB	54	18.501	0.80	2.0	1.71	86
13C-3,4,4',5-TeCB	81	34.315	0.79	2.0	2.08	104
13C-3,3',4,4'-TeCB	77	34.919	0.78	2.0	2.05	103
13C-2,2',4,6,6'-PeCB	104	25.226	1.63	2.0	1.69	85
13C-2,3,3',4,4'-PeCB	105	38.692	1.63	2.0	2.19	109
13C-2,3,4,4',5-PeCB	114	38.004	1.64	2.0	2.19	109
13C-2,3',4,4',5-PeCB	118	37.451	1.60	2.0	2.29	115
13C-2,3',4,4',5'-PeCB	123	37.099	1.60	2.0	2.19	110
13C-3,3',4,4',5-PeCB	126	42.046	1.64	2.0	2.33	116
13C-2,2',4,4',6,6'-HxCB	155	31.732	1.31	2.0	1.34	67
13C-HxCB (156/157)	156/157	45.232	1.25	4.0	3.79	95
13C-2,3',4,4',5,5'-HxCB	167	44.025	1.28	2.0	1.83	91
13C-3,3',4,4',5,5'-HxCB	169	48.687	1.28	2.0	1.78	89
13C-2,2',3,4',5,6,6'-HpCB	188	37.988	1.04	2.0	1.89	94
13C-2,3,3',4,4',5,5'-HpCB	189	51.320	1.06	2.0	1.96	98
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.706	0.91	2.0	1.88	94
13C-2,3,3',4,4',5,5',6-OcCB	205	53.993	0.89	2.0	1.98	99
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.782	0.77	2.0	1.75	88
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.759	0.79	2.0	1.84	92
13C--DeCB	209	57.420	0.69	2.0	1.68	84
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.972	1.03	2.0	2.30	115
13C-2,3,3',5,5'-PeCB	111	35.002	1.58	2.0	2.10	105
13C-2,2',3,3',5,5',6-HpCB	178	41.275	1.06	2.0	1.52	76
Recovery Standards						
13C-2,5-DiCB	9	13.011	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.169	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.001	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.771	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.497	0.93	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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NC = Not Calculated
* = See Discussion
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RT = Retention Time
I = Interference
ng's = Nanograms

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-12 FO 071159
Lab Sample ID 1060388012
Filename P71025B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.503
2		---	---	ND	---	0.503
3		---	---	ND	---	0.503
4		---	---	ND	---	0.503
5		---	---	ND	---	0.503
6		---	---	ND	---	0.503
7		---	---	ND	---	0.503
8		---	---	ND	---	0.503
9		---	---	ND	---	0.503
10		---	---	ND	---	0.503
11		17.432	1.66	0.664 B	---	0.603
12	12/13	---	---	ND	---	0.503
13	12/13	---	---	ND	---	0.503
14		---	---	ND	---	0.503
15		---	---	ND	---	0.503
16		---	---	ND	---	0.503
17		---	---	ND	---	0.503
18	18/30	17.013	1.01	0.526	---	0.503
19		---	---	ND	---	0.503
20	20/28	21.989	1.02	1.04	---	0.603
21	21/33	22.274	1.02	0.636	---	0.503
22		---	---	ND	---	0.503
23		---	---	ND	---	0.503
24		---	---	ND	---	0.503
25		---	---	ND	---	0.503
26	26/29	---	---	ND	---	0.503
27		---	---	ND	---	0.503
28	20/28	21.989	1.02	(1.04)	---	0.603
29	26/29	---	---	ND	---	0.503
30	18/30	17.013	1.01	(0.526)	---	0.503
31		21.637	1.04	0.672	---	0.503
32		---	---	ND	---	0.503
33	21/33	22.274	1.02	(0.636)	---	0.503
34		---	---	ND	---	0.503
35		---	---	ND	---	0.503
36		---	---	ND	---	0.503
37		26.735	1.01	0.873	---	0.503
38		---	---	ND	---	0.503
39		---	---	ND	---	0.503
40	40/41/71	26.483	0.74	0.689	---	0.503
41	40/41/71	26.483	0.74	(0.689)	---	0.503
42		---	---	ND	---	0.503

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-12 FO 071159
Lab Sample ID 1060388012
Filename P71025B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.503
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.503
46		---	---	ND	---	0.503
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.503
49	49/69	---	---	ND	---	0.503
50	50/53	---	---	ND	---	0.503
51	45/51	---	---	ND	---	0.503
52		---	---	ND	---	0.503
53	50/53	---	---	ND	---	0.503
54		---	---	ND	---	0.503
55		---	---	ND	---	0.503
56		30.810	0.77	1.18	---	0.503
57		---	---	ND	---	0.503
58		---	---	ND	---	0.503
59	59/62/75	---	---	ND	---	0.503
60		31.045	0.74	0.591	---	0.503
61	61/70/74/76	29.737	0.78	2.16	---	0.503
62	59/62/75	---	---	ND	---	0.503
63		---	---	ND	---	0.503
64		---	---	ND	---	0.503
65	44/47/65	---	---	ND	---	0.603
66		30.089	0.79	1.59	---	0.503
67		---	---	ND	---	0.503
68		---	---	ND	---	0.503
69	49/69	---	---	ND	---	0.503
70	61/70/74/76	29.737	0.78	(2.16)	---	0.503
71	40/41/71	26.483	0.74	(0.689)	---	0.503
72		---	---	ND	---	0.503
73		---	---	ND	---	0.503
74	61/70/74/76	29.737	0.78	(2.16)	---	0.503
75	59/62/75	---	---	ND	---	0.503
76	61/70/74/76	29.737	0.78	(2.16)	---	0.503
77		---	---	ND	---	0.503
78		---	---	ND	---	0.503
79		---	---	ND	---	0.503
80		---	---	ND	---	0.503
81		---	---	ND	---	0.503
82		---	---	ND	---	0.503
83		---	---	ND	---	0.503
84		---	---	ND	---	0.503

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-12 FO 071159
Lab Sample ID 1060388012
Filename P71025B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.503
89		---	---	ND	---	0.503
90	90/101/113	32.034	1.60	0.556	---	0.503
91	88/91	---	---	ND	---	0.503
92		---	---	ND	---	0.503
93	93/98/100/102	---	---	ND	---	0.754
94		---	---	ND	---	0.503
95		---	---	ND	---	0.503
96		---	---	ND	---	0.503
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.754
99		---	---	ND	---	0.503
100	93/98/100/102	---	---	ND	---	0.754
101	90/101/113	32.034	1.60	(0.556)	---	0.503
102	93/98/100/102	---	---	ND	---	0.754
103		---	---	ND	---	0.503
104		---	---	ND	---	0.503
105		38.725	1.62	0.716	---	0.503
106		---	---	ND	---	0.503
107	107/124	---	---	ND	---	0.503
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.503
110	110/115	34.181	1.59	1.27	---	0.503
111		---	---	ND	---	0.503
112		---	---	ND	---	0.503
113	90/101/113	32.034	1.60	(0.556)	---	0.503
114		---	---	ND	---	0.503
115	110/115	34.181	1.59	(1.27)	---	0.503
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		37.484	1.56	0.994	---	0.503
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.503
121		---	---	ND	---	0.503
122		---	---	ND	---	0.503
123		---	---	ND	---	0.503
124	107/124	---	---	ND	---	0.503
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.503

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Lab Sample ID 1060388012
Filename P71025B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.503
128	128/166	---	---	ND	---	1.01
129	129/138/163	40.805	1.21	1.09	---	0.503
130		---	---	ND	---	0.503
131		---	---	ND	---	0.503
132		---	---	ND	---	0.503
133		---	---	ND	---	0.503
134	134/143	---	---	ND	---	0.503
135	135/151	---	---	ND	---	0.513
136		---	---	ND	---	0.503
137		---	---	ND	---	0.503
138	129/138/163	40.805	1.21	(1.09)	---	0.503
139	139/140	---	---	ND	---	0.503
140	139/140	---	---	ND	---	0.503
141		---	---	ND	---	0.503
142		---	---	ND	---	0.503
143	134/143	---	---	ND	---	0.503
144		---	---	ND	---	0.503
145		---	---	ND	---	0.503
146		---	---	ND	---	0.503
147	147/149	36.210	1.16	0.632	---	0.503
148		---	---	ND	---	0.503
149	147/149	36.210	1.16	(0.632)	---	0.503
150		---	---	ND	---	0.503
151	135/151	---	---	ND	---	0.513
152		---	---	ND	---	0.503
153	153/168	39.497	1.27	0.846	---	0.603
154		---	---	ND	---	0.503
155		---	---	ND	---	0.503
156	156/157	---	---	ND	---	0.503
157	156/157	---	---	ND	---	0.503
158		---	---	ND	---	0.503
159		---	---	ND	---	0.503
160		---	---	ND	---	0.503
161		---	---	ND	---	0.503
162		---	---	ND	---	0.503
163	129/138/163	40.805	1.21	(1.09)	---	0.503
164		---	---	ND	---	0.503
165		---	---	ND	---	0.503
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.503
168	153/168	39.497	1.27	(0.846)	---	0.603

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
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169		---	---	ND	---	0.503
170		---	---	ND	---	0.503
171	171/173	---	---	ND	---	0.503
172		---	---	ND	---	0.503
173	171/173	---	---	ND	---	0.503
174		---	---	ND	---	0.503
175		---	---	ND	---	0.503
176		---	---	ND	---	0.503
177		---	---	ND	---	0.503
178		---	---	ND	---	0.503
179		---	---	ND	---	0.503
180	180/193	46.725	1.08	0.674	---	0.503
181		---	---	ND	---	0.503
182		---	---	ND	---	0.503
183	183/185	---	---	ND	---	0.503
184		---	---	ND	---	0.503
185	183/185	---	---	ND	---	0.503
186		---	---	ND	---	0.503
187		---	---	ND	---	0.503
188		---	---	ND	---	0.503
189		---	---	ND	---	0.503
190		---	---	ND	---	0.503
191		---	---	ND	---	0.503
192		---	---	ND	---	0.503
193	180/193	46.725	1.08	(0.674)	---	0.503
194		---	---	ND	---	0.503
195		---	---	ND	---	0.503
196		---	---	ND	---	0.704
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.503
199	198/199	---	---	ND	---	0.503
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.503
202		---	---	ND	---	0.503
203		---	---	ND	---	0.503
204		---	---	ND	---	0.503
205		---	---	ND	---	0.503
206		---	---	ND	---	0.503
207		---	---	ND	---	0.503
208		---	---	ND	---	0.503
209		---	---	ND	---	0.503

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Report No.....1060388

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQI1011-12 FO 071159
Lab Sample ID	1060388012
Filename	P71025B_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.664
Total Trichloro Biphenyls	3.75
Total Tetrachloro Biphenyls	6.21
Total Pentachloro Biphenyls	3.54
Total Hexachloro Biphenyls	2.56
Total Heptachloro Biphenyls	0.674
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	17.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQI1011-13 FO 071160		
Lab Sample ID	1060388013		
Filename	P71025A_11		
Injected By	SMT		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/28/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025A_01	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 10:30

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.912	3.08	2.0	1.36	68	
13C-4-MoCB	3	9.907	3.03	2.0	1.30	65	
13C-2,2'-DiCB	4	10.218	1.57	2.0	1.38	69	
13C-4,4'-DiCB	15	18.198	1.59	2.0	1.33	67	
13C-2,2',6-TrCB	19	14.484	1.09	2.0	1.26	63	
13C-3,4,4'-TrCB	37	26.715	1.06	2.0	1.91	95	
13C-2,2',6,6'-TeCB	54	18.481	0.79	2.0	2.39	120	
13C-3,4,4',5-TeCB	81	34.327	0.78	2.0	2.17	109	
13C-3,3',4,4'-TeCB	77	34.931	0.79	2.0	2.08	104	
13C-2,2',4,6,6'-PeCB	104	25.239	1.57	2.0	1.76	88	
13C-2,3,3',4,4'-PeCB	105	38.720	1.58	2.0	2.04	102	
13C-2,3,4,4',5-PeCB	114	38.016	1.58	2.0	1.97	99	
13C-2,3',4,4',5-PeCB	118	37.480	1.57	2.0	2.14	107	
13C-2,3',4,4',5'-PeCB	123	37.128	1.62	2.0	2.05	103	
13C-3,3',4,4',5-PeCB	126	42.057	1.58	2.0	2.00	100	
13C-2,2',4,4',6,6'-HxCB	155	31.745	1.34	2.0	1.63	81	
13C-HxCB (156/157)	156/157	45.243	1.26	4.0	3.20	80	
13C-2,3',4,4',5,5'-HxCB	167	44.053	1.29	2.0	1.60	80	
13C-3,3',4,4',5,5'-HxCB	169	48.714	1.27	2.0	1.35	67	
13C-2,2',3,4',5,6,6'-HpCB	188	37.999	1.08	2.0	3.04	152	P
13C-2,3,3',4,4',5,5'-HpCB	189	51.335	1.06	2.0	1.99	100	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.734	0.90	2.0	2.60	130	
13C-2,3,3',4,4',5,5',6-OcCB	205	54.007	0.89	2.0	2.02	101	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.818	0.79	2.0	1.95	98	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.774	0.80	2.0	2.16	108	
13C--DeCB	209	57.456	0.69	2.0	2.01	100	
Cleanup Standards							
13C-2,4,4'-TrCB	28	21.986	1.06	2.0	2.07	104	
13C-2,3,3',5,5'-PeCB	111	35.015	1.62	2.0	2.13	107	
13C-2,2',3,3',5,5',6-HpCB	178	41.286	1.06	2.0	1.70	85	
Recovery Standards							
13C-2,5-DiCB	9	13.010	1.59	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.166	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	32.030	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.800	1.31	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.511	0.92	2.0	NA	NA	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.498
2		---	---	ND	---	0.498
3		---	---	ND	---	0.498
4		---	---	ND	---	0.498
5		---	---	ND	---	0.498
6		---	---	ND	---	0.498
7		---	---	ND	---	0.498
8		---	---	ND	---	0.498
9		---	---	ND	---	0.498
10		---	---	ND	---	0.498
11		---	---	ND	---	0.598
12	12/13	---	---	ND	---	0.498
13	12/13	---	---	ND	---	0.498
14		---	---	ND	---	0.498
15		---	---	ND	---	0.498
16		---	---	ND	---	0.498
17		---	---	ND	---	0.498
18	18/30	---	---	ND	---	0.498
19		---	---	ND	---	0.498
20	20/28	---	---	ND	---	0.598
21	21/33	---	---	ND	---	0.498
22		---	---	ND	---	0.498
23		---	---	ND	---	0.498
24		---	---	ND	---	0.498
25		---	---	ND	---	0.498
26	26/29	---	---	ND	---	0.498
27		---	---	ND	---	0.498
28	20/28	---	---	ND	---	0.598
29	26/29	---	---	ND	---	0.498
30	18/30	---	---	ND	---	0.498
31		---	---	ND	---	0.498
32		---	---	ND	---	0.498
33	21/33	---	---	ND	---	0.498
34		---	---	ND	---	0.498
35		---	---	ND	---	0.498
36		---	---	ND	---	0.498
37		---	---	ND	---	0.498
38		---	---	ND	---	0.498
39		---	---	ND	---	0.498
40	40/41/71	---	---	ND	---	0.498
41	40/41/71	---	---	ND	---	0.498
42		---	---	ND	---	0.498

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.498
44	44/47/65	---	---	ND	---	0.598
45	45/51	---	---	ND	---	0.498
46		---	---	ND	---	0.498
47	44/47/65	---	---	ND	---	0.598
48		---	---	ND	---	0.498
49	49/69	---	---	ND	---	0.498
50	50/53	---	---	ND	---	0.498
51	45/51	---	---	ND	---	0.498
52		---	---	ND	---	0.498
53	50/53	---	---	ND	---	0.498
54		---	---	ND	---	0.498
55		---	---	ND	---	0.498
56		---	---	ND	---	0.498
57		---	---	ND	---	0.498
58		---	---	ND	---	0.498
59	59/62/75	---	---	ND	---	0.498
60		---	---	ND	---	0.498
61	61/70/74/76	29.733	0.76	0.553	---	0.498
62	59/62/75	---	---	ND	---	0.498
63		---	---	ND	---	0.498
64		---	---	ND	---	0.498
65	44/47/65	---	---	ND	---	0.598
66		---	---	ND	---	0.498
67		---	---	ND	---	0.498
68		---	---	ND	---	0.498
69	49/69	---	---	ND	---	0.498
70	61/70/74/76	29.733	0.76	(0.553)	---	0.498
71	40/41/71	---	---	ND	---	0.498
72		---	---	ND	---	0.498
73		---	---	ND	---	0.498
74	61/70/74/76	29.733	0.76	(0.553)	---	0.498
75	59/62/75	---	---	ND	---	0.498
76	61/70/74/76	29.733	0.76	(0.553)	---	0.498
77		---	---	ND	---	0.498
78		---	---	ND	---	0.498
79		---	---	ND	---	0.498
80		---	---	ND	---	0.498
81		---	---	ND	---	0.498
82		---	---	ND	---	0.498
83		---	---	ND	---	0.498
84		---	---	ND	---	0.498

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Minneapolis, MN 55414

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Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.598
86	86/87/97/108/119/125	---	---	ND	---	0.996
87	86/87/97/108/119/125	---	---	ND	---	0.996
88	88/91	---	---	ND	---	0.498
89		---	---	ND	---	0.498
90	90/101/113	32.047	1.62	0.998	---	0.498
91	88/91	---	---	ND	---	0.498
92		---	---	ND	---	0.498
93	93/98/100/102	---	---	ND	---	0.747
94		---	---	ND	---	0.498
95		28.693	1.64	0.537	---	0.498
96		---	---	ND	---	0.498
97	86/87/97/108/119/125	---	---	ND	---	0.996
98	93/98/100/102	---	---	ND	---	0.747
99		---	---	ND	---	0.498
100	93/98/100/102	---	---	ND	---	0.747
101	90/101/113	32.047	1.62	(0.998)	---	0.498
102	93/98/100/102	---	---	ND	---	0.747
103		---	---	ND	---	0.498
104		---	---	ND	---	0.498
105		---	---	ND	---	0.498
106		---	---	ND	---	0.498
107	107/124	---	---	ND	---	0.498
108	86/87/97/108/119/125	---	---	ND	---	0.996
109		---	---	ND	---	0.498
110	110/115	34.193	1.64	0.889	---	0.498
111		---	---	ND	---	0.498
112		---	---	ND	---	0.498
113	90/101/113	32.047	1.62	(0.998)	---	0.498
114		---	---	ND	---	0.498
115	110/115	34.193	1.64	(0.889)	---	0.498
116	85/116/117	---	---	ND	---	0.598
117	85/116/117	---	---	ND	---	0.598
118		37.496	1.59	0.675	---	0.498
119	86/87/97/108/119/125	---	---	ND	---	0.996
120		---	---	ND	---	0.498
121		---	---	ND	---	0.498
122		---	---	ND	---	0.498
123		---	---	ND	---	0.498
124	107/124	---	---	ND	---	0.498
125	86/87/97/108/119/125	---	---	ND	---	0.996
126		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.498
128	128/166	---	---	ND	---	0.996
129	129/138/163	40.833	1.24	2.69	---	0.498
130		---	---	ND	---	0.498
131		---	---	ND	---	0.498
132		37.547	1.23	0.722	---	0.498
133		---	---	ND	---	0.498
134	134/143	---	---	ND	---	0.498
135	135/151	35.216	1.24	0.658	---	0.508
136		---	---	ND	---	0.498
137		---	---	ND	---	0.498
138	129/138/163	40.833	1.24	(2.69)	---	0.498
139	139/140	---	---	ND	---	0.498
140	139/140	---	---	ND	---	0.498
141		39.710	1.25	0.513	---	0.498
142		---	---	ND	---	0.498
143	134/143	---	---	ND	---	0.498
144		---	---	ND	---	0.498
145		---	---	ND	---	0.498
146		---	---	ND	---	0.498
147	147/149	36.222	1.23	1.85	---	0.498
148		---	---	ND	---	0.498
149	147/149	36.222	1.23	(1.85)	---	0.498
150		---	---	ND	---	0.498
151	135/151	35.216	1.24	(0.658)	---	0.508
152		---	---	ND	---	0.498
153	153/168	39.525	1.23	2.50	---	0.598
154		---	---	ND	---	0.498
155		---	---	ND	---	0.498
156	156/157	---	---	ND	---	0.498
157	156/157	---	---	ND	---	0.498
158		---	---	ND	---	0.498
159		---	---	ND	---	0.498
160		---	---	ND	---	0.498
161		---	---	ND	---	0.498
162		---	---	ND	---	0.498
163	129/138/163	40.833	1.24	(2.69)	---	0.498
164		---	---	ND	---	0.498
165		---	---	ND	---	0.498
166	128/166	---	---	ND	---	0.996
167		---	---	ND	---	0.498
168	153/168	39.525	1.23	(2.50)	---	0.598

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.498
170		48.043	1.06	1.06	---	0.498
171	171/173	---	---	ND	---	0.498
172		---	---	ND	---	0.498
173	171/173	---	---	ND	---	0.498
174		43.164	1.01	0.921	---	0.498
175		---	---	ND	---	0.498
176		---	---	ND	---	0.498
177		43.633	1.07	0.525	---	0.498
178		---	---	ND	---	0.498
179		---	---	ND	---	0.498
180	180/193	46.736	1.04	2.21	---	0.498
181		---	---	ND	---	0.498
182		---	---	ND	---	0.498
183	183/185	42.946	1.08	0.715	---	0.498
184		---	---	ND	---	0.498
185	183/185	42.946	1.08	(0.715)	---	0.498
186		---	---	ND	---	0.498
187		42.292	1.03	0.933	---	0.498
188		---	---	ND	---	0.498
189		---	---	ND	---	0.498
190		---	---	ND	---	0.498
191		---	---	ND	---	0.498
192		---	---	ND	---	0.498
193	180/193	46.736	1.04	(2.21)	---	0.498
194		---	---	ND	---	0.498
195		---	---	ND	---	0.498
196		---	---	ND	---	0.697
197	197/200	---	---	ND	---	2.49
198	198/199	---	---	ND	---	0.498
199	198/199	---	---	ND	---	0.498
200	197/200	---	---	ND	---	2.49
201		---	---	ND	---	0.498
202		---	---	ND	---	0.498
203		---	---	ND	---	0.498
204		---	---	ND	---	0.498
205		---	---	ND	---	0.498
206		---	---	ND	---	0.498
207		---	---	ND	---	0.498
208		---	---	ND	---	0.498
209		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQI1011-13 FO 071160
Lab Sample ID 1060388013
Filename P71025A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.553
Total Pentachloro Biphenyls	3.10
Total Hexachloro Biphenyls	8.93
Total Heptachloro Biphenyls	6.36
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	18.9

ND = Not Detected

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCS-14470		
Filename	P71024A_05	Matrix	Water
Total Amount Extracted	954 mL	Dilution	NA
ICAL Date	10/24/2007	Extracted	10/17/2007
CCal Filename(s)	P71024A_03	Analyzed	10/24/2007 11:55
Method Blank ID	BLANK-14469	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.946	95	2.0	1.11	56
3	1.0	0.912	91	2.0	1.10	55
4	1.0	0.999	100	2.0	1.26	63
15	1.0	1.02	102	2.0	1.05	52
19	1.0	0.928	93	2.0	1.16	58
37	1.0	1.03	103	2.0	1.37	68
54	1.0	0.826	83	2.0	1.78	89
81	1.0	1.04	104	2.0	1.45	72
77	1.0	1.08	108	2.0	1.42	71
104	1.0	0.983	98	2.0	1.70	85
105	1.0	0.983	98	2.0	1.53	77
114	1.0	1.02	102	2.0	1.47	73
118	1.0	0.963	96	2.0	1.56	78
123	1.0	1.05	105	2.0	1.50	75
126	1.0	0.967	97	2.0	1.59	80
155	1.0	1.03	103	2.0	1.62	81
156/157	2.0	2.06	103	4.0	2.89	72
167	1.0	0.972	97	2.0	1.41	71
169	1.0	1.05	105	2.0	1.37	68
188	1.0	0.976	98	2.0	1.98	99
189	1.0	1.07	107	2.0	1.61	81
202	1.0	1.05	105	2.0	1.88	94
205	1.0	0.984	98	2.0	1.81	90
206	1.0	1.04	104	2.0	1.87	94
208	1.0	1.04	104	2.0	1.92	96
209	1.0	1.03	103	2.0	2.06	103

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCSD-14471		
Filename	P71024A_06	Matrix	Water
Total Amount Extracted	953 mL	Dilution	NA
ICAL Date	10/24/2007	Extracted	10/17/2007
CCal Filename(s)	P71024A_03	Analyzed	10/24/2007 13:00
Method Blank ID	BLANK-14469	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.941	94	2.0	1.39	69
3	1.0	0.881	88	2.0	1.37	68
4	1.0	0.987	99	2.0	1.53	76
15	1.0	0.997	100	2.0	1.24	62
19	1.0	0.940	94	2.0	1.37	69
37	1.0	1.02	102	2.0	1.47	73
54	1.0	0.797	80	2.0	2.03	101
81	1.0	0.987	99	2.0	1.56	78
77	1.0	1.05	105	2.0	1.49	75
104	1.0	0.964	96	2.0	1.88	94
105	1.0	0.993	99	2.0	1.62	81
114	1.0	1.04	104	2.0	1.59	80
118	1.0	0.950	95	2.0	1.71	86
123	1.0	0.966	97	2.0	1.66	83
126	1.0	0.980	98	2.0	1.66	83
155	1.0	1.04	104	2.0	1.65	83
156/157	2.0	1.97	98	4.0	2.94	74
167	1.0	0.956	96	2.0	1.45	73
169	1.0	1.03	103	2.0	1.35	67
188	1.0	0.964	96	2.0	2.20	110
189	1.0	1.12	112	2.0	1.64	82
202	1.0	1.02	102	2.0	1.99	100
205	1.0	0.952	95	2.0	1.86	93
206	1.0	1.01	101	2.0	1.93	97
208	1.0	1.03	103	2.0	1.94	97
209	1.0	1.00	100	2.0	2.07	104

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A
Spike Recovery Relative Percent Difference (RPD) Results

Client

Spike 1 ID	LCS-14470	Spike 2 ID	LCSD-14471
Spike 1 Filename	P71024A_05	Spike 2 Filename	P71024A_06

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	95	94	1.1
4-MoCB	3	91	88	3.4
2,2'-DiCB	4	100	99	1.0
4,4'-DiCB	15	102	100	2.0
2,2',6-TrCB	19	93	94	1.1
3,4,4'-TrCB	37	103	102	1.0
2,2',6,6'-TeCB	54	83	80	3.7
3,3',4,4'-TeCB	77	108	105	2.8
3,4,4',5-TeCB	81	104	99	4.9
2,2',4,6,6'-PeCB	104	98	96	2.1
2,3,3',4,4'-PeCB	105	98	99	1.0
2,3,4,4',5-PeCB	114	102	104	1.9
2,3',4,4',5-PeCB	118	96	95	1.0
2,3',4,4',5'-PeCB	123	105	97	7.9
3,3',4,4',5-PeCB	126	97	98	1.0
2,2',4,4',6,6'-HxCB	155	103	104	1.0
HxCB (156/157)	156/157	103	98	5.0
2,3',4,4',5,5'-HxCB	167	97	96	1.0
3,3',4,4',5,5'-HxCB	169	105	103	1.9
2,2',3,4',5,6,6'-HpCB	188	98	96	2.1
2,3,3',4,4',5,5'-HpCB	189	107	112	4.6
2,2',3,3',5,5',6,6'-OcCB	202	105	102	2.9
2,3,3',4,4',5,5',6-OcCB	205	98	95	3.1
2,2',3,3',4,4',5,5',6-NoCB	206	104	101	2.9
2,2',3,3',4,5,5',6,6'-NoCB	208	104	103	1.0
Decachlorobiphenyl	209	103	100	3.0

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

Report No.....1060388

REPORT OF LABORATORY ANALYSIS

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September 30, 2007
Sampling Event

Laboratory Data QA/QC Review
Upland Source Control Investigation
September 30, 2007 Stormwater Sampling

To: File

From: Julia Fowler, GSI

Date: June 1, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses conducted by the City of Portland (City) on September 30, 2007. Three stormwater samples, one field duplicate sample and one field decontamination blank were collected by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) laboratory and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the laboratory QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB Congeners. A low concentration of PCB Congener #11 (0.899 ng/L) was detected in the method blank but was not detected in the associated field samples.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits, with two exceptions. One of the surrogates analyzed with the method blank during the PAH analysis was outside laboratory control limits. Surrogate recoveries were within laboratory control limits for the remaining surrogates and therefore no data are flagged. One of the surrogates analyzed with sample FO071165 during the PAH analysis was outside laboratory control limits; see the TA laboratory report for further discussion.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of the method blank. Pace

Analytical reports that the data were automatically corrected for recovery variation and accurate values were obtained.

Laboratory Control/Laboratory Control Duplicate Samples

Laboratory control/laboratory control duplicate samples were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. All laboratory control sample recoveries were within laboratory control limits. The relative percent difference for benzoic acid between the laboratory control and laboratory control duplicate samples was outside of control limits. CAS reports that the data quality is not significantly affected and no further corrective action was appropriate; refer to the CAS laboratory report for further discussion.

Other

The method reporting limits (MRL) for most samples were elevated during the EPA 8270C analyses due to less than optimal sample volume available for analysis.

A field decontamination blank (FDB) was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCB congeners. PCB congeners 129/138/163 and 153/168 were detected in the FDB at low concentrations. These congeners also were detected in the primary and duplicate samples from OF 52 and in the sample from OF M-1. The PCB congener 129/138/163 and congener 153/168 concentrations in the affected samples are greater than 5 times the FDB concentration and, therefore, are not footnoted in the data tables. The PCB congener 153/168 concentration in OF M-1 is less than 5 times the FDB and is considered biased high. As a result, for OF M-1, the total PCB concentration is considered biased slightly high.

Di-n-butyl phthalate was detected in the FDB blank analyzed by EPA Method 8270C. Results for the OF 52 samples are considered biased high (less than 10 times the FDB concentration). OF M-1 and M-3 sample concentrations are similar to the FDB detection and, therefore appear to be related to field decontamination procedures.

Zinc was detected in the FDB at a concentration of 1.49 ug/L. All detected concentrations in the samples were greater than 10 times the FDB.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 9/30/07
Page: 1 of 1
Collected By: MSS, JNB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Time in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PAH + Phthalates (low-level)	General: SVOC's	General: TSS	General: PCB Congeners	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071161	N. Basin + Emerson	M3-SW1	9/30/07	0843	G	•	•	•	•	•	•	12.9	14	6.5
FO 071162	6208 N Ensign St.	M1-SW1	↓	0855	G	•	•	•	•	•	•	13.0	17	6.6
FO 071163	Cathedral Park	52-SW1	↓	0950	G	•	•	•	•	•	•	13.1	49	6.9
FO 071164	Duplicate	Dup	↓	—	G	•	•	•	•	•	•	—	—	—
FO 071165	Field Decon Blank	FDB	↓	0957	G	•	•	•	•	•	•	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1119	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 9/30/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071161 **Sample Collected:** 09/30/07 08:43 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	14	µmhos/cm	1	SM 2510 B	09/30/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	09/30/07
TEMPERATURE	12.9	Deg. C	0.1	SM 2550 B	09/30/07
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	10/01/07
METALS					
MERCURY	0.0038	µg/L	0.002	WPCLSOP M-10.02	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.58	µg/L	0.1	EPA 200.8	10/05/07
CADMIUM	0.13	µg/L	0.1	EPA 200.8	10/05/07
CHROMIUM	0.95	µg/L	0.4	EPA 200.8	10/05/07
COPPER	10.2	µg/L	0.2	EPA 200.8	10/05/07
LEAD	1.68	µg/L	0.1	EPA 200.8	10/05/07
NICKEL	0.93	µg/L	0.2	EPA 200.8	10/05/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/05/07
ZINC	78.1	µg/L	0.5	EPA 200.8	10/05/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.44	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0108	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071161** **Sample Collected:** 09/30/07 08:43 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0245	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	0.0291	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0458	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0275	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/04/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/04/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/04/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071161 **Sample Collected:** 09/30/07 08:43 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	10/04/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	10/04/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	10/04/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/04/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Di-n-butyl phthalate	0.25	µg/L	0.21	EPA 8270	10/04/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/04/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/04/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071161 **Sample Collected:** 09/30/07 08:43 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-0907
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/04/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Phenol	0.67	µg/L	0.51	EPA 8270	10/04/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07

End of Report for Sample ID: FO071161

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071162 **Sample Collected:** 09/30/07 08:55 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	17	µmhos/cm	1	SM 2510 B	09/30/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	09/30/07
TEMPERATURE	13.0	Deg. C	0.1	SM 2550 B	09/30/07
GENERAL					
TOTAL SUSPENDED SOLIDS	33	mg/L	2	SM 2540 D	09/29/07
METALS					
MERCURY	0.0041	µg/L	0.002	WPCLSOP M-10.02	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.52	µg/L	0.1	EPA 200.8	10/05/07
CADMIUM	0.21	µg/L	0.1	EPA 200.8	10/05/07
CHROMIUM	1.29	µg/L	0.4	EPA 200.8	10/05/07
COPPER	6.89	µg/L	0.2	EPA 200.8	10/05/07
LEAD	3.71	µg/L	0.1	EPA 200.8	10/05/07
NICKEL	1.07	µg/L	0.2	EPA 200.8	10/05/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/05/07
ZINC	119	µg/L	0.5	EPA 200.8	10/05/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0168	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	0.0407	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	0.0108	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	1.24	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0253	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071162 **Sample Collected:** 09/30/07 08:55 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0446	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	0.00980	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0360	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0474	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/04/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/04/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/04/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/04/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/04/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/04/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/04/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/04/07
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	10/04/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/04/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/04/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/04/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071162 **Sample Collected:** 09/30/07 08:55 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	10/04/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/04/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/04/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/04/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/04/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/04/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/04/07
Bis(2-ethylhexyl) phthalate	1.7	µg/L	0.99	EPA 8270	10/04/07
Butyl benzyl phthalate	0.23	µg/L	0.20	EPA 8270	10/04/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/04/07
Diethyl phthalate	0.40	µg/L	0.20	EPA 8270	10/04/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/04/07
Di-n-butyl phthalate	0.24	µg/L	0.20	EPA 8270	10/04/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/04/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	10/04/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/04/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/04/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/04/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071162**
Sample Collected: 09/30/07 08:55
Sample Received: 09/30/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-0907
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/04/07
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	10/04/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/04/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/04/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/04/07

End of Report for Sample ID: FO071162

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071163 **Sample Collected:** 09/30/07 09:50 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	49	µmhos/cm	1	SM 2510 B	09/30/07
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	09/30/07
TEMPERATURE	13.1	Deg. C	0.1	SM 2550 B	09/30/07
GENERAL					
TOTAL SUSPENDED SOLIDS	10	mg/L	2	SM 2540 D	10/01/07
METALS					
MERCURY	0.0074	µg/L	0.002	WPCLSOP M-10.02	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.62	µg/L	0.1	EPA 200.8	10/05/07
CADMIUM	0.18	µg/L	0.1	EPA 200.8	10/05/07
CHROMIUM	1.85	µg/L	0.4	EPA 200.8	10/05/07
COPPER	20.8	µg/L	0.2	EPA 200.8	10/05/07
LEAD	3.95	µg/L	0.1	EPA 200.8	10/05/07
NICKEL	2.34	µg/L	0.2	EPA 200.8	10/05/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/05/07
ZINC	128	µg/L	0.5	EPA 200.8	10/05/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	0.0107	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0117	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0174	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071163** **Sample Collected:** 09/30/07 09:50 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0373	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0313	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0392	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/04/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/04/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/04/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071163 **Sample Collected:** 09/30/07 09:50 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	10/04/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	10/04/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-ethylhexyl) phthalate	1.6	µg/L	1.1	EPA 8270	10/04/07
Butyl benzyl phthalate	0.24	µg/L	0.21	EPA 8270	10/04/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/04/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Di-n-butyl phthalate	0.43	µg/L	0.21	EPA 8270	10/04/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/04/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/04/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071163 **Sample Collected:** 09/30/07 09:50 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-0907
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/04/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Phenol	<0.51	µg/L	0.51	EPA 8270	10/04/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07

End of Report for Sample ID: FO071163

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071164 **Sample Collected:** 09/30/07 00:00 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	10	mg/L	2	SM 2540 D	10/01/07
METALS					
MERCURY	0.0073	µg/L	0.002	WPCLSOP M-10.02	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.58	µg/L	0.1	EPA 200.8	10/05/07
CADMIUM	0.17	µg/L	0.1	EPA 200.8	10/05/07
CHROMIUM	1.70	µg/L	0.4	EPA 200.8	10/05/07
COPPER	20.7	µg/L	0.2	EPA 200.8	10/05/07
LEAD	3.94	µg/L	0.1	EPA 200.8	10/05/07
NICKEL	2.30	µg/L	0.2	EPA 200.8	10/05/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/05/07
ZINC	125	µg/L	0.5	EPA 200.8	10/05/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	0.0106	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Chrysene	0.0151	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/05/07
Fluoranthene	0.0393	µg/L	0.0194	EPA 8270M-SIM	10/05/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071164 **Sample Collected:** 09/30/07 00:00 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 2 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Phenanthrene	0.0291	µg/L	0.0194	EPA 8270M-SIM	10/05/07
Pyrene	0.0383	µg/L	0.0194	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	10/04/07
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	10/04/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/04/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071164 **Sample Collected:** 09/30/07 00:00 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

System ID: AL09131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/04/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/04/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-ethylhexyl) phthalate	1.4	µg/L	1.1	EPA 8270	10/04/07
Butyl benzyl phthalate	0.23	µg/L	0.21	EPA 8270	10/04/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/04/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Di-n-butyl phthalate	0.44	µg/L	0.21	EPA 8270	10/04/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/04/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/04/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/04/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071164**

Sample Collected: 09/30/07 00:00
Sample Received: 09/30/07

Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 4 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071164

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071165 **Sample Collected:** 09/30/07 09:57 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 1 of 4

System ID: AL09132
Sample Point Code: FDBLANK
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: DIWTR
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	10/01/07
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-10.02	10/03/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	10/05/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/05/07
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	10/05/07
COPPER	<0.20	µg/L	0.2	EPA 200.8	10/05/07
LEAD	<0.10	µg/L	0.1	EPA 200.8	10/05/07
NICKEL	<0.20	µg/L	0.2	EPA 200.8	10/05/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/05/07
ZINC	1.49	µg/L	0.5	EPA 200.8	10/05/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	10/17/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Acenaphthylene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Anthracene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Benzo(a)anthracene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Benzo(a)pyrene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Benzo(b)fluoranthene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Benzo(ghi)perylene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Benzo(k)fluoranthene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Bis(2-ethylhexyl) phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Butyl benzyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Chrysene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Dibenzo(a,h)anthracene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Diethyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Dimethyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Di-n-butyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Di-n-octyl phthalate	<0.990	µg/L	0.990	EPA 8270M-SIM	10/05/07
Fluoranthene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071165 **Sample Collected:** 09/30/07 09:57 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 2 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Indeno(1,2,3-cd)pyrene	<0.0099	µg/L	0.0099	EPA 8270M-SIM	10/05/07
Naphthalene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Phenanthrene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
Pyrene	<0.0198	µg/L	0.0198	EPA 8270M-SIM	10/05/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	10/04/07
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	10/04/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/04/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/04/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/04/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071165**
Sample Collected: 09/30/07 09:57
Sample Received: 09/30/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 3 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/04/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/04/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/04/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	10/04/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/04/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Di-n-butyl phthalate	0.24	µg/L	0.21	EPA 8270	10/04/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/04/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/04/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/04/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/04/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/04/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/04/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/04/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/04/07

Report Date: 04/10/08
Validated By:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071165 **Sample Collected:** 09/30/07 09:57 **Sample Received:** 09/30/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/JXB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071165

Report Date: 04/10/08 **Validated By:**

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

November 1, 2007 Analytical Report for Service Request No: K0708953

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on October 01, 2007. For your reference, these analyses have been assigned our service request number K0708953.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071161	**Units:**	ug/L
Lab Code:	K0708953-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Phenol	**0.67**		0.51	1	10/04/07	10/24/07	KWG0710675	
2-Chlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzyl Alcohol	ND	U	5.1	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Methylphenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Hexachloroethane	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Methylphenol†	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Nitrobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Isophorone	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Nitrophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2,4-Dimethylphenol	ND	U	4.1	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Benzoic Acid	ND	U	5.1	1	10/04/07	10/24/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Naphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chloroaniline	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Nitroaniline	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Acenaphthylene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	

Comments:

0005

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: 09/30/2007
Date Received: 10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0 071161
Lab Code: K0708953-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
3-Nitroaniline	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrophenol	ND	U	4.1	1	10/04/07	10/24/07	KWG0710675	
Dibenzofuran	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Nitrophenol	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Fluorene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Diethyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Nitroaniline	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Pentachlorophenol	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
Phenanthrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Di-n-butyl Phthalate	**0.25**		0.21	1	10/04/07	10/24/07	KWG0710675	
Fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Butyl Benzyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
Benz(a)anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Chrysene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	

Comments:

0006

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: 09/30/2007
Date Received: 10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0 071161
Lab Code: K0708953-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	68	16-122	10/24/07	Acceptable
Phenol-d6	67	25-118	10/24/07	Acceptable
Nitrobenzene-d5	66	24-131	10/24/07	Acceptable
2-Fluorobiphenyl	65	26-114	10/24/07	Acceptable
2,4,6-Tribromophenol	97	22-148	10/24/07	Acceptable
Terphenyl-d14	69	28-144	10/24/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071162	**Units:**	ug/L
Lab Code:	K0708953-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Phenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
2-Chlorophenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Benzyl Alcohol	ND	U	5.0	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
2-Methylphenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
Hexachloroethane	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Methylphenol†	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
Nitrobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Isophorone	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
2-Nitrophenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
2,4-Dimethylphenol	ND	U	4.0	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
Benzoic Acid	ND	U	5.0	1	10/04/07	10/24/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Naphthalene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Chloroaniline	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	0.99	1	10/04/07	10/24/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/04/07	10/24/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
2-Nitroaniline	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Acenaphthylene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	

Comments:

0008

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: 09/30/2007
Date Received: 10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0 071162
Lab Code: K0708953-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
3-Nitroaniline	ND	U	0.99	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrophenol	ND	U	4.0	1	10/04/07	10/24/07	KWG0710675	
Dibenzofuran	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Nitrophenol	ND	U	2.0	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Fluorene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Diethyl Phthalate	**0.40**		0.20	1	10/04/07	10/24/07	KWG0710675	
4-Nitroaniline	ND	U	0.99	1	10/04/07	10/24/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobenzene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Pentachlorophenol	ND	U	0.99	1	10/04/07	10/24/07	KWG0710675	
Phenanthrene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Anthracene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Di-n-butyl Phthalate	**0.24**		0.20	1	10/04/07	10/24/07	KWG0710675	
Fluoranthene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Pyrene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Butyl Benzyl Phthalate	**0.23**		0.20	1	10/04/07	10/24/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/04/07	10/24/07	KWG0710675	
Benz(a)anthracene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Chrysene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	**1.7**		0.99	1	10/04/07	10/24/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/04/07	10/24/07	KWG0710675	

Comments:

0009

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071162	**Units:**	ug/L
Lab Code:	K0708953-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	84	16-122	10/24/07	Acceptable
Phenol-d6	82	25-118	10/24/07	Acceptable
Nitrobenzene-d5	83	24-131	10/24/07	Acceptable
2-Fluorobiphenyl	73	26-114	10/24/07	Acceptable
2,4,6-Tribromophenol	100	22-148	10/24/07	Acceptable
Terphenyl-d14	77	28-144	10/24/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071163	**Units:**	ug/L
Lab Code:	K0708953-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Phenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2-Chlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzyl Alcohol	ND	U	5.1	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Methylphenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Hexachloroethane	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Methylphenol†	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Nitrobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Isophorone	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Nitrophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2,4-Dimethylphenol	ND	U	4.1	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
Benzoic Acid	ND	U	5.1	1	10/04/07	10/24/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Naphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chloroaniline	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.51	1	10/04/07	10/24/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2-Nitroaniline	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Acenaphthylene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	

Comments:

0011

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: 09/30/2007
Date Received: 10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0 071163
Lab Code: K0708953-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
3-Nitroaniline	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrophenol	ND	U	4.1	1	10/04/07	10/24/07	KWG0710675	
Dibenzofuran	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Nitrophenol	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Fluorene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Diethyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Nitroaniline	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobenzene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Pentachlorophenol	ND	U	1.1	1	10/04/07	10/24/07	KWG0710675	
Phenanthrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Di-n-butyl Phthalate	**0.43**		0.21	1	10/04/07	10/24/07	KWG0710675	
Fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Butyl Benzyl Phthalate	**0.24**		0.21	1	10/04/07	10/24/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/04/07	10/24/07	KWG0710675	
Benz(a)anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Chrysene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	**1.6**		1.1	1	10/04/07	10/24/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/04/07	10/24/07	KWG0710675	

Comments:

0012

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071163	**Units:**	ug/L
Lab Code:	K0708953-003	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	90	16-122	10/24/07	Acceptable
Phenol-d6	86	25-118	10/24/07	Acceptable
Nitrobenzene-d5	87	24-131	10/24/07	Acceptable
2-Fluorobiphenyl	78	26-114	10/24/07	Acceptable
2,4,6-Tribromophenol	101	22-148	10/24/07	Acceptable
Terphenyl-d14	76	28-144	10/24/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071164	**Units:**	ug/L
Lab Code:	K0708953-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Phenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Chlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzyl Alcohol	ND	U	5.2	1	10/04/07	10/25/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Methylphenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Hexachloroethane	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Methylphenol†	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Nitrobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Isophorone	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Nitrophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2,4-Dimethylphenol	ND	U	4.2	1	10/04/07	10/25/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Benzoic Acid	ND	U	5.2	1	10/04/07	10/25/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Naphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chloroaniline	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Nitroaniline	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Acenaphthylene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	

Comments:

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071164	**Units:**	ug/L
Lab Code:	K0708953-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
3-Nitroaniline	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2,4-Dinitrophenol	ND	U	4.2	1	10/04/07	10/25/07	KWG0710675	
Dibenzofuran	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Nitrophenol	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Fluorene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Diethyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Nitroaniline	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Pentachlorophenol	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
Phenanthrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Di-n-butyl Phthalate	**0.44**		0.21	1	10/04/07	10/25/07	KWG0710675	
Fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Butyl Benzyl Phthalate	**0.23**		0.21	1	10/04/07	10/25/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
Benz(a)anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Chrysene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	**1.4**		1.1	1	10/04/07	10/25/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	

Comments:

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071164	**Units:**	ug/L
Lab Code:	K0708953-004	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	77	16-122	10/25/07	Acceptable
Phenol-d6	79	25-118	10/25/07	Acceptable
Nitrobenzene-d5	79	24-131	10/25/07	Acceptable
2-Fluorobiphenyl	73	26-114	10/25/07	Acceptable
2,4,6-Tribromophenol	99	22-148	10/25/07	Acceptable
Terphenyl-d14	63	28-144	10/25/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: 09/30/2007
Date Received: 10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0 071165
Lab Code: K0708953-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Phenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Chlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzyl Alcohol	ND	U	5.2	1	10/04/07	10/25/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Methylphenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Hexachloroethane	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Methylphenol†	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Nitrobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Isophorone	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Nitrophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2,4-Dimethylphenol	ND	U	4.2	1	10/04/07	10/25/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
Benzoic Acid	ND	U	5.2	1	10/04/07	10/25/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Naphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chloroaniline	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/04/07	10/25/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2-Nitroaniline	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Acenaphthylene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	

Comments:

0017

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071165	**Units:**	ug/L
Lab Code:	K0708953-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
3-Nitroaniline	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2,4-Dinitrophenol	ND	U	4.2	1	10/04/07	10/25/07	KWG0710675	
Dibenzofuran	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Nitrophenol	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Fluorene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Diethyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Nitroaniline	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Hexachlorobenzene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Pentachlorophenol	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
Phenanthrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Di-n-butyl Phthalate	**0.24**		0.21	1	10/04/07	10/25/07	KWG0710675	
Fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Butyl Benzyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/04/07	10/25/07	KWG0710675	
Benz(a)anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Chrysene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	10/04/07	10/25/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/04/07	10/25/07	KWG0710675	

Comments:

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	09/30/2007
Sample Matrix:	Water	**Date Received:**	10/01/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0 071165	**Units:**	ug/L
Lab Code:	K0708953-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	81	16-122	10/25/07	Acceptable
Phenol-d6	83	25-118	10/25/07	Acceptable
Nitrobenzene-d5	94	24-131	10/25/07	Acceptable
2-Fluorobiphenyl	79	26-114	10/25/07	Acceptable
2,4,6-Tribromophenol	59	22-148	10/25/07	Acceptable
Terphenyl-d14	88	28-144	10/25/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0710675-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Phenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
2-Chlorophenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
1,3-Dichlorobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
1,4-Dichlorobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
1,2-Dichlorobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Benzyl Alcohol	ND	U	4.7	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
2-Methylphenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
Hexachloroethane	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Methylphenol†	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
Nitrobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Isophorone	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
2-Nitrophenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
2,4-Dimethylphenol	ND	U	3.8	1	10/04/07	10/24/07	KWG0710675	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
2,4-Dichlorophenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
Benzoic Acid	ND	U	4.7	1	10/04/07	10/24/07	KWG0710675	
1,2,4-Trichlorobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Naphthalene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Chloroaniline	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobutadiene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Chloro-3-methylphenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
2-Methylnaphthalene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Hexachlorocyclopentadiene	ND	U	0.94	1	10/04/07	10/24/07	KWG0710675	
2,4,6-Trichlorophenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
2,4,5-Trichlorophenol	ND	U	0.47	1	10/04/07	10/24/07	KWG0710675	
2-Chloronaphthalene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
2-Nitroaniline	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Acenaphthylene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Dimethyl Phthalate	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
2,6-Dinitrotoluene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	

Comments:

0020

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0710675-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
3-Nitroaniline	ND	U	0.94	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrophenol	ND	U	3.8	1	10/04/07	10/24/07	KWG0710675	
Dibenzofuran	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Nitrophenol	ND	U	1.9	1	10/04/07	10/24/07	KWG0710675	
2,4-Dinitrotoluene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Fluorene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Diethyl Phthalate	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Nitroaniline	ND	U	0.94	1	10/04/07	10/24/07	KWG0710675	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	10/04/07	10/24/07	KWG0710675	
N-Nitrosodiphenylamine	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Hexachlorobenzene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Pentachlorophenol	ND	U	0.94	1	10/04/07	10/24/07	KWG0710675	
Phenanthrene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Anthracene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Di-n-butyl Phthalate	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Fluoranthene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Pyrene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Butyl Benzyl Phthalate	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
3,3'-Dichlorobenzidine	ND	U	1.9	1	10/04/07	10/24/07	KWG0710675	
Benz(a)anthracene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Chrysene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Bis(2-ethylhexyl) Phthalate	ND	U	0.94	1	10/04/07	10/24/07	KWG0710675	
Di-n-octyl Phthalate	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Benzo(b)fluoranthene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Benzo(k)fluoranthene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Benzo(a)pyrene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Dibenz(a,h)anthracene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	
Benzo(g,h,i)perylene	ND	U	0.19	1	10/04/07	10/24/07	KWG0710675	

Comments:

0021

Client:	Portland, City of	**Service Request:**	K0708953
Project:	Portland Harbor Stormwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0710675-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	74	16-122	10/24/07	Acceptable
Phenol-d6	73	25-118	10/24/07	Acceptable
Nitrobenzene-d5	81	24-131	10/24/07	Acceptable
2-Fluorobiphenyl	69	26-114	10/24/07	Acceptable
2,4,6-Tribromophenol	66	22-148	10/24/07	Acceptable
Terphenyl-d14	88	28-144	10/24/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0708953
Project:	Porland Harbor Stormwater	**Date Received:**	10/01/2007
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five water samples were received for analysis at Columbia Analytical Services on 10/01/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Benzoic Acid in the replicate Laboratory Control Sample (LCS/DLCS) analyses (KWG0710675-1 and KWG0710675-2) was outside control criteria. All spike recoveries in the LCS/DLCS were within acceptance limits, indicating the analytical batch was in control. The analyte in question was not detected in the associated field samples. The data quality is not significantly affected. No further corrective action was appropriate.

Elevated Method Reporting Limits:
The Method Reporting Limits (MRL) for most samples were elevated due to less than optimal sample volume available for analysis.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by LJ Date 11.1.07

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
F0 071161	K0708953-001	68	67	66	65	97	69
F0 071162	K0708953-002	84	82	83	73	100	77
F0 071163	K0708953-003	90	86	87	78	101	76
F0 071164	K0708953-004	77	79	79	73	99	63
F0 071165	K0708953-005	81	83	94	79	59	88
Method Blank	KWG0710675-3	74	73	81	69	66	88
Lab Control Sample	KWG0710675-1	81	84	79	71	97	97
Duplicate Lab Control Sample	KWG0710675-2	93	94	89	78	102	97

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Extracted: 10/04/2007
Date Analyzed: 10/25/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0710675

	Lab Control Sample KWG0710675-1 Lab Control Spike			Duplicate Lab Control Sample KWG0710675-2 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**		**RPD Limit**
Bis(2-chloroethyl) Ether	3.51	5.00	70	4.13	5.00	83	30-125	16		30
Phenol	3.85	5.00	77	4.50	5.00	90	32-117	15		30
2-Chlorophenol	3.93	5.00	79	4.48	5.00	90	32-117	13		30
1,3-Dichlorobenzene	2.09	5.00	42	2.44	5.00	49	10-79	15		30
1,4-Dichlorobenzene	2.18	5.00	44	2.57	5.00	51	10-81	16		30
1,2-Dichlorobenzene	2.37	5.00	47	2.81	5.00	56	15-86	17		30
Benzyl Alcohol	3.60	5.00	72	4.08	5.00	82	33-119	13		30
Bis(2-chloroisopropyl) Ether	3.37	5.00	67	3.96	5.00	79	29-116	16		30
2-Methylphenol	3.22	5.00	64	3.59	5.00	72	29-115	11		30
Hexachloroethane	1.55	5.00	31	1.80	5.00	36	10-76	15		30
N-Nitrosodi-n-propylamine	3.31	5.00	66	3.81	5.00	76	35-119	14		30
4-Methylphenol	3.27	5.00	65	3.62	5.00	72	30-116	10		30
Nitrobenzene	3.53	5.00	71	4.02	5.00	80	34-122	13		30
Isophorone	3.52	5.00	70	3.96	5.00	79	33-121	12		30
2-Nitrophenol	3.62	5.00	72	4.35	5.00	87	33-120	18		30
2,4-Dimethylphenol	1.48	5.00	30	1.28	5.00	26	10-116	14		30
Bis(2-chloroethoxy)methane	3.16	5.00	63	3.85	5.00	77	34-119	20		30
2,4-Dichlorophenol	3.50	5.00	70	4.08	5.00	82	33-120	15		30
Benzoic Acid	3.31	15.0	22	7.63	15.0	51	10-118	79	*	30
1,2,4-Trichlorobenzene	2.26	5.00	45	2.73	5.00	55	14-88	19		30
Naphthalene	3.00	5.00	60	3.59	5.00	72	27-103	18		30
4-Chloroaniline	2.93	5.00	59	3.33	5.00	67	10-110	13		30
Hexachlorobutadiene	1.33	5.00	27	1.62	5.00	32	10-75	20		30
4-Chloro-3-methylphenol	3.98	5.00	80	4.13	5.00	83	37-120	4		30
2-Methylnaphthalene	2.80	5.00	56	3.34	5.00	67	27-99	18		30
Hexachlorocyclopentadiene	0.676	5.00	14	0.822	5.00	16	10-54	20		30
2,4,6-Trichlorophenol	4.10	5.00	82	4.40	5.00	88	34-118	7		30
2,4,5-Trichlorophenol	4.33	5.00	87	4.79	5.00	96	36-119	10		30
2-Chloronaphthalene	2.94	5.00	59	3.42	5.00	68	30-108	15		30
2-Nitroaniline	4.88	5.00	98	5.18	5.00	104	35-122	6		30
Acenaphthylene	3.86	5.00	77	4.20	5.00	84	39-116	8		30
Dimethyl Phthalate	4.67	5.00	93	4.88	5.00	98	43-116	4		30
2,6-Dinitrotoluene	4.39	5.00	88	4.65	5.00	93	42-120	6		30
Acenaphthene	3.56	5.00	71	3.90	5.00	78	36-108	9		30
3-Nitroaniline	4.45	5.00	89	5.02	5.00	100	24-115	12		30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0708953
Date Extracted: 10/04/2007
Date Analyzed: 10/25/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0710675

	Lab Control Sample KWG0710675-1 Lab Control Spike			Duplicate Lab Control Sample KWG0710675-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	4.16	5.00	83	5.46	5.00	109	10-121	27	30
Dibenzofuran	3.77	5.00	75	4.12	5.00	82	36-108	9	30
4-Nitrophenol	5.21	5.00	104	6.23	5.00	125	33-136	18	30
2,4-Dinitrotoluene	4.93	5.00	99	5.50	5.00	110	43-124	11	30
Fluorene	3.99	5.00	80	4.58	5.00	92	37-113	14	30
4-Chlorophenyl Phenyl Ether	3.83	5.00	77	4.51	5.00	90	36-112	16	30
Diethyl Phthalate	4.93	5.00	99	5.61	5.00	112	42-120	13	30
4-Nitroaniline	5.21	5.00	104	5.76	5.00	115	23-120	10	30
2-Methyl-4,6-dinitrophenol	5.01	5.00	100	5.85	5.00	117	24-123	15	30
N-Nitrosodiphenylamine	4.23	5.00	85	4.93	5.00	99	30-115	15	30
4-Bromophenyl Phenyl Ether	4.11	5.00	82	4.50	5.00	90	40-113	9	30
Hexachlorobenzene	3.67	5.00	73	4.05	5.00	81	40-114	10	30
Pentachlorophenol	4.64	5.00	93	4.89	5.00	98	24-123	5	30
Phenanthrene	4.12	5.00	82	4.36	5.00	87	42-113	6	30
Anthracene	4.03	5.00	81	4.26	5.00	85	40-113	5	30
Di-n-butyl Phthalate	5.15	5.00	103	5.12	5.00	102	46-119	1	30
Fluoranthene	4.59	5.00	92	4.38	5.00	88	44-116	5	30
Pyrene	4.25	5.00	85	4.59	5.00	92	42-121	8	30
Butyl Benzyl Phthalate	4.70	5.00	94	4.88	5.00	98	43-121	4	30
3,3'-Dichlorobenzidine	3.00	5.00	60	2.95	5.00	59	10-101	2	30
Benz(a)anthracene	4.35	5.00	87	4.49	5.00	90	43-121	3	30
Chrysene	4.31	5.00	86	4.48	5.00	90	45-119	4	30
Bis(2-ethylhexyl) Phthalate	4.77	5.00	95	5.02	5.00	100	34-136	5	30
Di-n-octyl Phthalate	4.63	5.00	93	4.78	5.00	96	39-123	3	30
Benzo(b)fluoranthene	4.62	5.00	92	4.62	5.00	92	42-119	0	30
Benzo(k)fluoranthene	4.50	5.00	90	4.55	5.00	91	43-120	1	30
Benzo(a)pyrene	4.09	5.00	82	4.26	5.00	85	39-116	4	30
Indeno(1,2,3-cd)pyrene	4.20	5.00	84	4.54	5.00	91	42-123	8	30
Dibenz(a,h)anthracene	4.32	5.00	86	4.68	5.00	94	38-130	8	30
Benzo(g,h,i)perylene	4.21	5.00	84	4.71	5.00	94	38-125	11	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: Portland Harbor Stormwater
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below) ☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates	Organotin - Sediment ☐ Phenols ☐ PSEP ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level SVOCs EPA 8270 C	PAH + Phthalates EPA 8270C SIM			REMARKS
FO 071161	9/30/07	0843		Storm water	1														X				
FO 071162		0855			1														X				
FO 071163		0950			1														X				
FO 071164		—			1														X				
FO 071165	↓	0957		↓	1														X				

0021

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
X Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for low-level analysis of full list 8270,

Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature: [signature]
Date/Time: 10/1/07 0950	Date/Time: 10/1/07 9:50	Date/Time:	Date/Time: 10/1/07 1350
Printed Name: Renee Chauvin	Printed Name: [illegible]	Printed Name:	Printed Name: Juell
Firm: City of Ptld	Firm: CH2M	Firm:	Firm: CH2M

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LV

Client / Project: Port Hand Harbor Service Request K07 08953

Received: 10/1/07 Opened: 10/1/07 By: LM

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.7
   Temperature Blank (°C):
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* Y N
12. **Were the correct types of bottles used for the tests indicated?** NA Y N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

0025

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

October 31, 2007

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 10/01/07 11:15. The following list is a summary of the Work Orders contained in this report, generated on 10/31/07 14:28.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQJ0035	Portland Harbor	36238

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071161	PQJ0035-01	Water	09/30/07 08:43	10/01/07 11:15
FO 071162	PQJ0035-02	Water	09/30/07 08:55	10/01/07 11:15
FO 071163	PQJ0035-03	Water	09/30/07 09:50	10/01/07 11:15
FO 071164	PQJ0035-04	Water	09/30/07 00:00	10/01/07 11:15
FO 071165	PQJ0035-05	Water	09/30/07 09:57	10/01/07 11:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0035-01 (FO 071161)		**Water**			**Sampled: 09/30/07 08:43**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 17:37	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0108**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0245**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0291**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0458**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.44**	*0.511*	0.971	"	"	"	"	10/18/07 01:03	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.971*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0275**	*0.0194*	0.0194	"	"	"	"	10/10/07 17:37	
Surrogate(s): Fluorene-d10			*83.9%*		*25 - 125 %*	"			"	
Pyrene-d10			*91.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*52.6%*		*10 - 125 %*	"			"	
PQJ0035-02 (FO 071162)		**Water**			**Sampled: 09/30/07 08:55**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 19:50	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0168**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0407**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0108**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0253**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0446**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.00980**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	

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Sarah Rockwell For Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0035-02 (FO 071162)		**Water**			**Sampled: 09/30/07 08:55**					
Phenanthrene	EPA 8270m	**0.0360**	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/13/07 19:50	
Bis(2-ethylhexyl)phthalate	"	**1.24**	*0.511*	0.971	"	"	"	"	10/11/07 21:14	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.94*	1.94	"	"	"	"	"	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0474**	*0.0194*	0.0194	"	"	"	"	10/13/07 19:50	
Surrogate(s): *Fluorene-d10*			*98.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*85.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*41.9%*		*10 - 125 %*	"			"	
PQJ0035-03 (FO 071163)		**Water**			**Sampled: 09/30/07 09:50**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 16:33	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0107**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0117**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0174**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0373**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0313**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.827**	*0.511*	0.971	"	"	"	"	10/11/07 21:51	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0392**	*0.0194*	0.0194	"	"	"	"	10/10/07 16:33	
Surrogate(s): *Fluorene-d10*			*86.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*84.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*41.1%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0035-04 (FO 071164)		**Water**			**Sampled: 09/30/07 00:00**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100267	10/05/07 16:20	10/10/07 17:05	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0106**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0151**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0393**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0291**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.792**	*0.511*	0.971	"	"	"	"	10/11/07 22:26	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0383**	*0.0194*	0.0194	"	"	"	"	10/10/07 17:05	
Surrogate(s): *Fluorene-d10*			*99.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*87.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*45.6%*		*10 - 125 %*	"			"	
PQJ0035-05 (FO 071165)		**Water**			**Sampled: 09/30/07 09:57**					
Acenaphthene	EPA 8270m	ND	*0.0198*	0.0198	ug/l	1x	7100267	10/05/07 16:20	10/10/07 15:28	
Acenaphthylene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Anthracene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Chrysene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Fluoranthene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Fluorene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00990*	0.00990	"	"	"	"	"	
Naphthalene	"	ND	*0.0198*	0.0198	"	"	"	"	"	
Phenanthrene	"	ND	*0.0198*	0.0198	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0035-05 (FO 071165)		**Water**			**Sampled: 09/30/07 09:57**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.521*	0.990	ug/l	1x	7100267	10/05/07 16:20	10/11/07 23:02	
Butyl benzyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.521*	0.990	"	"	"	"	"	
Pyrene	"	ND	*0.0198*	0.0198	"	"	"	"	10/10/07 15:28	
Surrogate(s): Fluorene-d10			*131%*		*25 - 125 %*	"			"	***Z2***
Pyrene-d10			*121%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*101%*		*10 - 125 %*	"			"	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100267-BLK1)									**Extracted: 10/05/07 16:20**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	10/10/07 16:01	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	10/09/07 21:50	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	10/10/07 16:01	
Surrogate(s): Fluorene-d10		*Recovery: 153%*			*Limits: 25-125%*	"							*10/10/07 16:01*	*Z2*
Pyrene-d10		*139%*			*23-150%*	"							*"*	
Benzo (a) pyrene-d12		*125%*			*10-125%*	"							*"*	
LCS (7100267-BS1)									**Extracted: 10/05/07 16:20**					
Acenaphthene	EPA 8270m	1.91	0.0400	0.0400	ug/l	2x	--	2.50	76.3%	(35-120)	--	--	10/16/07 14:23	
Acenaphthylene	"	1.99	0.0400	0.0400	"	"	--	"	79.4%	(34-116)	--	--	"	
Anthracene	"	1.81	0.0400	0.0400	"	"	--	"	72.3%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.07	0.0200	0.0200	"	"	--	"	82.7%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.90	0.0200	0.0200	"	"	--	"	75.9%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.23	0.0200	0.0200	"	"	--	"	89.1%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.44	0.0400	0.0400	"	"	--	"	97.5%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.25	0.0200	0.0200	"	"	--	"	90.0%	(18-145)	--	--	"	
Chrysene	"	2.10	0.0200	0.0200	"	"	--	"	83.9%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.35	0.0200	0.0200	"	"	--	"	94.0%	(20-141)	--	--	"	
Fluoranthene	"	2.30	0.0400	0.0400	"	"	--	"	92.0%	(31-125)	--	--	"	
Fluorene	"	2.18	0.0400	0.0400	"	"	--	"	87.2%	(27-124)	--	--	"	

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Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7100267-BS1)								**Extracted: 10/05/07 16:20**						
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.41	0.0200	0.0200	ug/l	2x	--	2.50	96.3%	(30-135)	--	--	10/16/07 14:23	
Naphthalene	"	2.04	0.0400	0.0400	"	"	--	"	81.7%	(30-113)	--	--	"	
Phenanthrene	"	2.30	0.0400	0.0400	"	"	--	"	92.1%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.94	0.526	1.00	"	1x	--	4.00	98.5%	(20-150)	--	--	10/09/07 22:26	
Butyl benzyl phthalate	"	3.43	0.526	1.00	"	"	--	"	85.8%	"	--	--	"	
Di-n-butyl phthalate	"	3.47	0.526	1.00	"	"	--	"	86.6%	"	--	--	"	
Di-n-octyl phthalate	"	3.45	0.526	1.00	"	"	--	"	86.1%	"	--	--	"	
Diethyl phthalate	"	3.77	0.526	1.00	"	"	--	"	94.2%	"	--	--	"	
Dimethyl phthalate	"	3.50	0.526	1.00	"	"	--	"	87.6%	"	--	--	"	
Pyrene	"	2.02	0.0400	0.0400	"	2x	--	2.50	81.0%	(21-141)	--	--	10/16/07 14:23	
Surrogate(s): Fluorene-d10		*Recovery: 91.0%*			*Limits: 25-125%*	"							*10/16/07 14:23*	
Pyrene-d10		*85.2%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*90.0%*			*10-125%*	"							"	
LCS Dup (7100267-BSD1)								**Extracted: 10/05/07 16:20**						
Acenaphthene	EPA 8270m	1.91	0.0400	0.0400	ug/l	2x	--	2.50	76.5%	(35-120)	0.244%	(35)	10/10/07 14:23	
Acenaphthylene	"	1.99	0.0400	0.0400	"	"	--	"	79.5%	(34-116)	0.120%	"	"	
Anthracene	"	2.15	0.0400	0.0400	"	"	--	"	85.9%	(24-119)	17.2%	"	"	
Benzo (a) anthracene	"	2.13	0.0200	0.0200	"	"	--	"	85.2%	(36-128)	2.97%	"	"	
Benzo (a) pyrene	"	2.03	0.0200	0.0200	"	"	--	"	81.2%	(17-128)	6.78%	"	"	
Benzo (b) fluoranthene	"	2.24	0.0200	0.0200	"	"	--	"	89.7%	(37-131)	0.687%	"	"	
Benzo (ghi) perylene	"	3.11	0.0400	0.0400	"	"	--	"	124%	(26-126)	24.2%	"	"	
Benzo (k) fluoranthene	"	2.31	0.0200	0.0200	"	"	--	"	92.3%	(18-145)	2.55%	"	"	
Chrysene	"	2.14	0.0200	0.0200	"	"	--	"	85.4%	(16-137)	1.73%	"	"	
Dibenzo (a,h) anthracene	"	2.32	0.0200	0.0200	"	"	--	"	92.8%	(20-141)	1.35%	"	"	
Fluoranthene	"	2.35	0.0400	0.0400	"	"	--	"	94.0%	(31-125)	2.14%	"	"	
Fluorene	"	2.29	0.0400	0.0400	"	"	--	"	91.6%	(27-124)	4.94%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.34	0.0200	0.0200	"	"	--	"	93.6%	(30-135)	2.86%	"	"	
Naphthalene	"	1.97	0.0400	0.0400	"	"	--	"	78.9%	(30-113)	3.50%	"	"	
Phenanthrene	"	2.09	0.0400	0.0400	"	"	--	"	83.7%	(34-126)	9.56%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.96	0.526	1.00	"	1x	--	4.00	98.9%	(20-150)	0.421%	(50)	10/09/07 23:02	
Butyl benzyl phthalate	"	3.52	0.526	1.00	"	"	--	"	88.0%	"	2.55%	"	"	
Di-n-butyl phthalate	"	3.62	0.526	1.00	"	"	--	"	90.4%	"	4.29%	"	"	
Di-n-octyl phthalate	"	3.49	0.526	1.00	"	"	--	"	87.2%	"	1.21%	"	"	
Diethyl phthalate	"	3.54	0.526	1.00	"	"	--	"	88.6%	"	6.20%	"	"	
Dimethyl phthalate	"	3.60	0.526	1.00	"	"	--	"	90.0%	"	2.76%	"	"	
Pyrene	"	2.16	0.0400	0.0400	"	2x	--	2.50	86.4%	(21-141)	6.44%	(35)	10/10/07 14:23	
Surrogate(s): Fluorene-d10		*Recovery: 108%*			*Limits: 25-125%*	"							*10/10/07 14:23*	
Pyrene-d10		*101%*			*23-150%*	"							"	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100267 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (7100267-BSD1)							**Extracted: 10/05/07 16:20**							
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 102%*			*Limits: 10-125%*	*2x*							*10/10/07 14:23*	

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Sarah Rockwell For Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	10/31/07 14:28

Notes and Definitions

Report Specific Notes:

J	-	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
RL1	-	Reporting limit raised due to sample matrix effects.
Z2	-	Surrogate recovery was above the acceptance limits. Data not impacted.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PGX0035

CLIENT: City of Portland
INVOICE TO: Charles Lytle
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX:
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp.
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [10] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD [4] [3] [2] [1] [<1]
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE
REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH + phthalates 8270-SIM (*)	PCB 209 Congeners (*)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	F0071161	9/30/07 0843	X	X	W	2		
2	F0071162	0855	X	X	W	2		
3	F0071163	0950	X	X	W	2		
4	F0071164	—	X	X	W	2		
5	F0071165	0957	X	X	W	2		
6								
7								
8								
9								

RELEASED BY: Rona Kinch — DATE: 10/1/07
PRINT NAME: Rona Kinch — FIRM: City of Portland — TIME: 1055
RECEIVED BY: Jon Stoffregen — DATE: 10/1/07
PRINT NAME: Jon Stoffregen — FIRM: TAP — TIME: 1055
RELEASED BY: — DATE:
PRINT NAME: — FIRM: — TIME:
RECEIVED BY: Peggy Sieglitz — DATE: 10/1/07
PRINT NAME: Peggy Sieglitz — FIRM: TAP — TIME: 1115

ADDITIONAL REMARKS:
(*) PAH + phthalates as for UIC project - same MRLs.
(**) PCB Congeners to Pace Analytical please.

COC REV 09 2004

TEMP: 1.6

TestAmerica Sample Receipt Checklist

Received by:
(section A)
Date: 10/1/07
Time: 1153
Initials: JA

Unpacked by:
(section B)
Date: 10/1/07
Initials: JA

Logged-in by:
Date: 10-1
Initials: MM

Work Order No. PQJ0035
Client: City of Portland
Project: Portland Harbor

Cooler ID(s): 001

***ESI Clients** *(see Section C)*

Cooler Temperature (IR): 1.6 °C plastic glass NA *(oil/air samples, ESI client)*

Temperature out of range:
___No Ice
___Ice Melted
___W/in 4 Hours
___Other:

A

Custody Seals: (#____)
Signature: Y N Dated:_____
X None

Container Type:
1 #Cooler(s)
___#Box(s)
___None (___#Other:_____)

Coolant Type:
X Gel Ice
___Loose Ice
___None

Packing Material:
___Bubble Bags
___Styrofoam Cubbies
X None (___Other:_____)

Received from:
___TA Courier
X Senvoy
___UPS
___Fed Ex
___Client
___TDP
___DHL
___SDS
___Mid-Valley
___GS/TA
___GS/Senvoy
___Other:_____

B

Sample Status:
(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
Volatiles:			
VOAs Free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____°C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

Was the Tracking paper keepable? YES NO

If circled NO, what is the Tracking Number? _____

UPS FED EX DHL OTHER: _____

Project Managers:

Comments:_____

*PM Reviewed:*_____ *(Initial/Date)*

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www.pacelabs.com

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1700 Elm Street
Minneapolis, MN 55414
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DETERMINATION OF PCB CONGENERS

Prepared for:
Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

ACCREDITED IN ACCORDANCE WITH nelac

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: PQJ0035

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES

DATE: October 26, 2007

ISSUED TO: Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

REPORT NO: 07-1060391

INTRODUCTION

This report presents the results from the analyses performed on five samples submitted by a representative of Test America. The samples were analyzed for the presence or absence of polychlorobiphenyl (PCB) congeners using USEPA Method 1668A.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
PQJ0035-01 FO 071161	Water	10/05/07	1060391001
PQJ0035-02 FO 071162	Water	10/05/07	1060391002
PQJ0035-03 FO 071163	Water	10/05/07	1060391003
PQJ0035-04 FO 071164	Water	10/05/07	1060391004
PQJ0035-05 FO 071165	Water	10/05/07	1060391005

RESULTS

The results from the analyses are included in the following:

Appendix A - Documentation
Appendix B - Sample Analysis Results

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: **PCB CONGENER ANALYSES** **DATE:** October 26, 2007

 REPORT NO: 07-1060391

DISCUSSION

The recoveries of the isotopically labeled PCB internal standards in the sample extracts ranged from 53-123%. With the exception of one value, which was flagged "P" on the method blank results table; the labeled standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank, with the exception of a low level of PCB #11, to be free of PCB congeners at the reporting limits. This analyte was not present in the samples at the reporting limit. The results show that the sample preparation procedures did not significantly impact the results of the sample analyses.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The results show that spiked native compounds were recovered at 80-112%, with relative percent differences of 1.0-7.9%. These results indicate high degrees of accuracy and precision for these determinations.

REMARKS

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

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APPENDIX A

REPORT OF LABORATORY ANALYSIS

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1060391

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQJ0035

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature:_____°C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PQJ0035-01	**Water**		Sampled: **09/30/07 08:43**	**FO 071161**
1668 Coplanar PCBs - SUB	ug/l	10/19/07	03/28/08 08:43	***209 Congeners***
Containers Supplied: 1L Amber - Unpres. (B)				001
Sample ID: PQJ0035-02	**Water**		Sampled: **09/30/07 08:55**	**FO 071162**
1668 Coplanar PCBs - SUB	ug/l	10/19/07	03/28/08 08:55	***209 Congeners***
Containers Supplied: 1L Amber - Unpres. (B)				002
Sample ID: PQJ0035-03	**Water**		Sampled: **09/30/07 09:50**	**FO 071163**
1668 Coplanar PCBs - SUB	ug/l	10/19/07	03/28/08 09:50	***209 Congeners***
Containers Supplied: 1L Amber - Unpres. (B)				003
Sample ID: PQJ0035-04	**Water**		Sampled: **09/30/07 00:00**	**FO 071164**
1668 Coplanar PCBs - SUB	ug/l	10/19/07	03/28/08 00:00	***209 Congeners***
Containers Supplied: 1L Amber - Unpres. (B)				004
Sample ID: PQJ0035-05	**Water**		Sampled: **09/30/07 09:57**	**FO 071165**
1668 Coplanar PCBs - SUB	ug/l	10/19/07	03/28/08 09:57	***209 Congeners***
Containers Supplied: 1L Amber - Unpres. (B)				005

* Please add the CofP ID (FO071161, 2, etc) to the TA ID for a combined sample ID
Thanks Hz

Jamie J. Ireland — Released By — 10/4/07 14:36 — Date/Time
Hung Thao/MAC — Received By — 10/5/07 925 — Date/Time
T=2.8 2.4 0.4

Released By — Date/Time — Received By — Date/Time

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APPENDIX B

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-14469		
Filename	P71024A_08		
Injected By	SMT	Matrix	Water
Total Amount Extracted	959 mL	Extracted	10/17/2007
ICAL Date	10/24/2007	Analyzed	10/24/2007 15:09
CCal Filename(s)	P71024A_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.900	3.38	2.0	0.429	21	P
13C-4-MoCB	3	9.883	2.74	2.0	0.563	28	
13C-2,2'-DiCB	4	10.194	1.56	2.0	0.606	30	
13C-4,4'-DiCB	15	18.173	1.60	2.0	0.734	37	
13C-2,2',6-TrCB	19	14.459	1.08	2.0	0.717	36	
13C-3,4,4'-TrCB	37	26.696	1.03	2.0	1.09	54	
13C-2,2',6,6'-TeCB	54	18.463	0.80	2.0	1.19	59	
13C-3,4,4',5-TeCB	81	34.292	0.76	2.0	1.28	64	
13C-3,3',4,4'-TeCB	77	34.896	0.78	2.0	1.24	62	
13C-2,2',4,6,6'-PeCB	104	25.187	1.59	2.0	1.34	67	
13C-2,3,3',4,4'-PeCB	105	38.668	1.60	2.0	1.36	68	
13C-2,3,4,4',5-PeCB	114	37.981	1.61	2.0	1.34	67	
13C-2,3',4,4',5-PeCB	118	37.427	1.54	2.0	1.46	73	
13C-2,3',4,4',5'-PeCB	123	37.075	1.60	2.0	1.36	68	
13C-3,3',4,4',5-PeCB	126	42.005	1.59	2.0	1.45	72	
13C-2,2',4,4',6,6'-HxCB	155	31.710	1.25	2.0	1.34	67	
13C-HxCB (156/157)	156/157	45.191	1.24	4.0	2.70	68	
13C-2,3',4,4',5,5'-HxCB	167	44.000	1.23	2.0	1.30	65	
13C-3,3',4,4',5,5'-HxCB	169	48.645	1.27	2.0	1.25	62	
13C-2,2',3,4',5,6,6'-HpCB	188	37.947	1.03	2.0	1.91	95	
13C-2,3,3',4,4',5,5'-HpCB	189	51.268	1.04	2.0	1.55	77	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.682	0.89	2.0	1.84	92	
13C-2,3,3',4,4',5,5',6-OcCB	205	53.940	0.91	2.0	1.75	88	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.751	0.76	2.0	1.84	92	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.707	0.81	2.0	1.84	92	
13C--DeCB	209	57.389	0.71	2.0	2.05	102	
Cleanup Standards							
13C-2,4,4'-TrCB	28	21.951	1.01	2.0	1.37	69	
13C-2,3,3',5,5'-PeCB	111	34.979	1.59	2.0	1.84	92	
13C-2,2',3,3',5,5',6-HpCB	178	41.234	1.05	2.0	1.81	91	
Recovery Standards							
13C-2,5-DiCB	9	12.986	1.55	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.131	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	31.978	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.748	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.445	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.521
2		---	---	ND	---	0.521
3		---	---	ND	---	0.521
4		---	---	ND	---	0.521
5		---	---	ND	---	0.521
6		---	---	ND	---	0.521
7		---	---	ND	---	0.521
8		---	---	ND	---	0.521
9		---	---	ND	---	0.521
10		---	---	ND	---	0.521
11		17.419	1.61	0.899	---	0.625
12	12/13	---	---	ND	---	0.521
13	12/13	---	---	ND	---	0.521
14		---	---	ND	---	0.521
15		---	---	ND	---	0.521
16		---	---	ND	---	0.521
17		---	---	ND	---	0.521
18	18/30	---	---	ND	---	0.521
19		---	---	ND	---	0.521
20	20/28	---	---	ND	---	0.625
21	21/33	---	---	ND	---	0.521
22		---	---	ND	---	0.521
23		---	---	ND	---	0.521
24		---	---	ND	---	0.521
25		---	---	ND	---	0.521
26	26/29	---	---	ND	---	0.521
27		---	---	ND	---	0.521
28	20/28	---	---	ND	---	0.625
29	26/29	---	---	ND	---	0.521
30	18/30	---	---	ND	---	0.521
31		---	---	ND	---	0.521
32		---	---	ND	---	0.521
33	21/33	---	---	ND	---	0.521
34		---	---	ND	---	0.521
35		---	---	ND	---	0.521
36		---	---	ND	---	0.521
37		---	---	ND	---	0.521
38		---	---	ND	---	0.521
39		---	---	ND	---	0.521
40	40/41/71	---	---	ND	---	0.521
41	40/41/71	---	---	ND	---	0.521
42		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.521
44	44/47/65	---	---	ND	---	0.625
45	45/51	---	---	ND	---	0.521
46		---	---	ND	---	0.521
47	44/47/65	---	---	ND	---	0.625
48		---	---	ND	---	0.521
49	49/69	---	---	ND	---	0.521
50	50/53	---	---	ND	---	0.521
51	45/51	---	---	ND	---	0.521
52		---	---	ND	---	0.521
53	50/53	---	---	ND	---	0.521
54		---	---	ND	---	0.521
55		---	---	ND	---	0.521
56		---	---	ND	---	0.521
57		---	---	ND	---	0.521
58		---	---	ND	---	0.521
59	59/62/75	---	---	ND	---	0.521
60		---	---	ND	---	0.521
61	61/70/74/76	---	---	ND	---	0.521
62	59/62/75	---	---	ND	---	0.521
63		---	---	ND	---	0.521
64		---	---	ND	---	0.521
65	44/47/65	---	---	ND	---	0.625
66		---	---	ND	---	0.521
67		---	---	ND	---	0.521
68		---	---	ND	---	0.521
69	49/69	---	---	ND	---	0.521
70	61/70/74/76	---	---	ND	---	0.521
71	40/41/71	---	---	ND	---	0.521
72		---	---	ND	---	0.521
73		---	---	ND	---	0.521
74	61/70/74/76	---	---	ND	---	0.521
75	59/62/75	---	---	ND	---	0.521
76	61/70/74/76	---	---	ND	---	0.521
77		---	---	ND	---	0.521
78		---	---	ND	---	0.521
79		---	---	ND	---	0.521
80		---	---	ND	---	0.521
81		---	---	ND	---	0.521
82		---	---	ND	---	0.521
83		---	---	ND	---	0.521
84		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1060391

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.625
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.521
89		---	---	ND	---	0.521
90	90/101/113	---	---	ND	---	0.521
91	88/91	---	---	ND	---	0.521
92		---	---	ND	---	0.521
93	93/98/100/102	---	---	ND	---	0.782
94		---	---	ND	---	0.521
95		---	---	ND	---	0.521
96		---	---	ND	---	0.521
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.782
99		---	---	ND	---	0.521
100	93/98/100/102	---	---	ND	---	0.782
101	90/101/113	---	---	ND	---	0.521
102	93/98/100/102	---	---	ND	---	0.782
103		---	---	ND	---	0.521
104		---	---	ND	---	0.521
105		---	---	ND	---	0.521
106		---	---	ND	---	0.521
107	107/124	---	---	ND	---	0.521
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.521
110	110/115	---	---	ND	---	0.521
111		---	---	ND	---	0.521
112		---	---	ND	---	0.521
113	90/101/113	---	---	ND	---	0.521
114		---	---	ND	---	0.521
115	110/115	---	---	ND	---	0.521
116	85/116/117	---	---	ND	---	0.625
117	85/116/117	---	---	ND	---	0.625
118		---	---	ND	---	0.521
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.521
121		---	---	ND	---	0.521
122		---	---	ND	---	0.521
123		---	---	ND	---	0.521
124	107/124	---	---	ND	---	0.521
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

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Minneapolis, MN 55414

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Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.521
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.521
130		---	---	ND	---	0.521
131		---	---	ND	---	0.521
132		---	---	ND	---	0.521
133		---	---	ND	---	0.521
134	134/143	---	---	ND	---	0.521
135	135/151	---	---	ND	---	0.532
136		---	---	ND	---	0.521
137		---	---	ND	---	0.521
138	129/138/163	---	---	ND	---	0.521
139	139/140	---	---	ND	---	0.521
140	139/140	---	---	ND	---	0.521
141		---	---	ND	---	0.521
142		---	---	ND	---	0.521
143	134/143	---	---	ND	---	0.521
144		---	---	ND	---	0.521
145		---	---	ND	---	0.521
146		---	---	ND	---	0.521
147	147/149	---	---	ND	---	0.521
148		---	---	ND	---	0.521
149	147/149	---	---	ND	---	0.521
150		---	---	ND	---	0.521
151	135/151	---	---	ND	---	0.532
152		---	---	ND	---	0.521
153	153/168	---	---	ND	---	0.625
154		---	---	ND	---	0.521
155		---	---	ND	---	0.521
156	156/157	---	---	ND	---	0.521
157	156/157	---	---	ND	---	0.521
158		---	---	ND	---	0.521
159		---	---	ND	---	0.521
160		---	---	ND	---	0.521
161		---	---	ND	---	0.521
162		---	---	ND	---	0.521
163	129/138/163	---	---	ND	---	0.521
164		---	---	ND	---	0.521
165		---	---	ND	---	0.521
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.521
168	153/168	---	---	ND	---	0.625

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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I = Outside QC Limits
RT = Retention Time
I = Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14469
Filename P71024A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.521
170		---	---	ND	---	0.521
171	171/173	---	---	ND	---	0.521
172		---	---	ND	---	0.521
173	171/173	---	---	ND	---	0.521
174		---	---	ND	---	0.521
175		---	---	ND	---	0.521
176		---	---	ND	---	0.521
177		---	---	ND	---	0.521
178		---	---	ND	---	0.521
179		---	---	ND	---	0.521
180	180/193	---	---	ND	---	0.521
181		---	---	ND	---	0.521
182		---	---	ND	---	0.521
183	183/185	---	---	ND	---	0.521
184		---	---	ND	---	0.521
185	183/185	---	---	ND	---	0.521
186		---	---	ND	---	0.521
187		---	---	ND	---	0.521
188		---	---	ND	---	0.521
189		---	---	ND	---	0.521
190		---	---	ND	---	0.521
191		---	---	ND	---	0.521
192		---	---	ND	---	0.521
193	180/193	---	---	ND	---	0.521
194		---	---	ND	---	0.521
195		---	---	ND	---	0.521
196		---	---	ND	---	0.730
197	197/200	---	---	ND	---	2.61
198	198/199	---	---	ND	---	0.521
199	198/199	---	---	ND	---	0.521
200	197/200	---	---	ND	---	2.61
201		---	---	ND	---	0.521
202		---	---	ND	---	0.521
203		---	---	ND	---	0.521
204		---	---	ND	---	0.521
205		---	---	ND	---	0.521
206		---	---	ND	---	0.521
207		---	---	ND	---	0.521
208		---	---	ND	---	0.521
209		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Client Sample ID BLANK-14469
Lab Sample ID BLANK-14469
Filename P71024A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.899
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	0.899

ND = Not Detected

Report No.....1060391

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0035-01 FO 071161		
Lab Sample ID	1060391001		
Filename	P71025B_08		
Injected By	SMT		
Total Amount Extracted	987 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/30/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/25/2007 22:56

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.912	3.16	2.0	1.34	67
13C-4-MoCB	3	9.907	3.11	2.0	1.33	67
13C-2,2'-DiCB	4	10.218	1.61	2.0	1.10	55
13C-4,4'-DiCB	15	18.210	1.58	2.0	1.29	65
13C-2,2',6-TrCB	19	14.484	1.08	2.0	1.16	58
13C-3,4,4'-TrCB	37	26.728	1.09	2.0	1.93	96
13C-2,2',6,6'-TeCB	54	18.512	0.82	2.0	1.53	77
13C-3,4,4',5-TeCB	81	34.324	0.79	2.0	2.06	103
13C-3,3',4,4'-TeCB	77	34.944	0.80	2.0	2.01	101
13C-2,2',4,6,6'-PeCB	104	25.236	1.64	2.0	1.62	81
13C-2,3,3',4,4'-PeCB	105	38.717	1.63	2.0	2.17	108
13C-2,3,4,4',5-PeCB	114	38.013	1.60	2.0	2.16	108
13C-2,3',4,4',5-PeCB	118	37.476	1.58	2.0	2.26	113
13C-2,3',4,4',5'-PeCB	123	37.124	1.63	2.0	2.18	109
13C-3,3',4,4',5-PeCB	126	42.054	1.60	2.0	2.30	115
13C-2,2',4,4',6,6'-HxCB	155	31.741	1.30	2.0	1.29	65
13C-HxCB (156/157)	156/157	45.240	1.25	4.0	3.76	94
13C-2,3',4,4',5,5'-HxCB	167	44.049	1.25	2.0	1.83	92
13C-3,3',4,4',5,5'-HxCB	169	48.694	1.24	2.0	1.71	85
13C-2,2',3,4',5,6,6'-HpCB	188	37.996	1.04	2.0	1.96	98
13C-2,3,3',4,4',5,5'-HpCB	189	51.331	1.05	2.0	2.01	100
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.731	0.90	2.0	1.95	98
13C-2,3,3',4,4',5,5',6-OcCB	205	54.004	0.92	2.0	1.88	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.792	0.77	2.0	1.67	84
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.771	0.80	2.0	1.81	91
13C--DeCB	209	57.430	0.71	2.0	1.58	79
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.983	1.05	2.0	2.10	105
13C-2,3,3',5,5'-PeCB	111	35.028	1.58	2.0	2.02	101
13C-2,2',3,3',5,5',6-HpCB	178	41.282	1.05	2.0	1.53	76
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.62	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.179	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.027	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.796	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.508	0.90	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
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* = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQJ0035-01 FO 071161
Lab Sample ID 1060391001
Filename P71025B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.506
2		---	---	ND	---	0.506
3		---	---	ND	---	0.506
4		---	---	ND	---	0.506
5		---	---	ND	---	0.506
6		---	---	ND	---	0.506
7		---	---	ND	---	0.506
8		---	---	ND	---	0.506
9		---	---	ND	---	0.506
10		---	---	ND	---	0.506
11		---	---	ND	---	0.608
12	12/13	---	---	ND	---	0.506
13	12/13	---	---	ND	---	0.506
14		---	---	ND	---	0.506
15		---	---	ND	---	0.506
16		---	---	ND	---	0.506
17		---	---	ND	---	0.506
18	18/30	---	---	ND	---	0.506
19		---	---	ND	---	0.506
20	20/28	---	---	ND	---	0.608
21	21/33	---	---	ND	---	0.506
22		---	---	ND	---	0.506
23		---	---	ND	---	0.506
24		---	---	ND	---	0.506
25		---	---	ND	---	0.506
26	26/29	---	---	ND	---	0.506
27		---	---	ND	---	0.506
28	20/28	---	---	ND	---	0.608
29	26/29	---	---	ND	---	0.506
30	18/30	---	---	ND	---	0.506
31		---	---	ND	---	0.506
32		---	---	ND	---	0.506
33	21/33	---	---	ND	---	0.506
34		---	---	ND	---	0.506
35		---	---	ND	---	0.506
36		---	---	ND	---	0.506
37		---	---	ND	---	0.506
38		---	---	ND	---	0.506
39		---	---	ND	---	0.506
40	40/41/71	---	---	ND	---	0.506
41	40/41/71	---	---	ND	---	0.506
42		---	---	ND	---	0.506

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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*= See Discussion
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RT = Retention Time
I = Interference
ng's = Nanograms

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-01 FO 071161
Lab Sample ID 1060391001
Filename P71025B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.506
44	44/47/65	---	---	ND	---	0.608
45	45/51	---	---	ND	---	0.506
46		---	---	ND	---	0.506
47	44/47/65	---	---	ND	---	0.608
48		---	---	ND	---	0.506
49	49/69	---	---	ND	---	0.506
50	50/53	---	---	ND	---	0.506
51	45/51	---	---	ND	---	0.506
52		---	---	ND	---	0.506
53	50/53	---	---	ND	---	0.506
54		---	---	ND	---	0.506
55		---	---	ND	---	0.506
56		---	---	ND	---	0.506
57		---	---	ND	---	0.506
58		---	---	ND	---	0.506
59	59/62/75	---	---	ND	---	0.506
60		---	---	ND	---	0.506
61	61/70/74/76	---	---	ND	---	0.506
62	59/62/75	---	---	ND	---	0.506
63		---	---	ND	---	0.506
64		---	---	ND	---	0.506
65	44/47/65	---	---	ND	---	0.608
66		---	---	ND	---	0.506
67		---	---	ND	---	0.506
68		---	---	ND	---	0.506
69	49/69	---	---	ND	---	0.506
70	61/70/74/76	---	---	ND	---	0.506
71	40/41/71	---	---	ND	---	0.506
72		---	---	ND	---	0.506
73		---	---	ND	---	0.506
74	61/70/74/76	---	---	ND	---	0.506
75	59/62/75	---	---	ND	---	0.506
76	61/70/74/76	---	---	ND	---	0.506
77		---	---	ND	---	0.506
78		---	---	ND	---	0.506
79		---	---	ND	---	0.506
80		---	---	ND	---	0.506
81		---	---	ND	---	0.506
82		---	---	ND	---	0.506
83		---	---	ND	---	0.506
84		---	---	ND	---	0.506

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-01 FO 071161
Lab Sample ID 1060391001
Filename P71025B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.608
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.506
89		---	---	ND	---	0.506
90	90/101/113	---	---	ND	---	0.506
91	88/91	---	---	ND	---	0.506
92		---	---	ND	---	0.506
93	93/98/100/102	---	---	ND	---	0.760
94		---	---	ND	---	0.506
95		---	---	ND	---	0.506
96		---	---	ND	---	0.506
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.760
99		---	---	ND	---	0.506
100	93/98/100/102	---	---	ND	---	0.760
101	90/101/113	---	---	ND	---	0.506
102	93/98/100/102	---	---	ND	---	0.760
103		---	---	ND	---	0.506
104		---	---	ND	---	0.506
105		---	---	ND	---	0.506
106		---	---	ND	---	0.506
107	107/124	---	---	ND	---	0.506
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.506
110	110/115	---	---	ND	---	0.506
111		---	---	ND	---	0.506
112		---	---	ND	---	0.506
113	90/101/113	---	---	ND	---	0.506
114		---	---	ND	---	0.506
115	110/115	---	---	ND	---	0.506
116	85/116/117	---	---	ND	---	0.608
117	85/116/117	---	---	ND	---	0.608
118		---	---	ND	---	0.506
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.506
121		---	---	ND	---	0.506
122		---	---	ND	---	0.506
123		---	---	ND	---	0.506
124	107/124	---	---	ND	---	0.506
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.506

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-01 FO 071161
Lab Sample ID 1060391001
Filename P71025B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.506
128	128/166	---	---	ND	---	1.01
129	129/138/163	---	---	ND	---	0.506
130		---	---	ND	---	0.506
131		---	---	ND	---	0.506
132		---	---	ND	---	0.506
133		---	---	ND	---	0.506
134	134/143	---	---	ND	---	0.506
135	135/151	---	---	ND	---	0.517
136		---	---	ND	---	0.506
137		---	---	ND	---	0.506
138	129/138/163	---	---	ND	---	0.506
139	139/140	---	---	ND	---	0.506
140	139/140	---	---	ND	---	0.506
141		---	---	ND	---	0.506
142		---	---	ND	---	0.506
143	134/143	---	---	ND	---	0.506
144		---	---	ND	---	0.506
145		---	---	ND	---	0.506
146		---	---	ND	---	0.506
147	147/149	---	---	ND	---	0.506
148		---	---	ND	---	0.506
149	147/149	---	---	ND	---	0.506
150		---	---	ND	---	0.506
151	135/151	---	---	ND	---	0.517
152		---	---	ND	---	0.506
153	153/168	---	---	ND	---	0.608
154		---	---	ND	---	0.506
155		---	---	ND	---	0.506
156	156/157	---	---	ND	---	0.506
157	156/157	---	---	ND	---	0.506
158		---	---	ND	---	0.506
159		---	---	ND	---	0.506
160		---	---	ND	---	0.506
161		---	---	ND	---	0.506
162		---	---	ND	---	0.506
163	129/138/163	---	---	ND	---	0.506
164		---	---	ND	---	0.506
165		---	---	ND	---	0.506
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.506
168	153/168	---	---	ND	---	0.608

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-01 FO 071161
Lab Sample ID 1060391001
Filename P71025B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.506
170		---	---	ND	---	0.506
171	171/173	---	---	ND	---	0.506
172		---	---	ND	---	0.506
173	171/173	---	---	ND	---	0.506
174		---	---	ND	---	0.506
175		---	---	ND	---	0.506
176		---	---	ND	---	0.506
177		---	---	ND	---	0.506
178		---	---	ND	---	0.506
179		---	---	ND	---	0.506
180	180/193	---	---	ND	---	0.506
181		---	---	ND	---	0.506
182		---	---	ND	---	0.506
183	183/185	---	---	ND	---	0.506
184		---	---	ND	---	0.506
185	183/185	---	---	ND	---	0.506
186		---	---	ND	---	0.506
187		---	---	ND	---	0.506
188		---	---	ND	---	0.506
189		---	---	ND	---	0.506
190		---	---	ND	---	0.506
191		---	---	ND	---	0.506
192		---	---	ND	---	0.506
193	180/193	---	---	ND	---	0.506
194		---	---	ND	---	0.506
195		---	---	ND	---	0.506
196		---	---	ND	---	0.709
197	197/200	---	---	ND	---	2.53
198	198/199	---	---	ND	---	0.506
199	198/199	---	---	ND	---	0.506
200	197/200	---	---	ND	---	2.53
201		---	---	ND	---	0.506
202		---	---	ND	---	0.506
203		---	---	ND	---	0.506
204		---	---	ND	---	0.506
205		---	---	ND	---	0.506
206		---	---	ND	---	0.506
207		---	---	ND	---	0.506
208		---	---	ND	---	0.506
209		---	---	ND	---	0.506

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0035-01 FO 071161
Lab Sample ID	1060391001
Filename	P71025B_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0035-02 FO 071162		
Lab Sample ID	1060391002		
Filename	P71025B_09		
Injected By	SMT		
Total Amount Extracted	1020 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/30/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/26/2007 00:00

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.20	2.0	1.35	68
13C-4-MoCB	3	9.907	3.13	2.0	1.30	65
13C-2,2'-DiCB	4	10.218	1.65	2.0	1.06	53
13C-4,4'-DiCB	15	18.210	1.57	2.0	1.26	63
13C-2,2',6-TrCB	19	14.496	1.11	2.0	1.15	57
13C-3,4,4'-TrCB	37	26.728	1.07	2.0	1.93	97
13C-2,2',6,6'-TeCB	54	18.512	0.83	2.0	1.48	74
13C-3,4,4',5-TeCB	81	34.324	0.81	2.0	2.21	110
13C-3,3',4,4'-TeCB	77	34.944	0.80	2.0	2.12	106
13C-2,2',4,6,6'-PeCB	104	25.236	1.63	2.0	1.50	75
13C-2,3,3',4,4'-PeCB	105	38.717	1.58	2.0	2.10	105
13C-2,3,4,4',5-PeCB	114	38.029	1.61	2.0	2.07	104
13C-2,3',4,4',5-PeCB	118	37.476	1.58	2.0	2.23	112
13C-2,3',4,4',5'-PeCB	123	37.124	1.61	2.0	2.14	107
13C-3,3',4,4',5-PeCB	126	42.070	1.61	2.0	2.13	107
13C-2,2',4,4',6,6'-HxCB	155	31.742	1.30	2.0	1.37	69
13C-HxCB (156/157)	156/157	45.239	1.27	4.0	3.59	90
13C-2,3',4,4',5,5'-HxCB	167	44.049	1.28	2.0	1.77	88
13C-3,3',4,4',5,5'-HxCB	169	48.710	1.26	2.0	1.52	76
13C-2,2',3,4',5,6,6'-HpCB	188	37.996	1.06	2.0	2.46	123
13C-2,3,3',4,4',5,5'-HpCB	189	51.330	1.03	2.0	2.06	103
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.730	0.92	2.0	2.18	109
13C-2,3,3',4,4',5,5',6-OcCB	205	54.003	0.92	2.0	1.85	93
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.813	0.77	2.0	1.65	83
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.770	0.79	2.0	1.87	93
13C--DeCB	209	57.451	0.71	2.0	1.58	79
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.983	1.06	2.0	2.13	107
13C-2,3,3',5,5'-PeCB	111	35.028	1.63	2.0	1.99	99
13C-2,2',3,3',5,5',6-HpCB	178	41.299	1.08	2.0	1.49	75
Recovery Standards						
13C-2,5-DiCB	9	13.010	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.179	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.027	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.796	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.507	0.90	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-02 FO 071162
Lab Sample ID 1060391002
Filename P71025B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.492
2		---	---	ND	---	0.492
3		---	---	ND	---	0.492
4		---	---	ND	---	0.492
5		---	---	ND	---	0.492
6		---	---	ND	---	0.492
7		---	---	ND	---	0.492
8		---	---	ND	---	0.492
9		---	---	ND	---	0.492
10		---	---	ND	---	0.492
11		---	---	ND	---	0.591
12	12/13	---	---	ND	---	0.492
13	12/13	---	---	ND	---	0.492
14		---	---	ND	---	0.492
15		---	---	ND	---	0.492
16		---	---	ND	---	0.492
17		---	---	ND	---	0.492
18	18/30	---	---	ND	---	0.492
19		---	---	ND	---	0.492
20	20/28	---	---	ND	---	0.591
21	21/33	---	---	ND	---	0.492
22		---	---	ND	---	0.492
23		---	---	ND	---	0.492
24		---	---	ND	---	0.492
25		---	---	ND	---	0.492
26	26/29	---	---	ND	---	0.492
27		---	---	ND	---	0.492
28	20/28	---	---	ND	---	0.591
29	26/29	---	---	ND	---	0.492
30	18/30	---	---	ND	---	0.492
31		---	---	ND	---	0.492
32		---	---	ND	---	0.492
33	21/33	---	---	ND	---	0.492
34		---	---	ND	---	0.492
35		---	---	ND	---	0.492
36		---	---	ND	---	0.492
37		---	---	ND	---	0.492
38		---	---	ND	---	0.492
39		---	---	ND	---	0.492
40	40/41/71	---	---	ND	---	0.492
41	40/41/71	---	---	ND	---	0.492
42		---	---	ND	---	0.492

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-02 FO 071162
Lab Sample ID 1060391002
Filename P71025B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.492
44	44/47/65	---	---	ND	---	0.591
45	45/51	---	---	ND	---	0.492
46		---	---	ND	---	0.492
47	44/47/65	---	---	ND	---	0.591
48		---	---	ND	---	0.492
49	49/69	---	---	ND	---	0.492
50	50/53	---	---	ND	---	0.492
51	45/51	---	---	ND	---	0.492
52		---	---	ND	---	0.492
53	50/53	---	---	ND	---	0.492
54		---	---	ND	---	0.492
55		---	---	ND	---	0.492
56		---	---	ND	---	0.492
57		---	---	ND	---	0.492
58		---	---	ND	---	0.492
59	59/62/75	---	---	ND	---	0.492
60		---	---	ND	---	0.492
61	61/70/74/76	---	---	ND	---	0.492
62	59/62/75	---	---	ND	---	0.492
63		---	---	ND	---	0.492
64		---	---	ND	---	0.492
65	44/47/65	---	---	ND	---	0.591
66		---	---	ND	---	0.492
67		---	---	ND	---	0.492
68		---	---	ND	---	0.492
69	49/69	---	---	ND	---	0.492
70	61/70/74/76	---	---	ND	---	0.492
71	40/41/71	---	---	ND	---	0.492
72		---	---	ND	---	0.492
73		---	---	ND	---	0.492
74	61/70/74/76	---	---	ND	---	0.492
75	59/62/75	---	---	ND	---	0.492
76	61/70/74/76	---	---	ND	---	0.492
77		---	---	ND	---	0.492
78		---	---	ND	---	0.492
79		---	---	ND	---	0.492
80		---	---	ND	---	0.492
81		---	---	ND	---	0.492
82		---	---	ND	---	0.492
83		---	---	ND	---	0.492
84		29.897	1.56	0.682	---	0.492

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Filename P71025B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.591
86	86/87/97/108/119/125	---	---	ND	---	0.985
87	86/87/97/108/119/125	---	---	ND	---	0.985
88	88/91	---	---	ND	---	0.492
89		---	---	ND	---	0.492
90	90/101/113	32.060	1.56	0.495	---	0.492
91	88/91	---	---	ND	---	0.492
92		---	---	ND	---	0.492
93	93/98/100/102	---	---	ND	---	0.739
94		---	---	ND	---	0.492
95		28.707	1.59	2.20	---	0.492
96		---	---	ND	---	0.492
97	86/87/97/108/119/125	---	---	ND	---	0.985
98	93/98/100/102	---	---	ND	---	0.739
99		---	---	ND	---	0.492
100	93/98/100/102	---	---	ND	---	0.739
101	90/101/113	32.060	1.56	(0.495)	---	0.492
102	93/98/100/102	---	---	ND	---	0.739
103		---	---	ND	---	0.492
104		---	---	ND	---	0.492
105		---	---	ND	---	0.492
106		---	---	ND	---	0.492
107	107/124	---	---	ND	---	0.492
108	86/87/97/108/119/125	---	---	ND	---	0.985
109		---	---	ND	---	0.492
110	110/115	34.190	1.58	2.44	---	0.492
111		---	---	ND	---	0.492
112		---	---	ND	---	0.492
113	90/101/113	32.060	1.56	(0.495)	---	0.492
114		---	---	ND	---	0.492
115	110/115	34.190	1.58	(2.44)	---	0.492
116	85/116/117	---	---	ND	---	0.591
117	85/116/117	---	---	ND	---	0.591
118		---	---	ND	---	0.492
119	86/87/97/108/119/125	---	---	ND	---	0.985
120		---	---	ND	---	0.492
121		---	---	ND	---	0.492
122		---	---	ND	---	0.492
123		---	---	ND	---	0.492
124	107/124	---	---	ND	---	0.492
125	86/87/97/108/119/125	---	---	ND	---	0.985
126		---	---	ND	---	0.492

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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NA = Not Applicable
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-02 FO 071162
Lab Sample ID 1060391002
Filename P71025B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.492
128	128/166	---	---	ND	---	0.985
129	129/138/163	40.830	1.26	3.40	---	0.492
130		---	---	ND	---	0.492
131		---	---	ND	---	0.492
132		37.543	1.26	2.60	---	0.492
133		---	---	ND	---	0.492
134	134/143	---	---	ND	---	0.492
135	135/151	35.229	1.27	1.45	---	0.502
136		32.513	1.29	0.565	---	0.492
137		---	---	ND	---	0.492
138	129/138/163	40.830	1.26	(3.40)	---	0.492
139	139/140	---	---	ND	---	0.492
140	139/140	---	---	ND	---	0.492
141		39.706	1.29	0.781	---	0.492
142		---	---	ND	---	0.492
143	134/143	---	---	ND	---	0.492
144		---	---	ND	---	0.492
145		---	---	ND	---	0.492
146		38.868	1.23	0.736	---	0.492
147	147/149	36.219	1.23	4.35	---	0.492
148		---	---	ND	---	0.492
149	147/149	36.219	1.23	(4.35)	---	0.492
150		---	---	ND	---	0.492
151	135/151	35.229	1.27	(1.45)	---	0.502
152		---	---	ND	---	0.492
153	153/168	39.522	1.25	2.33	---	0.591
154		---	---	ND	---	0.492
155		---	---	ND	---	0.492
156	156/157	---	---	ND	---	0.492
157	156/157	---	---	ND	---	0.492
158		---	---	ND	---	0.492
159		---	---	ND	---	0.492
160		---	---	ND	---	0.492
161		---	---	ND	---	0.492
162		---	---	ND	---	0.492
163	129/138/163	40.830	1.26	(3.40)	---	0.492
164		---	---	ND	---	0.492
165		---	---	ND	---	0.492
166	128/166	---	---	ND	---	0.985
167		---	---	ND	---	0.492
168	153/168	39.522	1.25	(2.33)	---	0.591

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-02 FO 071162
Lab Sample ID 1060391002
Filename P71025B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.492
170		48.039	1.02	0.699	---	0.492
171	171/173	---	---	ND	---	0.492
172		---	---	ND	---	0.492
173	171/173	---	---	ND	---	0.492
174		43.160	1.09	0.806	---	0.492
175		---	---	ND	---	0.492
176		---	---	ND	---	0.492
177		---	---	ND	---	0.492
178		---	---	ND	---	0.492
179		---	---	ND	---	0.492
180	180/193	46.732	1.03	1.23	---	0.492
181		---	---	ND	---	0.492
182		---	---	ND	---	0.492
183	183/185	42.942	1.02	0.575	---	0.492
184		---	---	ND	---	0.492
185	183/185	42.942	1.02	(0.575)	---	0.492
186		---	---	ND	---	0.492
187		42.288	1.06	0.671	---	0.492
188		---	---	ND	---	0.492
189		---	---	ND	---	0.492
190		---	---	ND	---	0.492
191		---	---	ND	---	0.492
192		---	---	ND	---	0.492
193	180/193	46.732	1.03	(1.23)	---	0.492
194		---	---	ND	---	0.492
195		---	---	ND	---	0.492
196		---	---	ND	---	0.689
197	197/200	---	---	ND	---	2.46
198	198/199	---	---	ND	---	0.492
199	198/199	---	---	ND	---	0.492
200	197/200	---	---	ND	---	2.46
201		---	---	ND	---	0.492
202		---	---	ND	---	0.492
203		---	---	ND	---	0.492
204		---	---	ND	---	0.492
205		---	---	ND	---	0.492
206		---	---	ND	---	0.492
207		---	---	ND	---	0.492
208		---	---	ND	---	0.492
209		---	---	ND	---	0.492

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-02 FO 071162
Lab Sample ID 1060391002
Filename P71025B_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	5.82
Total Hexachloro Biphenyls	16.2
Total Heptachloro Biphenyls	3.98
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	26.0

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0035-03 FO 071163		
Lab Sample ID	1060391003		
Filename	P71025B_10		
Injected By	SMT		
Total Amount Extracted	981 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/30/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/26/2007 01:05

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.935	3.02	2.0	1.53	77
13C-4-MoCB	3	9.919	3.05	2.0	1.44	72
13C-2,2'-DiCB	4	10.231	1.60	2.0	1.15	57
13C-4,4'-DiCB	15	18.223	1.59	2.0	1.34	67
13C-2,2',6-TrCB	19	14.508	1.09	2.0	1.18	59
13C-3,4,4'-TrCB	37	26.734	1.06	2.0	2.01	100
13C-2,2',6,6'-TeCB	54	18.517	0.81	2.0	2.11	106
13C-3,4,4',5-TeCB	81	34.347	0.79	2.0	2.30	115
13C-3,3',4,4'-TeCB	77	34.950	0.79	2.0	2.23	111
13C-2,2',4,6,6'-PeCB	104	25.241	1.63	2.0	1.58	79
13C-2,3,3',4,4'-PeCB	105	38.723	1.58	2.0	2.25	113
13C-2,3,4,4',5-PeCB	114	38.036	1.63	2.0	2.19	110
13C-2,3',4,4',5-PeCB	118	37.482	1.63	2.0	2.34	117
13C-2,3',4,4',5'-PeCB	123	37.130	1.66	2.0	2.22	111
13C-3,3',4,4',5-PeCB	126	42.077	1.58	2.0	2.26	113
13C-2,2',4,4',6,6'-HxCB	155	31.764	1.30	2.0	1.30	65
13C-HxCB (156/157)	156/157	45.263	1.26	4.0	3.62	90
13C-2,3',4,4',5,5'-HxCB	167	44.055	1.28	2.0	1.78	89
13C-3,3',4,4',5,5'-HxCB	169	48.717	1.31	2.0	1.53	76
13C-2,2',3,4',5,6,6'-HpCB	188	38.019	1.07	2.0	2.42	121
13C-2,3,3',4,4',5,5'-HpCB	189	51.337	1.09	2.0	2.07	104
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.737	0.91	2.0	2.22	111
13C-2,3,3',4,4',5,5',6-OcCB	205	54.031	0.91	2.0	1.88	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.820	0.77	2.0	1.67	83
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.777	0.80	2.0	1.88	94
13C--DeCB	209	57.458	0.72	2.0	1.56	78
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.988	1.06	2.0	2.23	112
13C-2,3,3',5,5'-PeCB	111	35.034	1.59	2.0	2.11	105
13C-2,2',3,3',5,5',6-HpCB	178	41.305	1.04	2.0	1.53	77
Recovery Standards						
13C-2,5-DiCB	9	13.034	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.185	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.033	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.802	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.536	0.93	2.0	NA	NA

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0035-03 FO 071163
Lab Sample ID	1060391003
Filename	P71025B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.510
2		---	---	ND	---	0.510
3		---	---	ND	---	0.510
4		---	---	ND	---	0.510
5		---	---	ND	---	0.510
6		---	---	ND	---	0.510
7		---	---	ND	---	0.510
8		---	---	ND	---	0.510
9		---	---	ND	---	0.510
10		---	---	ND	---	0.510
11		---	---	ND	---	0.612
12	12/13	---	---	ND	---	0.510
13	12/13	---	---	ND	---	0.510
14		---	---	ND	---	0.510
15		---	---	ND	---	0.510
16		---	---	ND	---	0.510
17		---	---	ND	---	0.510
18	18/30	---	---	ND	---	0.510
19		---	---	ND	---	0.510
20	20/28	---	---	ND	---	0.612
21	21/33	---	---	ND	---	0.510
22		---	---	ND	---	0.510
23		---	---	ND	---	0.510
24		---	---	ND	---	0.510
25		---	---	ND	---	0.510
26	26/29	---	---	ND	---	0.510
27		---	---	ND	---	0.510
28	20/28	---	---	ND	---	0.612
29	26/29	---	---	ND	---	0.510
30	18/30	---	---	ND	---	0.510
31		---	---	ND	---	0.510
32		---	---	ND	---	0.510
33	21/33	---	---	ND	---	0.510
34		---	---	ND	---	0.510
35		---	---	ND	---	0.510
36		---	---	ND	---	0.510
37		---	---	ND	---	0.510
38		---	---	ND	---	0.510
39		---	---	ND	---	0.510
40	40/41/71	---	---	ND	---	0.510
41	40/41/71	---	---	ND	---	0.510
42		---	---	ND	---	0.510

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-03 FO 071163
Lab Sample ID 1060391003
Filename P71025B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.510
44	44/47/65	---	---	ND	---	0.612
45	45/51	---	---	ND	---	0.510
46		---	---	ND	---	0.510
47	44/47/65	---	---	ND	---	0.612
48		---	---	ND	---	0.510
49	49/69	---	---	ND	---	0.510
50	50/53	---	---	ND	---	0.510
51	45/51	---	---	ND	---	0.510
52		24.218	0.80	0.661	---	0.510
53	50/53	---	---	ND	---	0.510
54		---	---	ND	---	0.510
55		---	---	ND	---	0.510
56		---	---	ND	---	0.510
57		---	---	ND	---	0.510
58		---	---	ND	---	0.510
59	59/62/75	---	---	ND	---	0.510
60		---	---	ND	---	0.510
61	61/70/74/76	29.752	0.76	0.543	---	0.510
62	59/62/75	---	---	ND	---	0.510
63		---	---	ND	---	0.510
64		---	---	ND	---	0.510
65	44/47/65	---	---	ND	---	0.612
66		---	---	ND	---	0.510
67		---	---	ND	---	0.510
68		---	---	ND	---	0.510
69	49/69	---	---	ND	---	0.510
70	61/70/74/76	29.752	0.76	(0.543)	---	0.510
71	40/41/71	---	---	ND	---	0.510
72		---	---	ND	---	0.510
73		---	---	ND	---	0.510
74	61/70/74/76	29.752	0.76	(0.543)	---	0.510
75	59/62/75	---	---	ND	---	0.510
76	61/70/74/76	29.752	0.76	(0.543)	---	0.510
77		---	---	ND	---	0.510
78		---	---	ND	---	0.510
79		---	---	ND	---	0.510
80		---	---	ND	---	0.510
81		---	---	ND	---	0.510
82		---	---	ND	---	0.510
83		---	---	ND	---	0.510
84		---	---	ND	---	0.510

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-03 FO 071163
Lab Sample ID 1060391003
Filename P71025B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.612
86	86/87/97/108/119/125	33.324	1.62	1.55	---	1.02
87	86/87/97/108/119/125	33.324	1.62	(1.55)	---	1.02
88	88/91	---	---	ND	---	0.510
89		---	---	ND	---	0.510
90	90/101/113	32.066	1.57	8.21	---	0.510
91	88/91	---	---	ND	---	0.510
92		31.412	1.60	0.868	---	0.510
93	93/98/100/102	---	---	ND	---	0.765
94		---	---	ND	---	0.510
95		28.712	1.59	4.50	---	0.510
96		---	---	ND	---	0.510
97	86/87/97/108/119/125	33.324	1.62	(1.55)	---	1.02
98	93/98/100/102	---	---	ND	---	0.765
99		---	---	ND	---	0.510
100	93/98/100/102	---	---	ND	---	0.765
101	90/101/113	32.066	1.57	(8.21)	---	0.510
102	93/98/100/102	---	---	ND	---	0.765
103		---	---	ND	---	0.510
104		---	---	ND	---	0.510
105		---	---	ND	---	0.510
106		---	---	ND	---	0.510
107	107/124	---	---	ND	---	0.510
108	86/87/97/108/119/125	33.324	1.62	(1.55)	---	1.02
109		---	---	ND	---	0.510
110	110/115	34.212	1.61	5.79	---	0.510
111		---	---	ND	---	0.510
112		---	---	ND	---	0.510
113	90/101/113	32.066	1.57	(8.21)	---	0.510
114		---	---	ND	---	0.510
115	110/115	34.212	1.61	(5.79)	---	0.510
116	85/116/117	---	---	ND	---	0.612
117	85/116/117	---	---	ND	---	0.612
118		37.516	1.59	3.24	---	0.510
119	86/87/97/108/119/125	33.324	1.62	(1.55)	---	1.02
120		---	---	ND	---	0.510
121		---	---	ND	---	0.510
122		---	---	ND	---	0.510
123		---	---	ND	---	0.510
124	107/124	---	---	ND	---	0.510
125	86/87/97/108/119/125	33.324	1.62	(1.55)	---	1.02
126		---	---	ND	---	0.510

Conc = Concentration
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ng's = Nanograms

Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™
Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-03 FO 071163
Lab Sample ID 1060391003
Filename P71025B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.510
128	128/166	42.161	1.25	2.16	---	1.02
129	129/138/163	40.836	1.24	32.3	---	0.510
130		40.148	1.32	1.01	---	0.510
131		---	---	ND	---	0.510
132		37.566	1.25	8.80	---	0.510
133		---	---	ND	---	0.510
134	134/143	36.426	1.23	0.884	---	0.510
135	135/151	35.235	1.28	8.87	---	0.520
136		32.519	1.26	2.48	---	0.510
137		---	---	ND	---	0.510
138	129/138/163	40.836	1.24	(32.3)	---	0.510
139	139/140	---	---	ND	---	0.510
140	139/140	---	---	ND	---	0.510
141		39.729	1.25	8.23	---	0.510
142		---	---	ND	---	0.510
143	134/143	36.426	1.23	(0.884)	---	0.510
144		35.839	1.25	1.63	---	0.510
145		---	---	ND	---	0.510
146		38.874	1.25	4.12	---	0.510
147	147/149	36.241	1.23	26.0	---	0.510
148		---	---	ND	---	0.510
149	147/149	36.241	1.23	(26.0)	---	0.510
150		---	---	ND	---	0.510
151	135/151	35.235	1.28	(8.87)	---	0.520
152		---	---	ND	---	0.510
153	153/168	39.545	1.25	42.3	---	0.612
154		---	---	ND	---	0.510
155		---	---	ND	---	0.510
156	156/157	45.263	1.25	2.14	---	0.510
157	156/157	45.263	1.25	(2.14)	---	0.510
158		41.255	1.25	3.15	---	0.510
159		---	---	ND	---	0.510
160		---	---	ND	---	0.510
161		---	---	ND	---	0.510
162		---	---	ND	---	0.510
163	129/138/163	40.836	1.24	(32.3)	---	0.510
164		40.517	1.29	2.43	---	0.510
165		---	---	ND	---	0.510
166	128/166	42.161	1.25	(2.16)	---	1.02
167		44.089	1.27	0.914	---	0.510
168	153/168	39.545	1.25	(42.3)	---	0.612

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

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Filename P71025B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.510
170		48.046	1.04	13.3	---	0.510
171	171/173	44.307	1.07	4.94	---	0.510
172		46.068	1.01	1.77	---	0.510
173	171/173	44.307	1.07	(4.94)	---	0.510
174		43.167	1.05	13.7	---	0.510
175		---	---	ND	---	0.510
176		39.310	1.08	1.52	---	0.510
177		43.636	1.03	7.36	---	0.510
178		41.339	1.11	1.63	---	0.510
179		38.371	1.06	3.93	---	0.510
180	180/193	46.755	1.04	30.1	---	0.510
181		---	---	ND	---	0.510
182		---	---	ND	---	0.510
183	183/185	42.949	1.04	12.1	---	0.510
184		---	---	ND	---	0.510
185	183/185	42.949	1.04	(12.1)	---	0.510
186		---	---	ND	---	0.510
187		42.295	1.04	13.2	---	0.510
188		---	---	ND	---	0.510
189		---	---	ND	---	0.510
190		48.616	1.06	2.35	---	0.510
191		47.124	1.09	0.557	---	0.510
192		---	---	ND	---	0.510
193	180/193	46.755	1.04	(30.1)	---	0.510
194		53.557	0.92	2.68	---	0.510
195		51.057	0.90	1.51	---	0.510
196		49.488	0.91	1.87	---	0.714
197	197/200	---	---	ND	---	2.55
198	198/199	48.801	0.92	2.63	---	0.510
199	198/199	48.801	0.92	(2.63)	---	0.510
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.510
202		---	---	ND	---	0.510
203		49.689	0.89	2.15	---	0.510
204		---	---	ND	---	0.510
205		---	---	ND	---	0.510
206		---	---	ND	---	0.510
207		---	---	ND	---	0.510
208		---	---	ND	---	0.510
209		---	---	ND	---	0.510

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-03 FO 071163
Lab Sample ID 1060391003
Filename P71025B_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.20
Total Pentachloro Biphenyls	24.2
Total Hexachloro Biphenyls	147
Total Heptachloro Biphenyls	106
Total Octachloro Biphenyls	10.8
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	290

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0035-04 FO 071164		
Lab Sample ID	1060391004		
Filename	P71025B_11		
Injected By	SMT		
Total Amount Extracted	952 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/30/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/26/2007 02:09

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.17	2.0	1.79	90
13C-4-MoCB	3	9.907	3.46	2.0	1.71	86
13C-2,2'-DiCB	4	10.219	1.58	2.0	1.45	72
13C-4,4'-DiCB	15	18.210	1.52	2.0	1.39	69
13C-2,2',6-TrCB	19	14.496	1.10	2.0	1.37	69
13C-3,4,4'-TrCB	37	26.727	1.05	2.0	1.81	91
13C-2,2',6,6'-TeCB	54	18.512	0.80	2.0	1.50	75
13C-3,4,4',5-TeCB	81	34.340	0.78	2.0	2.13	106
13C-3,3',4,4'-TeCB	77	34.960	0.78	2.0	2.05	103
13C-2,2',4,6,6'-PeCB	104	25.235	1.63	2.0	1.59	79
13C-2,3,3',4,4'-PeCB	105	38.716	1.59	2.0	2.19	110
13C-2,3,4,4',5-PeCB	114	38.028	1.61	2.0	2.15	108
13C-2,3',4,4',5-PeCB	118	37.492	1.60	2.0	2.27	113
13C-2,3',4,4',5'-PeCB	123	37.123	1.60	2.0	2.23	111
13C-3,3',4,4',5-PeCB	126	42.069	1.59	2.0	2.23	112
13C-2,2',4,4',6,6'-HxCB	155	31.757	1.29	2.0	1.33	66
13C-HxCB (156/157)	156/157	45.255	1.27	4.0	3.57	89
13C-2,3',4,4',5,5'-HxCB	167	44.065	1.29	2.0	1.79	89
13C-3,3',4,4',5,5'-HxCB	169	48.709	1.29	2.0	1.49	75
13C-2,2',3,4',5,6,6'-HpCB	188	38.012	1.06	2.0	2.45	123
13C-2,3,3',4,4',5,5'-HpCB	189	51.351	1.04	2.0	2.07	104
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.746	0.92	2.0	2.21	110
13C-2,3,3',4,4',5,5',6-OcCB	205	54.023	0.90	2.0	1.86	93
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.812	0.79	2.0	1.65	83
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.769	0.79	2.0	1.90	95
13C--DeCB	209	57.450	0.70	2.0	1.60	80
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.982	1.05	2.0	1.85	93
13C-2,3,3',5,5'-PeCB	111	35.027	1.61	2.0	2.06	103
13C-2,2',3,3',5,5',6-HpCB	178	41.298	1.06	2.0	1.52	76
Recovery Standards						
13C-2,5-DiCB	9	13.022	1.62	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.179	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.026	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.812	1.32	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.528	0.90	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-04 FO 071164
Lab Sample ID 1060391004
Filename P71025B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.525
2		---	---	ND	---	0.525
3		---	---	ND	---	0.525
4		---	---	ND	---	0.525
5		---	---	ND	---	0.525
6		---	---	ND	---	0.525
7		---	---	ND	---	0.525
8		---	---	ND	---	0.525
9		---	---	ND	---	0.525
10		---	---	ND	---	0.525
11		---	---	ND	---	0.630
12	12/13	---	---	ND	---	0.525
13	12/13	---	---	ND	---	0.525
14		---	---	ND	---	0.525
15		---	---	ND	---	0.525
16		---	---	ND	---	0.525
17		---	---	ND	---	0.525
18	18/30	---	---	ND	---	0.525
19		---	---	ND	---	0.525
20	20/28	---	---	ND	---	0.630
21	21/33	---	---	ND	---	0.525
22		---	---	ND	---	0.525
23		---	---	ND	---	0.525
24		---	---	ND	---	0.525
25		---	---	ND	---	0.525
26	26/29	---	---	ND	---	0.525
27		---	---	ND	---	0.525
28	20/28	---	---	ND	---	0.630
29	26/29	---	---	ND	---	0.525
30	18/30	---	---	ND	---	0.525
31		---	---	ND	---	0.525
32		---	---	ND	---	0.525
33	21/33	---	---	ND	---	0.525
34		---	---	ND	---	0.525
35		---	---	ND	---	0.525
36		---	---	ND	---	0.525
37		---	---	ND	---	0.525
38		---	---	ND	---	0.525
39		---	---	ND	---	0.525
40	40/41/71	---	---	ND	---	0.525
41	40/41/71	---	---	ND	---	0.525
42		---	---	ND	---	0.525

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0035-04 FO 071164
Lab Sample ID	1060391004
Filename	P71025B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.525
44	44/47/65	---	---	ND	---	0.630
45	45/51	---	---	ND	---	0.525
46		---	---	ND	---	0.525
47	44/47/65	---	---	ND	---	0.630
48		---	---	ND	---	0.525
49	49/69	---	---	ND	---	0.525
50	50/53	---	---	ND	---	0.525
51	45/51	---	---	ND	---	0.525
52		---	---	ND	---	0.525
53	50/53	---	---	ND	---	0.525
54		---	---	ND	---	0.525
55		---	---	ND	---	0.525
56		---	---	ND	---	0.525
57		---	---	ND	---	0.525
58		---	---	ND	---	0.525
59	59/62/75	---	---	ND	---	0.525
60		---	---	ND	---	0.525
61	61/70/74/76	---	---	ND	---	0.525
62	59/62/75	---	---	ND	---	0.525
63		---	---	ND	---	0.525
64		---	---	ND	---	0.525
65	44/47/65	---	---	ND	---	0.630
66		---	---	ND	---	0.525
67		---	---	ND	---	0.525
68		---	---	ND	---	0.525
69	49/69	---	---	ND	---	0.525
70	61/70/74/76	---	---	ND	---	0.525
71	40/41/71	---	---	ND	---	0.525
72		---	---	ND	---	0.525
73		---	---	ND	---	0.525
74	61/70/74/76	---	---	ND	---	0.525
75	59/62/75	---	---	ND	---	0.525
76	61/70/74/76	---	---	ND	---	0.525
77		---	---	ND	---	0.525
78		---	---	ND	---	0.525
79		---	---	ND	---	0.525
80		---	---	ND	---	0.525
81		---	---	ND	---	0.525
82		---	---	ND	---	0.525
83		---	---	ND	---	0.525
84		---	---	ND	---	0.525

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-04 FO 071164
Lab Sample ID 1060391004
Filename P71025B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.630
86	86/87/97/108/119/125	---	---	ND	---	1.05
87	86/87/97/108/119/125	---	---	ND	---	1.05
88	88/91	---	---	ND	---	0.525
89		---	---	ND	---	0.525
90	90/101/113	32.059	1.59	1.28	---	0.525
91	88/91	---	---	ND	---	0.525
92		---	---	ND	---	0.525
93	93/98/100/102	---	---	ND	---	0.788
94		---	---	ND	---	0.525
95		28.706	1.54	0.686	---	0.525
96		---	---	ND	---	0.525
97	86/87/97/108/119/125	---	---	ND	---	1.05
98	93/98/100/102	---	---	ND	---	0.788
99		---	---	ND	---	0.525
100	93/98/100/102	---	---	ND	---	0.788
101	90/101/113	32.059	1.59	(1.28)	---	0.525
102	93/98/100/102	---	---	ND	---	0.788
103		---	---	ND	---	0.525
104		---	---	ND	---	0.525
105		---	---	ND	---	0.525
106		---	---	ND	---	0.525
107	107/124	---	---	ND	---	0.525
108	86/87/97/108/119/125	---	---	ND	---	1.05
109		---	---	ND	---	0.525
110	110/115	34.205	1.59	1.27	---	0.525
111		---	---	ND	---	0.525
112		---	---	ND	---	0.525
113	90/101/113	32.059	1.59	(1.28)	---	0.525
114		---	---	ND	---	0.525
115	110/115	34.205	1.59	(1.27)	---	0.525
116	85/116/117	---	---	ND	---	0.630
117	85/116/117	---	---	ND	---	0.630
118		37.509	1.57	0.726	---	0.525
119	86/87/97/108/119/125	---	---	ND	---	1.05
120		---	---	ND	---	0.525
121		---	---	ND	---	0.525
122		---	---	ND	---	0.525
123		---	---	ND	---	0.525
124	107/124	---	---	ND	---	0.525
125	86/87/97/108/119/125	---	---	ND	---	1.05
126		---	---	ND	---	0.525

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Filename P71025B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.525
128	128/166	---	---	ND	---	1.05
129	129/138/163	40.845	1.25	4.63	---	0.525
130		---	---	ND	---	0.525
131		---	---	ND	---	0.525
132		37.559	1.25	1.25	---	0.525
133		---	---	ND	---	0.525
134	134/143	---	---	ND	---	0.525
135	135/151	35.228	1.24	1.16	---	0.536
136		---	---	ND	---	0.525
137		---	---	ND	---	0.525
138	129/138/163	40.845	1.25	(4.63)	---	0.525
139	139/140	---	---	ND	---	0.525
140	139/140	---	---	ND	---	0.525
141		39.722	1.26	1.13	---	0.525
142		---	---	ND	---	0.525
143	134/143	---	---	ND	---	0.525
144		---	---	ND	---	0.525
145		---	---	ND	---	0.525
146		38.884	1.21	0.576	---	0.525
147	147/149	36.234	1.24	3.45	---	0.525
148		---	---	ND	---	0.525
149	147/149	36.234	1.24	(3.45)	---	0.525
150		---	---	ND	---	0.525
151	135/151	35.228	1.24	(1.16)	---	0.536
152		---	---	ND	---	0.525
153	153/168	39.538	1.24	5.59	---	0.630
154		---	---	ND	---	0.525
155		---	---	ND	---	0.525
156	156/157	---	---	ND	---	0.525
157	156/157	---	---	ND	---	0.525
158		---	---	ND	---	0.525
159		---	---	ND	---	0.525
160		---	---	ND	---	0.525
161		---	---	ND	---	0.525
162		---	---	ND	---	0.525
163	129/138/163	40.845	1.25	(4.63)	---	0.525
164		---	---	ND	---	0.525
165		---	---	ND	---	0.525
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.525
168	153/168	39.538	1.24	(5.59)	---	0.630

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Report No.....1060391

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-04 FO 071164
Lab Sample ID 1060391004
Filename P71025B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.525
170		48.039	1.04	1.76	---	0.525
171	171/173	44.300	1.10	0.636	---	0.525
172		---	---	ND	---	0.525
173	171/173	44.300	1.10	(0.636)	---	0.525
174		43.176	1.05	1.82	---	0.525
175		---	---	ND	---	0.525
176		---	---	ND	---	0.525
177		43.629	1.09	0.977	---	0.525
178		---	---	ND	---	0.525
179		---	---	ND	---	0.525
180	180/193	46.748	1.05	4.08	---	0.525
181		---	---	ND	---	0.525
182		---	---	ND	---	0.525
183	183/185	42.958	1.02	1.58	---	0.525
184		---	---	ND	---	0.525
185	183/185	42.958	1.02	(1.58)	---	0.525
186		---	---	ND	---	0.525
187		42.287	1.05	1.73	---	0.525
188		---	---	ND	---	0.525
189		---	---	ND	---	0.525
190		---	---	ND	---	0.525
191		---	---	ND	---	0.525
192		---	---	ND	---	0.525
193	180/193	46.748	1.05	(4.08)	---	0.525
194		---	---	ND	---	0.525
195		---	---	ND	---	0.525
196		---	---	ND	---	0.735
197	197/200	---	---	ND	---	2.63
198	198/199	---	---	ND	---	0.525
199	198/199	---	---	ND	---	0.525
200	197/200	---	---	ND	---	2.63
201		---	---	ND	---	0.525
202		---	---	ND	---	0.525
203		---	---	ND	---	0.525
204		---	---	ND	---	0.525
205		---	---	ND	---	0.525
206		---	---	ND	---	0.525
207		---	---	ND	---	0.525
208		---	---	ND	---	0.525
209		---	---	ND	---	0.525

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-04 FO 071164
Lab Sample ID 1060391004
Filename P71025B_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	3.95
Total Hexachloro Biphenyls	17.8
Total Heptachloro Biphenyls	12.6
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	34.3

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0035-05 FO 071165		
Lab Sample ID	1060391005		
Filename	P71025B_12		
Injected By	SMT		
Total Amount Extracted	968 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/30/2007
ICAL Date	10/25/2007	Received	10/05/2007
CCal Filename(s)	P71025B_03	Extracted	10/17/2007
Method Blank ID	BLANK-14469	Analyzed	10/26/2007 03:14

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.936	3.06	2.0	2.05	103
13C-4-MoCB	3	9.931	3.54	2.0	1.95	98
13C-2,2'-DiCB	4	10.243	1.61	2.0	1.57	79
13C-4,4'-DiCB	15	18.222	1.61	2.0	1.53	76
13C-2,2',6-TrCB	19	14.520	1.08	2.0	1.56	78
13C-3,4,4'-TrCB	37	26.734	1.08	2.0	1.80	90
13C-2,2',6,6'-TeCB	54	18.517	0.82	2.0	1.99	100
13C-3,4,4',5-TeCB	81	34.347	0.78	2.0	1.89	95
13C-3,3',4,4'-TeCB	77	34.950	0.78	2.0	1.79	90
13C-2,2',4,6,6'-PeCB	104	25.258	1.65	2.0	1.72	86
13C-2,3,3',4,4'-PeCB	105	38.723	1.64	2.0	2.12	106
13C-2,3,4,4',5-PeCB	114	38.036	1.60	2.0	2.00	100
13C-2,3',4,4',5-PeCB	118	37.482	1.60	2.0	2.14	107
13C-2,3',4,4',5'-PeCB	123	37.130	1.60	2.0	2.02	101
13C-3,3',4,4',5-PeCB	126	42.077	1.54	2.0	2.25	113
13C-2,2',4,4',6,6'-HxCB	155	31.764	1.29	2.0	1.31	66
13C-HxCB (156/157)	156/157	45.246	1.25	4.0	3.87	97
13C-2,3',4,4',5,5'-HxCB	167	44.056	1.28	2.0	1.81	91
13C-3,3',4,4',5,5'-HxCB	169	48.701	1.27	2.0	1.97	98
13C-2,2',3,4',5,6,6'-HpCB	188	38.002	1.08	2.0	1.52	76
13C-2,3,3',4,4',5,5'-HpCB	189	51.338	1.04	2.0	1.89	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.737	0.91	2.0	1.62	81
13C-2,3,3',4,4',5,5',6-OcCB	205	54.011	0.90	2.0	1.93	96
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.799	0.79	2.0	1.61	81
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.778	0.80	2.0	1.72	86
13C--DeCB	209	57.438	0.71	2.0	1.51	75
Cleanup Standards						
13C-2,4,4'-TrCB	28	22.005	0.97	2.0	1.91	96
13C-2,3,3',5,5'-PeCB	111	35.034	1.57	2.0	1.93	96
13C-2,2',3,3',5,5',6-HpCB	178	41.306	1.07	2.0	1.53	76
Recovery Standards						
13C-2,5-DiCB	9	13.034	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.185	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.033	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.803	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.515	0.93	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQJ0035-05 FO 071165
Lab Sample ID 1060391005
Filename P71025B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.516
2		---	---	ND	---	0.516
3		---	---	ND	---	0.516
4		---	---	ND	---	0.516
5		---	---	ND	---	0.516
6		---	---	ND	---	0.516
7		---	---	ND	---	0.516
8		---	---	ND	---	0.516
9		---	---	ND	---	0.516
10		---	---	ND	---	0.516
11		---	---	ND	---	0.620
12	12/13	---	---	ND	---	0.516
13	12/13	---	---	ND	---	0.516
14		---	---	ND	---	0.516
15		---	---	ND	---	0.516
16		---	---	ND	---	0.516
17		---	---	ND	---	0.516
18	18/30	---	---	ND	---	0.516
19		---	---	ND	---	0.516
20	20/28	---	---	ND	---	0.620
21	21/33	---	---	ND	---	0.516
22		---	---	ND	---	0.516
23		---	---	ND	---	0.516
24		---	---	ND	---	0.516
25		---	---	ND	---	0.516
26	26/29	---	---	ND	---	0.516
27		---	---	ND	---	0.516
28	20/28	---	---	ND	---	0.620
29	26/29	---	---	ND	---	0.516
30	18/30	---	---	ND	---	0.516
31		---	---	ND	---	0.516
32		---	---	ND	---	0.516
33	21/33	---	---	ND	---	0.516
34		---	---	ND	---	0.516
35		---	---	ND	---	0.516
36		---	---	ND	---	0.516
37		---	---	ND	---	0.516
38		---	---	ND	---	0.516
39		---	---	ND	---	0.516
40	40/41/71	---	---	ND	---	0.516
41	40/41/71	---	---	ND	---	0.516
42		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-05 FO 071165
Lab Sample ID 1060391005
Filename P71025B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.516
44	44/47/65	---	---	ND	---	0.620
45	45/51	---	---	ND	---	0.516
46		---	---	ND	---	0.516
47	44/47/65	---	---	ND	---	0.620
48		---	---	ND	---	0.516
49	49/69	---	---	ND	---	0.516
50	50/53	---	---	ND	---	0.516
51	45/51	---	---	ND	---	0.516
52		---	---	ND	---	0.516
53	50/53	---	---	ND	---	0.516
54		---	---	ND	---	0.516
55		---	---	ND	---	0.516
56		---	---	ND	---	0.516
57		---	---	ND	---	0.516
58		---	---	ND	---	0.516
59	59/62/75	---	---	ND	---	0.516
60		---	---	ND	---	0.516
61	61/70/74/76	---	---	ND	---	0.516
62	59/62/75	---	---	ND	---	0.516
63		---	---	ND	---	0.516
64		---	---	ND	---	0.516
65	44/47/65	---	---	ND	---	0.620
66		---	---	ND	---	0.516
67		---	---	ND	---	0.516
68		---	---	ND	---	0.516
69	49/69	---	---	ND	---	0.516
70	61/70/74/76	---	---	ND	---	0.516
71	40/41/71	---	---	ND	---	0.516
72		---	---	ND	---	0.516
73		---	---	ND	---	0.516
74	61/70/74/76	---	---	ND	---	0.516
75	59/62/75	---	---	ND	---	0.516
76	61/70/74/76	---	---	ND	---	0.516
77		---	---	ND	---	0.516
78		---	---	ND	---	0.516
79		---	---	ND	---	0.516
80		---	---	ND	---	0.516
81		---	---	ND	---	0.516
82		---	---	ND	---	0.516
83		---	---	ND	---	0.516
84		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0035-05 FO 071165
Lab Sample ID	1060391005
Filename	P71025B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.620
86	86/87/97/108/119/125	---	---	ND	---	1.03
87	86/87/97/108/119/125	---	---	ND	---	1.03
88	88/91	---	---	ND	---	0.516
89		---	---	ND	---	0.516
90	90/101/113	---	---	ND	---	0.516
91	88/91	---	---	ND	---	0.516
92		---	---	ND	---	0.516
93	93/98/100/102	---	---	ND	---	0.775
94		---	---	ND	---	0.516
95		---	---	ND	---	0.516
96		---	---	ND	---	0.516
97	86/87/97/108/119/125	---	---	ND	---	1.03
98	93/98/100/102	---	---	ND	---	0.775
99		---	---	ND	---	0.516
100	93/98/100/102	---	---	ND	---	0.775
101	90/101/113	---	---	ND	---	0.516
102	93/98/100/102	---	---	ND	---	0.775
103		---	---	ND	---	0.516
104		---	---	ND	---	0.516
105		---	---	ND	---	0.516
106		---	---	ND	---	0.516
107	107/124	---	---	ND	---	0.516
108	86/87/97/108/119/125	---	---	ND	---	1.03
109		---	---	ND	---	0.516
110	110/115	---	---	ND	---	0.516
111		---	---	ND	---	0.516
112		---	---	ND	---	0.516
113	90/101/113	---	---	ND	---	0.516
114		---	---	ND	---	0.516
115	110/115	---	---	ND	---	0.516
116	85/116/117	---	---	ND	---	0.620
117	85/116/117	---	---	ND	---	0.620
118		---	---	ND	---	0.516
119	86/87/97/108/119/125	---	---	ND	---	1.03
120		---	---	ND	---	0.516
121		---	---	ND	---	0.516
122		---	---	ND	---	0.516
123		---	---	ND	---	0.516
124	107/124	---	---	ND	---	0.516
125	86/87/97/108/119/125	---	---	ND	---	1.03
126		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl Sample Analysis Results

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Lab Sample ID 1060391005
Filename P71025B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.516
128	128/166	---	---	ND	---	1.03
129	129/138/163	40.836	1.25	0.550	---	0.516
130		---	---	ND	---	0.516
131		---	---	ND	---	0.516
132		---	---	ND	---	0.516
133		---	---	ND	---	0.516
134	134/143	---	---	ND	---	0.516
135	135/151	---	---	ND	---	0.527
136		---	---	ND	---	0.516
137		---	---	ND	---	0.516
138	129/138/163	40.836	1.25	(0.550)	---	0.516
139	139/140	---	---	ND	---	0.516
140	139/140	---	---	ND	---	0.516
141		---	---	ND	---	0.516
142		---	---	ND	---	0.516
143	134/143	---	---	ND	---	0.516
144		---	---	ND	---	0.516
145		---	---	ND	---	0.516
146		---	---	ND	---	0.516
147	147/149	---	---	ND	---	0.516
148		---	---	ND	---	0.516
149	147/149	---	---	ND	---	0.516
150		---	---	ND	---	0.516
151	135/151	---	---	ND	---	0.527
152		---	---	ND	---	0.516
153	153/168	39.528	1.26	0.659	---	0.620
154		---	---	ND	---	0.516
155		---	---	ND	---	0.516
156	156/157	---	---	ND	---	0.516
157	156/157	---	---	ND	---	0.516
158		---	---	ND	---	0.516
159		---	---	ND	---	0.516
160		---	---	ND	---	0.516
161		---	---	ND	---	0.516
162		---	---	ND	---	0.516
163	129/138/163	40.836	1.25	(0.550)	---	0.516
164		---	---	ND	---	0.516
165		---	---	ND	---	0.516
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.516
168	153/168	39.528	1.26	(0.659)	---	0.620

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Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-05 FO 071165
Lab Sample ID 1060391005
Filename P71025B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.516
170		---	---	ND	---	0.516
171	171/173	---	---	ND	---	0.516
172		---	---	ND	---	0.516
173	171/173	---	---	ND	---	0.516
174		---	---	ND	---	0.516
175		---	---	ND	---	0.516
176		---	---	ND	---	0.516
177		---	---	ND	---	0.516
178		---	---	ND	---	0.516
179		---	---	ND	---	0.516
180	180/193	---	---	ND	---	0.516
181		---	---	ND	---	0.516
182		---	---	ND	---	0.516
183	183/185	---	---	ND	---	0.516
184		---	---	ND	---	0.516
185	183/185	---	---	ND	---	0.516
186		---	---	ND	---	0.516
187		---	---	ND	---	0.516
188		---	---	ND	---	0.516
189		---	---	ND	---	0.516
190		---	---	ND	---	0.516
191		---	---	ND	---	0.516
192		---	---	ND	---	0.516
193	180/193	---	---	ND	---	0.516
194		---	---	ND	---	0.516
195		---	---	ND	---	0.516
196		---	---	ND	---	0.723
197	197/200	---	---	ND	---	2.58
198	198/199	---	---	ND	---	0.516
199	198/199	---	---	ND	---	0.516
200	197/200	---	---	ND	---	2.58
201		---	---	ND	---	0.516
202		---	---	ND	---	0.516
203		---	---	ND	---	0.516
204		---	---	ND	---	0.516
205		---	---	ND	---	0.516
206		---	---	ND	---	0.516
207		---	---	ND	---	0.516
208		---	---	ND	---	0.516
209		---	---	ND	---	0.516

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1060391

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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0035-05 FO 071165
Lab Sample ID 1060391005
Filename P71025B_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	1.21
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	1.21

ND = Not Detected

Report No.....1060391

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCS-14470		
Filename	P71024A_05	Matrix	Water
Total Amount Extracted	954 mL	Dilution	NA
ICAL Date	10/24/2007	Extracted	10/17/2007
CCal Filename(s)	P71024A_03	Analyzed	10/24/2007 11:55
Method Blank ID	BLANK-14469	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.946	95	2.0	1.11	56
3	1.0	0.912	91	2.0	1.10	55
4	1.0	0.999	100	2.0	1.26	63
15	1.0	1.02	102	2.0	1.05	52
19	1.0	0.928	93	2.0	1.16	58
37	1.0	1.03	103	2.0	1.37	68
54	1.0	0.826	83	2.0	1.78	89
81	1.0	1.04	104	2.0	1.45	72
77	1.0	1.08	108	2.0	1.42	71
104	1.0	0.983	98	2.0	1.70	85
105	1.0	0.983	98	2.0	1.53	77
114	1.0	1.02	102	2.0	1.47	73
118	1.0	0.963	96	2.0	1.56	78
123	1.0	1.05	105	2.0	1.50	75
126	1.0	0.967	97	2.0	1.59	80
155	1.0	1.03	103	2.0	1.62	81
156/157	2.0	2.06	103	4.0	2.89	72
167	1.0	0.972	97	2.0	1.41	71
169	1.0	1.05	105	2.0	1.37	68
188	1.0	0.976	98	2.0	1.98	99
189	1.0	1.07	107	2.0	1.61	81
202	1.0	1.05	105	2.0	1.88	94
205	1.0	0.984	98	2.0	1.81	90
206	1.0	1.04	104	2.0	1.87	94
208	1.0	1.04	104	2.0	1.92	96
209	1.0	1.03	103	2.0	2.06	103

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1060391

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCSD-14471		
Filename	P71024A_06	Matrix	Water
Total Amount Extracted	953 mL	Dilution	NA
ICAL Date	10/24/2007	Extracted	10/17/2007
CCal Filename(s)	P71024A_03	Analyzed	10/24/2007 13:00
Method Blank ID	BLANK-14469	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.941	94	2.0	1.39	69
3	1.0	0.881	88	2.0	1.37	68
4	1.0	0.987	99	2.0	1.53	76
15	1.0	0.997	100	2.0	1.24	62
19	1.0	0.940	94	2.0	1.37	69
37	1.0	1.02	102	2.0	1.47	73
54	1.0	0.797	80	2.0	2.03	101
81	1.0	0.987	99	2.0	1.56	78
77	1.0	1.05	105	2.0	1.49	75
104	1.0	0.964	96	2.0	1.88	94
105	1.0	0.993	99	2.0	1.62	81
114	1.0	1.04	104	2.0	1.59	80
118	1.0	0.950	95	2.0	1.71	86
123	1.0	0.966	97	2.0	1.66	83
126	1.0	0.980	98	2.0	1.66	83
155	1.0	1.04	104	2.0	1.65	83
156/157	2.0	1.97	98	4.0	2.94	74
167	1.0	0.956	96	2.0	1.45	73
169	1.0	1.03	103	2.0	1.35	67
188	1.0	0.964	96	2.0	2.20	110
189	1.0	1.12	112	2.0	1.64	82
202	1.0	1.02	102	2.0	1.99	100
205	1.0	0.952	95	2.0	1.86	93
206	1.0	1.01	101	2.0	1.93	97
208	1.0	1.03	103	2.0	1.94	97
209	1.0	1.00	100	2.0	2.07	104

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
I = See Discussion
ng = Nanograms

Report No.....1060391

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1668A
Spike Recovery Relative Percent Difference (RPD) Results

Client

Spike 1 ID	LCS-14470	Spike 2 ID	LCSD-14471
Spike 1 Filename	P71024A_05	Spike 2 Filename	P71024A_06

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	95	94	1.1
4-MoCB	3	91	88	3.4
2,2'-DiCB	4	100	99	1.0
4,4'-DiCB	15	102	100	2.0
2,2',6-TrCB	19	93	94	1.1
3,4,4'-TrCB	37	103	102	1.0
2,2',6,6'-TeCB	54	83	80	3.7
3,3',4,4'-TeCB	77	108	105	2.8
3,4,4',5-TeCB	81	104	99	4.9
2,2',4,6,6'-PeCB	104	98	96	2.1
2,3,3',4,4'-PeCB	105	98	99	1.0
2,3,4,4',5-PeCB	114	102	104	1.9
2,3',4,4',5-PeCB	118	96	95	1.0
2,3',4,4',5'-PeCB	123	105	97	7.9
3,3',4,4',5-PeCB	126	97	98	1.0
2,2',4,4',6,6'-HxCB	155	103	104	1.0
HxCB (156/157)	156/157	103	98	5.0
2,3',4,4',5,5'-HxCB	167	97	96	1.0
3,3',4,4',5,5'-HxCB	169	105	103	1.9
2,2',3,4',5,6,6'-HpCB	188	98	96	2.1
2,3,3',4,4',5,5'-HpCB	189	107	112	4.6
2,2',3,3',5,5',6,6'-OcCB	202	105	102	2.9
2,3,3',4,4',5,5',6-OcCB	205	98	95	3.1
2,2',3,3',4,4',5,5',6-NoCB	206	104	101	2.9
2,2',3,3',4,5,5',6,6'-NoCB	208	104	103	1.0
Decachlorobiphenyl	209	103	100	3.0

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

Report No.....1060391

REPORT OF LABORATORY ANALYSIS

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October 16, 2007
Sampling Event

Laboratory Data QA/QC Review
Upland Source Control Investigation
October 16, 2007 Stormwater Sampling

To: File

From: Julia Fowler, GSI

Date: June 1, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses conducted by the City of Portland (City) on October 16, 2007. Eleven stormwater samples, one field duplicate sample and one field decontamination blank were collected by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) laboratory and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
    - Test America (TA)Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable .The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. All internal standard recoveries were within control limits.

Laboratory Control/Laboratory Control Duplicate Samples

Laboratory control/laboratory control duplicate samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. All laboratory control sample recoveries were within laboratory control limits. The relative percent differences for 2,4-Dimethylphenol, 2,4-Dinitrophenol and benzoic acid between the laboratory control and

laboratory control duplicate samples were outside of control limits. See the CAS laboratory report for additional detail.

Other

A field decontamination blank was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCBs. PCB congeners 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 were detected in the FDB at low concentrations. One or more of these congeners also were detected in the primary and duplicate samples from OF 52, and in the sample from OF 52A, OF M-1, OF M-2, OF M-3, OF S-1, OF S-2, and OF S-6. For all affected samples, the concentrations of PCB congeners 129/138/163, 147/149, 153/168, 170, 174, 180/193, and 187 are less than 5 times the FDB concentration and are considered the result of field decontamination procedures. Therefore, the total PCB concentrations for these samples are biased slightly high.

Zinc was detected in the FDB at a concentration of 2.42 ug/L. Concentrations in all samples are greater than 10 times the FDB detection.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 10/16/07
Page: 1 of 1
Collected By: DSU ASA ECH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

X Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) (COMBO ?)	Field: Conductivity (umhos/cm) (COMBO ?)	Field: pH (pH units) (COMBO ?)
FO 071253	5949 N. BASIN	MJ-SW1	10/16/07	0950	G	•	•	•	•	•	•	12.3	51	6.5
FO 071254	5051 N. LAGOON	SJ-SW1		1020	G	•	•	•	•	•	•	11.8	25	6.7
FO 071255	5555 N. CHANNEL	S1-SW1		1040	G	•	•	•	•	•	•	12.0	24	6.8
FO 071256	5555 N. CHANNEL	S6-SW1		1055	G	•	•	•	•	•	•	12.3	42	6.7
FO 071257	4800 N. CHANNEL	S5-SW1	↓	1110	G	•	•	•	•	•	•	13.2	48	7.0

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1407	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Andrew Arnsberg Date: 10/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 10/16/07
Page: 1 of 1
Collected By: WCR/RCB

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071258	6208 N. KAISER CT.	M1-SW1	10/16/07	0950	G	✓	✓	✓	✓	✓	✓	12.0	30	6.6
FO 071259	N. BASIN & EMERSON	M3-SW1		1006	G	✓	✓	✓	✓	✓	✓	12.0	27	6.7
FO 071260	5828 N. VAN HOUTEN PL.	48-SW1		1031	G	✓	✓	✓	✓	✓	✓	12.4	188	7.1
FO 071261	CATHEDRAL PARK	52-SW1		1105	G	✓	✓	✓	✓	✓	✓	12.6	67	7.0
FO 071262	8940 N. BRADFORD	S2A-SW1		1140	G	✓	✓	✓	✓	✓	✓	13.6	35	6.9
FO 071263	6543 N. BURLINGTON AVE	SO-SW1		1212	G	✓	✓	✓	✓	✓	✓	13.8	127	6.7
FO 071264	—	FDB		1137	G	✓	✓	✓	✓	✓	✓			
FO 071265	—	DUP	↓	/	G	✓	✓	✓	✓	✓	✓			

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: PDT 1419	Time:	Time:	Time:
Printed Name: WILL ROMANELLI	Printed Name:	Printed Name:	Printed Name:
Date: 10/16/07	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071253** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-MMYY
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09721
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	51	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.3	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	120	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.019	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	6.15	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.49	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	3.90	µg/L	0.4	EPA 200.8	10/17/07
COPPER	25.8	µg/L	0.2	EPA 200.8	10/17/07
LEAD	7.13	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	3.33	µg/L	0.2	EPA 200.8	10/17/07
SILVER	0.50	µg/L	0.1	EPA 200.8	10/17/07
ZINC	210	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	10/18/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0136	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0173	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0284	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0367	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0196	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.07	µg/L	0.971	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Chrysene	0.0372	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071253** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-MMYY
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 2 of 4
System ID: AL09721
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Fluoranthene	0.0970	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0163	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Naphthalene	0.0461	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0534	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Pyrene	0.0726	µg/L	0.0194	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071253** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-MMYY
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09721
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/19/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	1.9	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	2.1	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	0.35	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071253** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169-MMYY
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09721
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071253

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071254** **Sample Collected:** 10/16/2007 10:20 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-MMYY
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09722
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	25	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	11.8	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	58	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.0065	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.55	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.37	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	2.97	µg/L	0.4	EPA 200.8	10/17/07
COPPER	21.0	µg/L	0.2	EPA 200.8	10/17/07
LEAD	5.80	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	2.37	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	209	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0116	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0139	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0201	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.06	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0199	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071254** **Sample Collected:** 10/16/2007 10:20 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-MMYY
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09722
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	1.91	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	<0.0588	µg/L	0.0588	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	0.0237	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0475	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.0515	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071254** **Sample Collected:** 10/16/2007 10:20 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-MMYY
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09722
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	0.76	µg/L	0.51	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	10/19/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	2.7	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	1.0	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	0.23	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	2.1	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071254** **Sample Collected:** 10/16/2007 10:20 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957-MMYY
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09722
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	0.97	µg/L	0.51	EPA 8270	10/19/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071254

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071255** **Sample Collected:** 10/16/2007 10:40 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-MMYY
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09723
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	24	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.0	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	22	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.010	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.85	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.32	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	2.66	µg/L	0.4	EPA 200.8	10/17/07
COPPER	34.2	µg/L	0.2	EPA 200.8	10/17/07
LEAD	10.3	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	3.07	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	359	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	0.0420	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.220	µg/L	0.0490	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.203	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.239	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.187	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.255	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.81	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.381	µg/L	0.0490	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	0.0413	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071255** **Sample Collected:** 10/16/2007 10:40 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-MMYY
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09723
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.820	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.116	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	0.0213	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.240	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.553	µg/L	0.0980	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/19/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071255** **Sample Collected:** 10/16/2007 10:40 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-MMYY
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09723
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)anthracene	0.27	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(b)fluoranthene	0.39	µg/L	0.20	EPA 8270	10/19/07
Benzo(g,h,i)perylene	0.23	µg/L	0.20	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/19/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	2.4	µg/L	1.0	EPA 8270	10/19/07
Butyl benzyl phthalate	0.30	µg/L	0.20	EPA 8270	10/19/07
Chrysene	0.43	µg/L	0.20	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/19/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Di-n-butyl phthalate	0.27	µg/L	0.20	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluoranthene	0.53	µg/L	0.20	EPA 8270	10/19/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/19/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/19/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071255** **Sample Collected:** 10/16/2007 10:40 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131-MMYY
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09723
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/19/07
Phenanthrene	0.25	µg/L	0.20	EPA 8270	10/19/07
Phenol	0.61	µg/L	0.50	EPA 8270	10/19/07
Pyrene	0.60	µg/L	0.20	EPA 8270	10/19/07

End of Report for Sample ID: FO071255

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071256** **Sample Collected:** 10/16/2007 10:55 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-MMYY
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09724
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	42	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.3	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	43	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.020	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	2.35	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.39	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	5.85	µg/L	0.4	EPA 200.8	10/17/07
COPPER	54.4	µg/L	0.2	EPA 200.8	10/17/07
LEAD	19.6	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	4.85	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	415	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Anthracene	0.0255	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0749	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0791	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.132	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.125	µg/L	0.0962	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.112	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	3.68	µg/L	0.962	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	10/18/07
Chrysene	0.171	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.0481	µg/L	0.0481	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071256** **Sample Collected:** 10/16/2007 10:55 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-MMYY
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 2 of 4
System ID: AL09724
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	10/18/07
Fluoranthene	0.465	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Fluorene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0754	µg/L	0.0481	EPA 8270M-SIM	10/18/07
Naphthalene	0.0201	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Phenanthrene	0.107	µg/L	0.0192	EPA 8270M-SIM	10/18/07
Pyrene	0.177	µg/L	0.0962	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/19/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071256** **Sample Collected:** 10/16/2007 10:55 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-MMYY
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09724
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(b)fluoranthene	0.27	µg/L	0.20	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/19/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	3.7	µg/L	1.0	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Chrysene	0.28	µg/L	0.20	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/19/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Di-n-butyl phthalate	0.21	µg/L	0.20	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluoranthene	0.35	µg/L	0.20	EPA 8270	10/19/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/19/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/19/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071256** **Sample Collected:** 10/16/2007 10:55 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118-MMYY
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09724
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/19/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
Pyrene	0.45	µg/L	0.20	EPA 8270	10/19/07

End of Report for Sample ID: FO071256

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071257** **Sample Collected:** 10/16/2007 11:10 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-MMYY
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09725
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	48	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	13.2	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	16	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.0077	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.87	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.19	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	2.07	µg/L	0.4	EPA 200.8	10/17/07
COPPER	19.8	µg/L	0.2	EPA 200.8	10/17/07
LEAD	3.28	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	1.99	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	216	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.01	µg/L	0.971	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Chrysene	0.0159	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071257** **Sample Collected:** 10/16/2007 11:10 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-MMYY
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09725
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	10/18/07
Fluoranthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	10/18/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0277	µg/L	0.0194	EPA 8270M-SIM	10/18/07
Pyrene	0.0408	µg/L	0.0194	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/19/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071257** **Sample Collected:** 10/16/2007 11:10 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-MMYY
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09725
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/19/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	1.1	µg/L	1.0	EPA 8270	10/19/07
Butyl benzyl phthalate	0.43	µg/L	0.20	EPA 8270	10/19/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/19/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Di-n-butyl phthalate	0.22	µg/L	0.20	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/19/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/19/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071257** **Sample Collected:** 10/16/2007 11:10 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982-MMYY
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09725
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/AJA/ECH

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/19/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07

End of Report for Sample ID: FO071257

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071258** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-MMYY
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09726
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	30	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.0	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	56	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.011	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.22	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.71	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	4.26	µg/L	0.4	EPA 200.8	10/17/07
COPPER	21.9	µg/L	0.2	EPA 200.8	10/17/07
LEAD	17.5	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	3.26	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	281	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0160	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0484	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0431	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0208	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	2.32	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	2.79	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0512	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071258** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-MMYY
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09726
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<2.94	µg/L	2.94	EPA 8270M-SIM	10/18/07
Fluoranthene	0.160	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0149	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	0.0332	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0571	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.0869	µg/L	0.0392	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	0.51	µg/L	0.51	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071258** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-MMYY
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09726
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	10/19/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	4.8	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	0.40	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	0.30	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071258** **Sample Collected:** 10/16/2007 09:50 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107-MMYY
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09726
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
Pyrene	0.22	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071258

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071259** **Sample Collected:** 10/16/2007 10:06 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-MMYY
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09727
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	27	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.0	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	40	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.0083	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.63	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.29	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	3.78	µg/L	0.4	EPA 200.8	10/17/07
COPPER	20.1	µg/L	0.2	EPA 200.8	10/17/07
LEAD	6.91	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	2.55	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	139	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0134	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0148	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0247	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0577	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0143	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.59	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0361	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO071259** **Sample Collected:** 10/16/2007 10:06 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-MMYY
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09727
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.101	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0128	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	0.0587	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0836	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.0736	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.4	µg/L	4.4	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.4	µg/L	4.4	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Chloronaphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Chlorophenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
2-Methylnaphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Methylphenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
2-Nitroaniline	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Nitrophenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.2	µg/L	2.2	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.2	µg/L	2.2	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
4-Chloroaniline	<0.22	µg/L	0.22	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071259** **Sample Collected:** 10/16/2007 10:06 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-MMYY
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AL09727
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.2	µg/L	2.2	EPA 8270	10/19/07
Acenaphthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Acenaphthylene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(a)anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzoic acid	<5.4	µg/L	5.4	EPA 8270	10/19/07
Benzyl alcohol	<5.4	µg/L	5.4	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	2.6	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	0.27	µg/L	0.22	EPA 8270	10/19/07
Chrysene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dibenzofuran	<0.22	µg/L	0.22	EPA 8270	10/19/07
Diethyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dimethyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Di-n-butyl phthalate	0.27	µg/L	0.22	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Fluorene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorobutadiene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.22	µg/L	0.22	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Isophorone	<0.22	µg/L	0.22	EPA 8270	10/19/07
Naphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Nitrobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.22	µg/L	0.22	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071259** **Sample Collected:** 10/16/2007 10:06 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004-MMYY
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL09727
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.22	µg/L	0.22	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Phenol	<0.54	µg/L	0.54	EPA 8270	10/19/07
Pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07

End of Report for Sample ID: FO071259

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071260** **Sample Collected:** 10/16/2007 10:31 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-MMYY
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09728
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	188	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.4	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	4	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.0043	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.54	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	10/17/07
COPPER	6.60	µg/L	0.2	EPA 200.8	10/17/07
LEAD	0.53	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	12.5	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	31.1	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071260** **Sample Collected:** 10/16/2007 10:31 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-MMYY
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09728
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.0257	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0293	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071260** **Sample Collected:** 10/16/2007 10:31 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-MMYY
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09728
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/19/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071260** **Sample Collected:** 10/16/2007 10:31 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670-MMYY
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09728
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071260

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071261** **Sample Collected:** 10/16/2007 11:05 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-MMYY
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09729
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	67	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	12.6	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	35	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.022	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.97	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	0.49	µg/L	0.4	EPA 200.8	10/17/07
COPPER	4.89	µg/L	0.2	EPA 200.8	10/17/07
LEAD	0.87	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	1.69	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	64.5	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0274	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0259	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0284	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0318	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0270	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	5.75	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0432	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071261** **Sample Collected:** 10/16/2007 11:05 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-MMYY
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09729
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.133	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0147	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0827	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.0788	µg/L	0.0392	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071261** **Sample Collected:** 10/16/2007 11:05 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-MMYY
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09729
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/19/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	2.6	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	0.35	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	0.33	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	0.37	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071261** **Sample Collected:** 10/16/2007 11:05 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519-MMYY
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09729
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071261

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071262** **Sample Collected:** 10/16/2007 11:40 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-MMYY
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09730
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	35	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	13.6	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	15	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.013	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.18	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	1.14	µg/L	0.4	EPA 200.8	10/17/07
COPPER	9.91	µg/L	0.2	EPA 200.8	10/17/07
LEAD	3.34	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	1.54	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	109	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0222	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	0.0774	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0378	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0147	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0477	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0287	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0941	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071262** **Sample Collected:** 10/16/2007 11:40 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-MMYY
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09730
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.333	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0294	µg/L	0.0294	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0114	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0968	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.186	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071262** **Sample Collected:** 10/16/2007 11:40 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-MMYY
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09730
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	10/19/07
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	0.72	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	0.26	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	0.48	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071262** **Sample Collected:** 10/16/2007 11:40 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397-MMYY
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09730
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.52	µg/L	0.52	EPA 8270	10/19/07
Pyrene	0.33	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071262

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071263** **Sample Collected:** 10/16/2007 12:12 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-MMYY
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL09731
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	127	µmhos/cm	1	SM 2510 B	10/16/07
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	10/16/07
TEMPERATURE	13.8	Deg. C	0.1	SM 2550 B	10/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	7	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.0040	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	2.07	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	0.50	µg/L	0.4	EPA 200.8	10/17/07
COPPER	4.98	µg/L	0.2	EPA 200.8	10/17/07
LEAD	0.92	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	1.63	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	66.2	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071263** **Sample Collected:** 10/16/2007 12:12 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-MMYY
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09731
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071263** **Sample Collected:** 10/16/2007 12:12 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-MMYY
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09731
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	10/19/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	10/19/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	10/19/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	10/19/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071263** **Sample Collected:** 10/16/2007 12:12 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536-MMYY
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09731
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	10/19/07
Phenol	<0.51	µg/L	0.51	EPA 8270	10/19/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	10/19/07

End of Report for Sample ID: FO071263

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071264 **Sample Collected:** 10/16/2007 11:37 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 1 of 4

System ID: AL09732
Sample Point Code: FDBLANK
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: DIWTR
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	10/17/07
COPPER	<0.20	µg/L	0.2	EPA 200.8	10/17/07
LEAD	<0.10	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	<0.20	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	2.42	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071264** **Sample Collected:** 10/16/2007 11:37 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09732
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	10/19/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	10/19/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	10/19/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071264** **Sample Collected:** 10/16/2007 11:37 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD BLANK

Report Page: Page 3 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL09732
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	10/19/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	10/19/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	10/19/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	10/19/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	10/19/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	10/19/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	10/19/07
Phenol	<0.50	µg/L	0.50	EPA 8270	10/19/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID:	**FO071264**	**Sample Collected:**	10/16/2007 11:37	**Sample Status:**	**COMPLETE AND VALIDATED**
		Sample Received:	10/16/07		

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	FIELD BLANK		
		System ID:	AL09732
Sample Point Code:	FDBLANK	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	DIWTR	**Collected By:**	WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071264

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071265** **Sample Collected:** 10/16/2007 00:00 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

System ID: AL09733
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	33	mg/L	2	SM 2540 D	10/17/07
METALS					
MERCURY	0.019	µg/L	0.002	WPCLSOP M-1(	10/19/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.34	µg/L	0.1	EPA 200.8	10/17/07
CADMIUM	0.26	µg/L	0.1	EPA 200.8	10/17/07
CHROMIUM	4.16	µg/L	0.4	EPA 200.8	10/17/07
COPPER	49.9	µg/L	0.2	EPA 200.8	10/17/07
LEAD	9.38	µg/L	0.1	EPA 200.8	10/17/07
NICKEL	4.49	µg/L	0.2	EPA 200.8	10/17/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	10/17/07
ZINC	248	µg/L	0.5	EPA 200.8	10/17/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/05/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(a)anthracene	0.0154	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(a)pyrene	0.0150	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(b)fluoranthene	0.0243	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Benzo(ghi)perylene	0.0255	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Benzo(k)fluoranthene	0.0166	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Bis(2-ethylhexyl) phthalate	1.20	µg/L	0.980	EPA 8270M-SIM	10/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Chrysene	0.0319	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	10/18/07
Fluoranthene	0.108	µg/L	0.0196	EPA 8270M-SIM	10/18/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071265** **Sample Collected:** 10/16/2007 00:00 **Sample Received:** 10/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 2 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09733
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Indeno(1,2,3-cd)pyrene	0.0110	µg/L	0.00980	EPA 8270M-SIM	10/18/07
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Phenanthrene	0.0722	µg/L	0.0196	EPA 8270M-SIM	10/18/07
Pyrene	0.0762	µg/L	0.0196	EPA 8270M-SIM	10/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,2-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,3-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
1,4-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2,4,5-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
2,4,6-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
2,4-Dichlorophenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
2,4-Dimethylphenol	<4.3	µg/L	4.3	EPA 8270	10/19/07
2,4-Dinitrophenol	<4.3	µg/L	4.3	EPA 8270	10/19/07
2,4-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2,6-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Chloronaphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Chlorophenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
2-Methylnaphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Methylphenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
2-Nitroaniline	<0.22	µg/L	0.22	EPA 8270	10/19/07
2-Nitrophenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
3,3'-Dichlorobenzidine	<2.2	µg/L	2.2	EPA 8270	10/19/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4,6-Dinitro-2-methylphenol	<2.2	µg/L	2.2	EPA 8270	10/19/07
4-Bromophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
4-Chloro-3-methylphenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
4-Chloroaniline	<0.22	µg/L	0.22	EPA 8270	10/19/07
4-Chlorophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
4-Methylphenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	10/19/07
4-Nitrophenol	<2.2	µg/L	2.2	EPA 8270	10/19/07
Acenaphthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Acenaphthylene	<0.22	µg/L	0.22	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071265** **Sample Collected:** 10/16/2007 00:00 **Sample Received:** 10/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 3 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL09733
EID File # : 1020.005
LocCode: PORTHASW
Collected By: WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(a)anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(b)fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(g,h,i)perylene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzo(k)fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Benzoic acid	<5.3	µg/L	5.3	EPA 8270	10/19/07
Benzyl alcohol	<5.3	µg/L	5.3	EPA 8270	10/19/07
Bis(2-chloroethoxy) methane	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-chloroethyl) ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-chloroisopropyl) ether	<0.22	µg/L	0.22	EPA 8270	10/19/07
Bis(2-ethylhexyl) phthalate	1.5	µg/L	1.1	EPA 8270	10/19/07
Butyl benzyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Chrysene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dibenzo(a,h)anthracene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dibenzofuran	<0.22	µg/L	0.22	EPA 8270	10/19/07
Diethyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Dimethyl phthalate	0.25	µg/L	0.22	EPA 8270	10/19/07
Di-n-butyl phthalate	0.27	µg/L	0.22	EPA 8270	10/19/07
Di-n-octyl phthalate	<0.22	µg/L	0.22	EPA 8270	10/19/07
Fluoranthene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Fluorene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorobutadiene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	10/19/07
Hexachloroethane	<0.22	µg/L	0.22	EPA 8270	10/19/07
Indeno(1,2,3-cd)pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Isophorone	<0.22	µg/L	0.22	EPA 8270	10/19/07
Naphthalene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Nitrobenzene	<0.22	µg/L	0.22	EPA 8270	10/19/07
N-Nitrosodi-n-propylamine	<0.22	µg/L	0.22	EPA 8270	10/19/07
N-Nitrosodiphenylamine	<0.22	µg/L	0.22	EPA 8270	10/19/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	10/19/07
Phenanthrene	<0.22	µg/L	0.22	EPA 8270	10/19/07
Phenol	<0.53	µg/L	0.53	EPA 8270	10/19/07
Pyrene	<0.22	µg/L	0.22	EPA 8270	10/19/07

Report Date: 01/07/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID:	**FO071265**	**Sample Collected:**	10/16/2007 00:00	**Sample Status:**	**COMPLETE AND VALIDATED**
		Sample Received:	10/16/07		

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	FIELD DUPLICATE		
		System ID:	AL09733
Sample Point Code:	DUP	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	WCR/RCB

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071265

Report Date: 01/07/08 **Validated By: Signature on File**

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

December 1, 2007 Analytical Report for Service Request No: K0709708

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Samp.

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on October 17, 2007. For your reference, these analyses have been assigned our service request number K0709708.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071253
Lab Code: K0709708-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071253
Lab Code: K0709708-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.35**		0.21	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**2.1**		0.21	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**1.9**		1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

0006

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071253	**Units:**	ug/L
Lab Code:	K0709708-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	95	16-122	11/23/07	Acceptable
Phenol-d6	96	25-118	11/23/07	Acceptable
Nitrobenzene-d5	92	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	73	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	85	22-148	11/23/07	Acceptable
Terphenyl-d14	45	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071254	**Units:**	ug/L
Lab Code:	K0709708-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Phenol	**0.97**		0.51	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	**0.76**		0.51	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.1	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071254
Lab Code: K0709708-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.23**		0.21	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**1.0**		0.21	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**2.7**		1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	**2.1**		0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071254	**Units:**	ug/L
Lab Code:	K0709708-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	75	16-122	11/23/07	Acceptable
Phenol-d6	80	25-118	11/23/07	Acceptable
Nitrobenzene-d5	76	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	61	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	80	22-148	11/23/07	Acceptable
Terphenyl-d14	56	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071255
Lab Code: K0709708-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Phenol	**0.61**		0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

0011

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071255
Lab Code: K0709708-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	**0.25**		0.20	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.27**		0.20	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	**0.53**		0.20	1	10/19/07	11/23/07	KWG0711334	
Pyrene	**0.60**		0.20	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**0.30**		0.20	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	**0.27**		0.20	1	10/19/07	11/23/07	KWG0711334	
Chrysene	**0.43**		0.20	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**2.4**		1.0	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	**0.39**		0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	**0.23**		0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071255
Lab Code: K0709708-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	91	16-122	11/23/07	Acceptable
Phenol-d6	94	25-118	11/23/07	Acceptable
Nitrobenzene-d5	93	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	76	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	91	22-148	11/23/07	Acceptable
Terphenyl-d14	62	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0013

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071256
Lab Code: K0709708-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071256
Lab Code: K0709708-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.21**		0.20	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	**0.35**		0.20	1	10/19/07	11/23/07	KWG0711334	
Pyrene	**0.45**		0.20	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Chrysene	**0.28**		0.20	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**3.7**		1.0	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	**0.27**		0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

0015

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071256
Lab Code: K0709708-004

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	85	16-122	11/23/07	Acceptable
Phenol-d6	84	25-118	11/23/07	Acceptable
Nitrobenzene-d5	89	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	75	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	86	22-148	11/23/07	Acceptable
Terphenyl-d14	54	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071257	**Units:**	ug/L
Lab Code:	K0709708-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071257
Lab Code: K0709708-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.22**		0.20	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**0.43**		0.20	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**1.1**		1.0	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

0018

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071257	**Units:**	ug/L
Lab Code:	K0709708-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	86	16-122	11/23/07	Acceptable
Phenol-d6	89	25-118	11/23/07	Acceptable
Nitrobenzene-d5	87	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	74	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	84	22-148	11/23/07	Acceptable
Terphenyl-d14	67	28-144	11/23/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071258
Lab Code: K0709708-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	**0.51**		0.51	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.1	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.51	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071258
Lab Code: K0709708-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.30**		0.21	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pyrene	**0.22**		0.21	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**0.40**		0.21	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**4.8**		1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071258
Lab Code: K0709708-006

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	86	16-122	11/23/07	Acceptable
Phenol-d6	89	25-118	11/23/07	Acceptable
Nitrobenzene-d5	92	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	68	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	84	22-148	11/23/07	Acceptable
Terphenyl-d14	64	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0022

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071259	**Units:**	ug/L
Lab Code:	K0709708-007	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.4	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.4	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.4	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.54	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071259
Lab Code: K0709708-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.4	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.2	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.2	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.27**		0.22	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**0.27**		0.22	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.2	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**2.6**		1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.22	1	10/19/07	11/23/07	KWG0711334	

Comments:

0024

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071259
Lab Code: K0709708-007

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	88	16-122	11/23/07	Acceptable
Phenol-d6	93	25-118	11/23/07	Acceptable
Nitrobenzene-d5	93	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	75	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	82	22-148	11/23/07	Acceptable
Terphenyl-d14	62	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071260	**Units:**	ug/L
Lab Code:	K0709708-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071260
Lab Code: K0709708-008

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071260
Lab Code: K0709708-008

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	90	16-122	11/23/07	Acceptable
Phenol-d6	88	25-118	11/23/07	Acceptable
Nitrobenzene-d5	90	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	70	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	74	22-148	11/23/07	Acceptable
Terphenyl-d14	61	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0028

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071261	**Units:**	ug/L
Lab Code:	K0709708-009	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.2	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	**0.33**		0.21	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071261
Lab Code: K0709708-009

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	**0.37**		0.21	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	**0.35**		0.21	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**2.6**		1.1	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071261
Lab Code: K0709708-009

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	91	16-122	11/23/07	Acceptable
Phenol-d6	95	25-118	11/23/07	Acceptable
Nitrobenzene-d5	97	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	74	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	86	22-148	11/23/07	Acceptable
Terphenyl-d14	54	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071262
Lab Code: K0709708-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Phenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
2-Chlorophenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzyl Alcohol	ND	U	5.2	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Methylphenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Methylphenol†	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Nitrophenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
Benzoic Acid	ND	U	5.2	1	10/19/07	11/27/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.52	1	10/19/07	11/27/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Dimethyl Phthalate	**0.72**		0.21	1	10/19/07	11/27/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071262
Lab Code: K0709708-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/27/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Di-n-butyl Phthalate	**0.26**		0.21	1	10/19/07	11/27/07	KWG0711334	
Fluoranthene	**0.48**		0.21	1	10/19/07	11/27/07	KWG0711334	
Pyrene	**0.33**		0.21	1	10/19/07	11/27/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	

Comments:

0033

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	10/16/2007
Sample Matrix:	Water	**Date Received:**	10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071262	**Units:**	ug/L
Lab Code:	K0709708-010	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	84	16-122	11/27/07	Acceptable
Phenol-d6	91	25-118	11/27/07	Acceptable
Nitrobenzene-d5	90	24-131	11/27/07	Acceptable
2-Fluorobiphenyl	84	26-114	11/27/07	Acceptable
2,4,6-Tribromophenol	100	22-148	11/27/07	Acceptable
Terphenyl-d14	77	28-144	11/27/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0034

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071263
Lab Code: K0709708-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Phenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
2-Chlorophenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzyl Alcohol	ND	U	5.1	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Methylphenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
Hexachloroethane	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Methylphenol†	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
Nitrobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Isophorone	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Nitrophenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.1	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
Benzoic Acid	ND	U	5.1	1	10/19/07	11/27/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Naphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chloroaniline	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.51	1	10/19/07	11/27/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2-Nitroaniline	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Acenaphthylene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071263
Lab Code: K0709708-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.1	1	10/19/07	11/27/07	KWG0711334	
Dibenzofuran	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Nitrophenol	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Fluorene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Diethyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobenzene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
Phenanthrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Di-n-butyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Fluoranthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Pyrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.1	1	10/19/07	11/27/07	KWG0711334	
Benz(a)anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Chrysene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.21	1	10/19/07	11/27/07	KWG0711334	

Comments:

0036

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071263
Lab Code: K0709708-011

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	16-122	11/27/07	Acceptable
Phenol-d6	84	25-118	11/27/07	Acceptable
Nitrobenzene-d5	86	24-131	11/27/07	Acceptable
2-Fluorobiphenyl	82	26-114	11/27/07	Acceptable
2,4,6-Tribromophenol	100	22-148	11/27/07	Acceptable
Terphenyl-d14	76	28-144	11/27/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071264
Lab Code: K0709708-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Phenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
2-Chlorophenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Benzyl Alcohol	ND	U	5.0	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
2-Methylphenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
Hexachloroethane	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Methylphenol†	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
Nitrobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Isophorone	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
2-Nitrophenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.0	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
Benzoic Acid	ND	U	5.0	1	10/19/07	11/27/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Naphthalene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Chloroaniline	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/19/07	11/27/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/19/07	11/27/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
2-Nitroaniline	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Acenaphthylene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071264
Lab Code: K0709708-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
3-Nitroaniline	ND	U	1.0	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.0	1	10/19/07	11/27/07	KWG0711334	
Dibenzofuran	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Nitrophenol	ND	U	2.0	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Fluorene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Diethyl Phthalate	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Nitroaniline	ND	U	1.0	1	10/19/07	11/27/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobenzene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Pentachlorophenol	ND	U	1.0	1	10/19/07	11/27/07	KWG0711334	
Phenanthrene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Anthracene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Di-n-butyl Phthalate	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Fluoranthene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Pyrene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/19/07	11/27/07	KWG0711334	
Benz(a)anthracene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Chrysene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	10/19/07	11/27/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/19/07	11/27/07	KWG0711334	

Comments:

0039

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071264
Lab Code: K0709708-012

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	36	16-122	11/27/07	Acceptable
Phenol-d6	45	25-118	11/27/07	Acceptable
Nitrobenzene-d5	57	24-131	11/27/07	Acceptable
2-Fluorobiphenyl	55	26-114	11/27/07	Acceptable
2,4,6-Tribromophenol	32	22-148	11/27/07	Acceptable
Terphenyl-d14	57	28-144	11/27/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

0040

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071265
Lab Code: K0709708-013

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Phenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
2-Chlorophenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Benzyl Alcohol	ND	U	5.3	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
2-Methylphenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
Hexachloroethane	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Methylphenol†	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
Nitrobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Isophorone	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
2-Nitrophenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.3	1	10/19/07	11/27/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
Benzoic Acid	ND	U	5.3	1	10/19/07	11/27/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Naphthalene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Chloroaniline	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.53	1	10/19/07	11/27/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
2-Nitroaniline	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Acenaphthylene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Dimethyl Phthalate	**0.25**		0.22	1	10/19/07	11/27/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	

Comments:

0041

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071265
Lab Code: K0709708-013

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
3-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.3	1	10/19/07	11/27/07	KWG0711334	
Dibenzofuran	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Nitrophenol	ND	U	2.2	1	10/19/07	11/27/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Fluorene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Diethyl Phthalate	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Nitroaniline	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.2	1	10/19/07	11/27/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Hexachlorobenzene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Pentachlorophenol	ND	U	1.1	1	10/19/07	11/27/07	KWG0711334	
Phenanthrene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Anthracene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Di-n-butyl Phthalate	**0.27**		0.22	1	10/19/07	11/27/07	KWG0711334	
Fluoranthene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Pyrene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.2	1	10/19/07	11/27/07	KWG0711334	
Benz(a)anthracene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Chrysene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	**1.5**		1.1	1	10/19/07	11/27/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.22	1	10/19/07	11/27/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: 10/16/2007
Date Received: 10/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071265
Lab Code: K0709708-013

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	64	16-122	11/27/07	Acceptable
Phenol-d6	65	25-118	11/27/07	Acceptable
Nitrobenzene-d5	67	24-131	11/27/07	Acceptable
2-Fluorobiphenyl	62	26-114	11/27/07	Acceptable
2,4,6-Tribromophenol	75	22-148	11/27/07	Acceptable
Terphenyl-d14	41	28-144	11/27/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0711334-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Phenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
1,3-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,4-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
1,2-Dichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzyl Alcohol	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Hexachloroethane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Methylphenol†	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Nitrobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Isophorone	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitrophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4-Dimethylphenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,4-Dichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
Benzoic Acid	ND	U	5.0	1	10/19/07	11/23/07	KWG0711334	
1,2,4-Trichlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Naphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobutadiene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chloro-3-methylphenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Methylnaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorocyclopentadiene	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4,6-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2,4,5-Trichlorophenol	ND	U	0.50	1	10/19/07	11/23/07	KWG0711334	
2-Chloronaphthalene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2-Nitroaniline	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Acenaphthylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dimethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
2,6-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client:	Portland, City of	**Service Request:**	K0709708
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0711334-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrophenol	ND	U	4.0	1	10/19/07	11/23/07	KWG0711334	
Dibenzofuran	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
2,4-Dinitrotoluene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Fluorene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Diethyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Nitroaniline	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
N-Nitrosodiphenylamine	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Hexachlorobenzene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pentachlorophenol	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
Phenanthrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Di-n-butyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Butyl Benzyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
3,3'-Dichlorobenzidine	ND	U	2.0	1	10/19/07	11/23/07	KWG0711334	
Benz(a)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Chrysene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	10/19/07	11/23/07	KWG0711334	
Di-n-octyl Phthalate	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(b)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(k)fluoranthene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(a)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Dibenz(a,h)anthracene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	
Benzo(g,h,i)perylene	ND	U	0.20	1	10/19/07	11/23/07	KWG0711334	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0711334-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	57	16-122	11/23/07	Acceptable
Phenol-d6	61	25-118	11/23/07	Acceptable
Nitrobenzene-d5	67	24-131	11/23/07	Acceptable
2-Fluorobiphenyl	64	26-114	11/23/07	Acceptable
2,4,6-Tribromophenol	51	22-148	11/23/07	Acceptable
Terphenyl-d14	65	28-144	11/23/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
F0071253	K0709708-001	95	96	92	73	85	45
F0071254	K0709708-002	75	80	76	61	80	56
F0071255	K0709708-003	91	94	93	76	91	62
F0071256	K0709708-004	85	84	89	75	86	54
F0071257	K0709708-005	86	89	87	74	84	67
F0071258	K0709708-006	86	89	92	68	84	64
F0071259	K0709708-007	88	93	93	75	82	62
F0071260	K0709708-008	90	88	90	70	74	61
F0071261	K0709708-009	91	95	97	74	86	54
F0071262	K0709708-010	84	91	90	84	100	77
F0071263	K0709708-011	82	84	86	82	100	76
F0071264	K0709708-012	36	45	57	55	32	57
F0071265	K0709708-013	64	65	67	62	75	41
Method Blank	KWG0711334-3	57	61	67	64	51	65
Lab Control Sample	KWG0711334-1	84	81	80	73	79	72
Duplicate Lab Control Sample	KWG0711334-2	100	97	99	87	90	91

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Extracted: 10/19/2007
Date Analyzed: 11/23/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0711334

	Lab Control Sample KWG0711334-1 Lab Control Spike			Duplicate Lab Control Sample KWG0711334-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.58	5.00	72	4.43	5.00	89	30-125	21	30
Phenol	3.58	5.00	72	4.28	5.00	86	32-117	18	30
2-Chlorophenol	3.72	5.00	74	4.43	5.00	89	32-117	17	30
1,3-Dichlorobenzene	2.28	5.00	46	2.78	5.00	56	10-79	20	30
1,4-Dichlorobenzene	2.49	5.00	50	2.86	5.00	57	10-81	14	30
1,2-Dichlorobenzene	2.62	5.00	52	3.28	5.00	66	15-86	22	30
Benzyl Alcohol	3.78	5.00	76	4.50	5.00	90	33-119	17	30
Bis(2-chloroisopropyl) Ether	3.62	5.00	72	4.37	5.00	87	29-116	19	30
2-Methylphenol	3.40	5.00	68	3.90	5.00	78	29-115	14	30
Hexachloroethane	1.79	5.00	36	2.13	5.00	43	10-76	17	30
N-Nitrosodi-n-propylamine	3.68	5.00	74	4.58	5.00	92	35-119	22	30
4-Methylphenol	3.56	5.00	71	3.83	5.00	77	30-116	7	30
Nitrobenzene	3.45	5.00	69	4.24	5.00	85	34-122	21	30
Isophorone	3.92	5.00	78	4.88	5.00	98	33-121	22	30
2-Nitrophenol	3.88	5.00	78	4.70	5.00	94	33-120	19	30
2,4-Dimethylphenol	2.69	5.00	54	1.35	5.00	27	10-116	67 *	30
Bis(2-chloroethoxy)methane	3.72	5.00	74	4.47	5.00	89	34-119	18	30
2,4-Dichlorophenol	3.53	5.00	71	4.54	5.00	91	33-120	25	30
Benzoic Acid	6.50	15.0	43	11.3	15.0	75	10-118	54 *	30
1,2,4-Trichlorobenzene	2.72	5.00	54	3.20	5.00	64	14-88	16	30
Naphthalene	3.50	5.00	70	4.07	5.00	81	27-103	15	30
4-Chloroaniline	2.62	5.00	52	3.26	5.00	65	10-110	22	30
Hexachlorobutadiene	1.53	5.00	31	1.99	5.00	40	10-75	27	30
4-Chloro-3-methylphenol	3.58	5.00	72	4.28	5.00	86	37-120	18	30
2-Methylnaphthalene	3.28	5.00	66	4.13	5.00	83	27-99	23	30
Hexachlorocyclopentadiene	0.959	5.00	19	1.28	5.00	26	10-54	29	30
2,4,6-Trichlorophenol	3.55	5.00	71	4.47	5.00	89	34-118	23	30
2,4,5-Trichlorophenol	3.57	5.00	71	4.79	5.00	96	36-119	29	30
2-Chloronaphthalene	3.50	5.00	70	4.08	5.00	82	30-108	15	30
2-Nitroaniline	3.60	5.00	72	4.32	5.00	86	35-122	18	30
Acenaphthylene	3.68	5.00	74	4.36	5.00	87	39-116	17	30
Dimethyl Phthalate	3.72	5.00	74	4.42	5.00	88	43-116	17	30
2,6-Dinitrotoluene	3.57	5.00	71	4.17	5.00	83	42-120	15	30
Acenaphthene	3.27	5.00	65	3.96	5.00	79	36-108	19	30
3-Nitroaniline	3.61	5.00	72	4.10	5.00	82	24-115	13	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0709708
Date Extracted: 10/19/2007
Date Analyzed: 11/23/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0711334

Analyte Name	Lab Control Sample KWG0711334-1 Lab Control Spike Result	Expected	%Rec	Duplicate Lab Control Sample KWG0711334-2 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD		RPD Limit
2,4-Dinitrophenol	3.52	5.00	70	4.84	5.00	97	10-121	32	*	30
Dibenzofuran	3.47	5.00	69	4.26	5.00	85	36-108	20		30
4-Nitrophenol	3.45	5.00	69	4.60	5.00	92	33-136	29		30
2,4-Dinitrotoluene	3.56	5.00	71	4.19	5.00	84	43-124	16		30
Fluorene	3.38	5.00	68	4.00	5.00	80	37-113	17		30
4-Chlorophenyl Phenyl Ether	3.28	5.00	66	3.87	5.00	77	36-112	17		30
Diethyl Phthalate	3.46	5.00	69	4.18	5.00	84	42-120	19		30
4-Nitroaniline	3.30	5.00	66	4.10	5.00	82	23-120	22		30
2-Methyl-4,6-dinitrophenol	3.64	5.00	73	4.67	5.00	93	24-123	25		30
N-Nitrosodiphenylamine	3.30	5.00	66	3.85	5.00	77	30-115	15		30
4-Bromophenyl Phenyl Ether	3.33	5.00	67	4.15	5.00	83	40-113	22		30
Hexachlorobenzene	3.48	5.00	70	4.43	5.00	89	40-114	24		30
Pentachlorophenol	3.75	5.00	75	4.65	5.00	93	24-123	21		30
Phenanthrene	3.36	5.00	67	4.13	5.00	83	42-113	21		30
Anthracene	3.11	5.00	62	3.85	5.00	77	40-113	21		30
Di-n-butyl Phthalate	3.49	5.00	70	4.37	5.00	87	46-119	23		30
Fluoranthene	3.43	5.00	69	4.13	5.00	83	44-116	18		30
Pyrene	3.09	5.00	62	3.94	5.00	79	42-121	24		30
Butyl Benzyl Phthalate	3.18	5.00	64	4.02	5.00	80	43-121	23		30
3,3'-Dichlorobenzidine	2.94	5.00	59	2.92	5.00	58	10-101	0		30
Benz(a)anthracene	3.09	5.00	62	3.95	5.00	79	43-121	24		30
Chrysene	3.26	5.00	65	4.17	5.00	83	45-119	25		30
Bis(2-ethylhexyl) Phthalate	3.33	5.00	67	4.08	5.00	82	34-136	20		30
Di-n-octyl Phthalate	3.34	5.00	67	4.24	5.00	85	39-123	24		30
Benzo(b)fluoranthene	3.23	5.00	65	4.07	5.00	81	42-119	23		30
Benzo(k)fluoranthene	3.23	5.00	65	4.10	5.00	82	43-120	24		30
Benzo(a)pyrene	3.03	5.00	61	3.88	5.00	78	39-116	25		30
Indeno(1,2,3-cd)pyrene	3.25	5.00	65	4.23	5.00	85	42-123	26		30
Dibenz(a,h)anthracene	3.21	5.00	64	4.17	5.00	83	38-130	26		30
Benzo(g,h,i)perylene	3.21	5.00	64	4.08	5.00	82	38-125	24		30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K0709708

PAGE 1 OF 2 COC #

PROJECT NAME: Portland Harbor Stormwater Samp.
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVEL SVOCs EPA 8270 C	PAH + Phthalates EPA 8270C-SIM			REMARKS
F0071253	10/16/07	0950		Storm water	1															X					
F0071254		1020			1															X					
F0071255		1040			1															X					
F0071256		1055			1															X					
F0071257		1110			1															X					
F0071258		0950			1															X					
F0071259		1006			1															X					
F0071260		1031			1															X					
F0071261		1105			1															X					
F0071262		1140			1															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
___ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for low-level analysis of full 8270 list.

Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Rona Kluch	Signature:	Signature:	Signature: Tracy Black
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name: Black
Firm: City of Portland	Firm: CAS	Firm: CAS	Firm: CAS
Date/Time: 10/17/07 1200	Date/Time: 10-17-07 12:00	Date/Time: 10-17-07 1:30	Date/Time: 10/17/07 1350

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SR#: _____

PAGE 1 OF 2 COC # _____

0049

PROJECT NAME: Portland Harbor Stormwater Samp.
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Arocolors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVELS VOCs EPA 8270 c	PAH + Phthalates EPA 8270C-SIM			REMARKS
F0071263	10/16/07	1212		Storm water	1															X					
F0071264	↓	1137		↓	1															X					
F0071265	↓	—		↓	1															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for low-level analysis of full 8270 list.

Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Rona Klueh	Signature:	Signature:	Signature: Tracy Black
Printed Name: Rona Klueh	Printed Name:	Printed Name:	Printed Name: Black
Date/Time: 10/17/07 1200	Date/Time: 10/17/07 12:00	Date/Time: 10/17/07 1:30	Date/Time: 10/17/07 1350
Firm: City of Portland	Firm: CAS	Firm: CAS	Firm: CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 1 V

Client / Project: WPCL - City of Portland BES Service Request K07 709708

Received: 10/17/07 Opened: 10/17/07 By: DD

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y (N)

5. Temperature of cooler(s) upon receipt (°C):	-0.2			
Temperature Blank (°C):				
6. If applicable, list Chain of Custody Numbers:				

7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* (Wet Ice) *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

0049

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

November 20, 2007

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 10/17/07 12:35. The following list is a summary of the Work Orders contained in this report, generated on 11/20/07 11:56.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQJ0645	Portland Harbor	36238

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071253	PQJ0645-01	Water	10/16/07 09:50	10/17/07 12:35
FO 071254	PQJ0645-02	Water	10/16/07 10:20	10/17/07 12:35
FO 071255	PQJ0645-03	Water	10/16/07 10:40	10/17/07 12:35
FO 071256	PQJ0645-04	Water	10/16/07 10:55	10/17/07 12:35
FO 071257	PQJ0645-05	Water	10/16/07 11:10	10/17/07 12:35
FO 071258	PQJ0645-06	Water	10/16/07 09:50	10/17/07 12:35
FO 071259	PQJ0645-07	Water	10/16/07 10:06	10/17/07 12:35
FO 071260	PQJ0645-08	Water	10/16/07 10:31	10/17/07 12:35
FO 071261	PQJ0645-09	Water	10/16/07 11:05	10/17/07 12:35
FO 071262	PQJ0645-10	Water	10/16/07 11:40	10/17/07 12:35
FO 071263	PQJ0645-11	Water	10/16/07 12:12	10/17/07 12:35
FO 071264	PQJ0645-12	Water	10/16/07 11:37	10/17/07 12:35
FO 071265	PQJ0645-13	Water	10/16/07 00:00	10/17/07 12:35

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-01 (FO 071253)		**Water**			**Sampled: 10/16/07 09:50**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100835	10/18/07 13:00	10/22/07 17:19	
Acenaphthylene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0136**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0173**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0284**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0367**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0196**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0372**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0970**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0163**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0461**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0534**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.07**	*0.511*	0.971	"	"	"	"	10/31/07 03:14	
Butyl benzyl phthalate	"	**0.793**	*0.511*	0.971	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0726**	*0.0194*	0.0194	"	"	"	"	10/22/07 17:19	
Surrogate(s): *Fluorene-d10*			*53.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*42.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*31.4%*		*10 - 125 %*	"			"	
PQJ0645-02 (FO 071254)		**Water**			**Sampled: 10/16/07 10:20**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 16:47	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0116**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0139**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0201**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0199**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	ND	*0.0588*	0.0588	"	"	"	"	"	**RL1**
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0237**	*0.0196*	0.0196	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-02 (FO 071254)		**Water**			**Sampled: 10/16/07 10:20**					
Phenanthrene	EPA 8270m	**0.0475**	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 16:47	
Bis(2-ethylhexyl)phthalate	"	**1.06**	*0.516*	0.980	"	"	"	"	10/31/07 03:49	
Butyl benzyl phthalate	"	**0.664**	*0.516*	0.980	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	**1.91**	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0515**	*0.0196*	0.0196	"	"	"	"	10/22/07 16:47	
Surrogate(s): *Fluorene-d10*			*62.0%*		*25 - 125 %*	"			"	
Pyrene-d10			*50.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*29.3%*		*10 - 125 %*	"			"	
PQJ0645-03 (FO 071255)		**Water**			**Sampled: 10/16/07 10:40**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 17:51	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	**0.0420**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.220**	*0.0490*	0.0490	"	5x	"	"	10/22/07 23:13	
Benzo (a) pyrene	"	**0.203**	*0.00980*	0.00980	"	1x	"	"	10/22/07 17:51	
Benzo (b) fluoranthene	"	**0.239**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.187**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.255**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.381**	*0.0490*	0.0490	"	5x	"	"	10/22/07 23:13	
Dibenzo (a,h) anthracene	"	**0.0413**	*0.00980*	0.00980	"	1x	"	"	10/22/07 17:51	
Fluoranthene	"	**0.820**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.116**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0213**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.240**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.81**	*0.516*	0.980	"	"	"	"	10/31/07 04:24	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.980*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.553**	*0.0980*	0.0980	"	5x	"	"	10/22/07 23:13	
Surrogate(s): *Fluorene-d10*			*59.5%*		*25 - 125 %*	*1x*			*10/22/07 17:51*	
Pyrene-d10			*49.0%*		*23 - 150 %*	*5x*			*10/22/07 23:13*	
Benzo (a) pyrene-d12			*44.2%*		*10 - 125 %*	*1x*			*10/22/07 17:51*	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-04 (FO 071256)		**Water**			**Sampled: 10/16/07 10:55**					
Acenaphthene	EPA 8270m	ND	*0.0192*	0.0192	ug/l	1x	7100835	10/18/07 13:00	10/22/07 21:06	
Acenaphthylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Anthracene	"	**0.0255**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0749**	*0.0481*	0.0481	"	5x	"	"	10/23/07 10:46	
Benzo (a) pyrene	"	**0.0791**	*0.0481*	0.0481	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.132**	*0.0481*	0.0481	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.125**	*0.0962*	0.0962	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.112**	*0.0481*	0.0481	"	"	"	"	"	
Chrysene	"	**0.171**	*0.0481*	0.0481	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0481*	0.0481	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.465**	*0.0192*	0.0192	"	1x	"	"	10/22/07 21:06	
Fluorene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0754**	*0.0481*	0.0481	"	5x	"	"	10/23/07 10:46	
Naphthalene	"	**0.0201**	*0.0192*	0.0192	"	1x	"	"	10/22/07 21:06	
Phenanthrene	"	**0.107**	*0.0192*	0.0192	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**3.68**	*0.506*	0.962	"	"	"	"	10/31/07 04:59	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Pyrene	"	**0.177**	*0.0962*	0.0962	"	5x	"	"	10/23/07 10:46	
Surrogate(s): *Fluorene-d10*			*56.1%*		*25 - 125 %*	*1x*			*10/22/07 21:06*	
Pyrene-d10			*38.0%*		*23 - 150 %*	*5x*			*10/23/07 10:46*	
Benzo (a) pyrene-d12			*41.1%*		*10 - 125 %*	*"*			*"*	
PQJ0645-05 (FO 071257)		**Water**			**Sampled: 10/16/07 11:10**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7100835	10/18/07 13:00	10/22/07 16:15	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0159**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-05 (FO 071257)		**Water**			**Sampled: 10/16/07 11:10**					
Phenanthrene	EPA 8270m	**0.0277**	*0.0194*	0.0194	ug/l	1x	7100835	10/18/07 13:00	10/22/07 16:15	
Bis(2-ethylhexyl)phthalate	"	**1.01**	*0.511*	0.971	"	"	"	"	10/31/07 05:33	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0408**	*0.0194*	0.0194	"	"	"	"	10/22/07 16:15	
Surrogate(s): Fluorene-d10			*59.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*57.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*36.0%*		*10 - 125 %*	"			"	
PQJ0645-06 (FO 071258)		**Water**			**Sampled: 10/16/07 09:50**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 21:37	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.0196*	0.0196	"	2x	"	"	10/23/07 11:17	**RL1**
Benzo (a) pyrene	"	**0.0160**	*0.00980*	0.00980	"	1x	"	"	10/22/07 21:37	
Benzo (b) fluoranthene	"	**0.0484**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0431**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0208**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0512**	*0.0196*	0.0196	"	2x	"	"	10/23/07 11:17	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	1x	"	"	10/22/07 21:37	
Fluoranthene	"	**0.160**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0149**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0332**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0571**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**2.32**	*0.516*	0.980	"	"	"	"	10/31/07 06:08	
Butyl benzyl phthalate	"	**2.79**	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*2.94*	2.94	"	"	"	"	"	**RL1**
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0869**	*0.0392*	0.0392	"	2x	"	"	10/23/07 11:17	
Surrogate(s): Fluorene-d10			*43.3%*		*25 - 125 %*	*1x*			*10/22/07 21:37*	
Pyrene-d10			*35.7%*		*23 - 150 %*	*2x*			*10/23/07 11:17*	
Benzo (a) pyrene-d12			*29.9%*		*10 - 125 %*	*1x*			*10/22/07 21:37*	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-07 (FO 071259)		**Water**			**Sampled: 10/16/07 10:06**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 22:09	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0134**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0148**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0247**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0577**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0143**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0361**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.101**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0128**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0587**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0836**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.59**	*0.516*	0.980	"	"	"	"	10/31/07 06:42	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0736**	*0.0196*	0.0196	"	"	"	"	10/22/07 22:09	
Surrogate(s): *Fluorene-d10*			*63.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*48.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*39.5%*		*10 - 125 %*	"			"	
PQJ0645-08 (FO 071260)		**Water**			**Sampled: 10/16/07 10:31**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 18:23	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.0257**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-08 (FO 071260)		**Water**			**Sampled: 10/16/07 10:31**					
Phenanthrene	EPA 8270m	**0.0293**	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 18:23	
Bis(2-ethylhexyl)phthalate	"	ND	*0.516*	0.980	"	"	"	"	10/31/07 18:20	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	ND	*0.0196*	0.0196	"	"	"	"	10/22/07 18:23	
Surrogate(s): *Fluorene-d10*			*72.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*64.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*52.9%*		*10 - 125 %*	"			"	
PQJ0645-09 (FO 071261)		**Water**			**Sampled: 10/16/07 11:05**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 22:41	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0274**	*0.0196*	0.0196	"	2x	"	"	10/23/07 11:49	
Benzo (a) pyrene	"	**0.0259**	*0.00980*	0.00980	"	1x	"	"	10/22/07 22:41	
Benzo (b) fluoranthene	"	**0.0284**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0318**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0270**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0432**	*0.0196*	0.0196	"	2x	"	"	10/23/07 11:49	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	1x	"	"	10/22/07 22:41	
Fluoranthene	"	**0.133**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0147**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0827**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**5.75**	*0.516*	0.980	"	"	"	"	10/31/07 18:55	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0788**	*0.0392*	0.0392	"	2x	"	"	10/23/07 11:49	
Surrogate(s): *Fluorene-d10*			*56.6%*		*25 - 125 %*	*1x*			*10/22/07 22:41*	
Pyrene-d10			*38.4%*		*23 - 150 %*	*2x*			*10/23/07 11:49*	
Benzo (a) pyrene-d12			*31.2%*		*10 - 125 %*	*1x*			*10/22/07 22:41*	

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Sarah Rockwell For Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-10 (FO 071262)		**Water**			**Sampled: 10/16/07 11:40**					
Acenaphthene	EPA 8270m	**0.0222**	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 19:27	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	**0.0774**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0378**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0147**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0477**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0287**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0941**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.333**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0294*	0.0294	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.0114**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0968**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.516*	0.980	"	"	"	"	10/31/07 19:29	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	**0.518**	*0.516*	0.980	"	"	"	"	"	**J**
Pyrene	"	**0.186**	*0.0196*	0.0196	"	"	"	"	10/22/07 19:27	
Surrogate(s): *Fluorene-d10*			*65.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*54.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*33.0%*		*10 - 125 %*	"			"	
PQJ0645-11 (FO 071263)		**Water**			**Sampled: 10/16/07 12:12**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 19:59	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-11 (FO 071263)		**Water**			**Sampled: 10/16/07 12:12**					
Phenanthrene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 19:59	
Bis(2-ethylhexyl)phthalate	"	ND	*0.516*	0.980	"	"	"	"	10/31/07 20:04	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	ND	*0.0196*	0.0196	"	"	"	"	10/22/07 19:59	
Surrogate(s): *Fluorene-d10*			*74.3%*		*25 - 125 %*	"			"	
Pyrene-d10			*70.9%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*50.2%*		*10 - 125 %*	"			"	
PQJ0645-12 (FO 071264)		**Water**			**Sampled: 10/16/07 11:37**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 18:55	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.516*	0.980	"	"	"	"	10/31/07 20:39	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	ND	*0.0196*	0.0196	"	"	"	"	10/22/07 18:55	
Surrogate(s): *Fluorene-d10*			*78.0%*		*25 - 125 %*	"			"	
Pyrene-d10			*69.5%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*79.8%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQJ0645-13 (FO 071265)		**Water**			**Sampled: 10/16/07 00:00**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7100835	10/18/07 13:00	10/22/07 20:31	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0154**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0150**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0243**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0255**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0166**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0319**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.108**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0110**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0722**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.20**	*0.516*	0.980	"	"	"	"	10/31/07 21:14	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0762**	*0.0196*	0.0196	"	"	"	"	10/22/07 20:31	
Surrogate(s):	*Fluorene-d10*		*58.6%*		*25 - 125 %*	"			"	
	Pyrene-d10		*42.0%*		*23 - 150 %*	"			"	
	Benzo (a) pyrene-d12		*29.8%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100835 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7100835-BLK1)									**Extracted: 10/18/07 13:00**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	10/22/07 15:43	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	10/29/07 22:20	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	10/22/07 15:43	
Surrogate(s): Fluorene-d10		*Recovery: 70.5%*			*Limits: 25-125%*	"							*10/22/07 15:43*	
Pyrene-d10		*68.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*72.7%*			*10-125%*	"							"	
LCS (7100835-BS1)									**Extracted: 10/18/07 13:00**					
Acenaphthene	EPA 8270m	1.75	0.0400	0.0400	ug/l	2x	--	2.50	70.0%	(35-120)	--	--	10/22/07 12:31	
Acenaphthylene	"	1.82	0.0400	0.0400	"	"	--	"	72.8%	(34-116)	--	--	"	
Anthracene	"	2.05	0.0400	0.0400	"	"	--	"	82.0%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.94	0.0200	0.0200	"	"	--	"	77.5%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.00	0.0200	0.0200	"	"	--	"	80.1%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.11	0.0200	0.0200	"	"	--	"	84.2%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.23	0.0400	0.0400	"	"	--	"	89.1%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.98	0.0200	0.0200	"	"	--	"	79.1%	(18-145)	--	--	"	
Chrysene	"	1.92	0.0200	0.0200	"	"	--	"	76.9%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.04	0.0200	0.0200	"	"	--	"	81.7%	(20-141)	--	--	"	
Fluoranthene	"	1.97	0.0400	0.0400	"	"	--	"	78.9%	(31-125)	--	--	"	
Fluorene	"	2.11	0.0400	0.0400	"	"	--	"	84.3%	(27-124)	--	--	"	

TestAmerica - Portland, OR

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100835 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7100835-BS1)								**Extracted: 10/18/07 13:00**						
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.13	0.0200	0.0200	ug/l	2x	--	2.50	85.4%	(30-135)	--	--	10/22/07 12:31	
Naphthalene	"	1.83	0.0400	0.0400	"	"	--	"	73.2%	(30-113)	--	--	"	
Phenanthrene	"	2.02	0.0400	0.0400	"	"	--	"	80.7%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.52	1.05	2.00	"	"	--	4.00	88.1%	(20-150)	--	--	10/29/07 22:55	
Butyl benzyl phthalate	"	3.55	1.05	2.00	"	"	--	"	88.7%	"	--	--	"	
Di-n-butyl phthalate	"	3.42	1.05	2.00	"	"	--	"	85.6%	"	--	--	"	
Di-n-octyl phthalate	"	2.07	1.05	2.00	"	"	--	"	51.7%	"	--	--	"	
Diethyl phthalate	"	3.08	1.05	2.00	"	"	--	"	77.0%	"	--	--	"	
Dimethyl phthalate	"	2.96	1.05	2.00	"	"	--	"	74.1%	"	--	--	"	
Pyrene	"	1.98	0.0400	0.0400	"	"	--	2.50	79.4%	(21-141)	--	--	10/22/07 12:31	
Surrogate(s): Fluorene-d10		*Recovery: 84.7%*			*Limits: 25-125%*	"							*10/22/07 12:31*	
Pyrene-d10		*69.5%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*80.4%*			*10-125%*	"							"	
LCS Dup (7100835-BSD1)								**Extracted: 10/18/07 13:00**						
Acenaphthene	EPA 8270m	1.70	0.0400	0.0400	ug/l	2x	--	2.50	67.9%	(35-120)	3.04%	(35)	10/22/07 13:03	
Acenaphthylene	"	1.77	0.0400	0.0400	"	"	--	"	70.8%	(34-116)	2.79%	"	"	
Anthracene	"	1.98	0.0400	0.0400	"	"	--	"	79.3%	(24-119)	3.33%	"	"	
Benzo (a) anthracene	"	1.89	0.0200	0.0200	"	"	--	"	75.5%	(36-128)	2.59%	"	"	
Benzo (a) pyrene	"	1.90	0.0200	0.0200	"	"	--	"	76.2%	(17-128)	5.05%	"	"	
Benzo (b) fluoranthene	"	2.01	0.0200	0.0200	"	"	--	"	80.4%	(37-131)	4.64%	"	"	
Benzo (ghi) perylene	"	2.11	0.0400	0.0400	"	"	--	"	84.3%	(26-126)	5.53%	"	"	
Benzo (k) fluoranthene	"	1.87	0.0200	0.0200	"	"	--	"	74.9%	(18-145)	5.47%	"	"	
Chrysene	"	1.87	0.0200	0.0200	"	"	--	"	74.8%	(16-137)	2.81%	"	"	
Dibenzo (a,h) anthracene	"	2.02	0.0200	0.0200	"	"	--	"	80.7%	(20-141)	1.26%	"	"	
Fluoranthene	"	1.93	0.0400	0.0400	"	"	--	"	77.3%	(31-125)	2.07%	"	"	
Fluorene	"	2.01	0.0400	0.0400	"	"	--	"	80.4%	(27-124)	4.76%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.10	0.0200	0.0200	"	"	--	"	84.0%	(30-135)	1.67%	"	"	
Naphthalene	"	1.78	0.0400	0.0400	"	"	--	"	71.4%	(30-113)	2.49%	"	"	
Phenanthrene	"	1.99	0.0400	0.0400	"	"	--	"	79.8%	(34-126)	1.15%	"	"	
Bis(2-ethylhexyl)phthalate	"	2.20	1.05	2.00	"	"	--	4.00	55.0%	(20-150)	46.2%	(50)	10/29/07 23:29	
Butyl benzyl phthalate	"	3.22	1.05	2.00	"	"	--	"	80.5%	"	9.69%	"	"	
Di-n-butyl phthalate	"	3.23	1.05	2.00	"	"	--	"	80.7%	"	5.86%	"	"	
Di-n-octyl phthalate	"	1.61	1.05	2.00	"	"	--	"	40.1%	"	25.2%	"	"	J
Diethyl phthalate	"	2.97	1.05	2.00	"	"	--	"	74.3%	"	3.55%	"	"	
Dimethyl phthalate	"	2.85	1.05	2.00	"	"	--	"	71.3%	"	3.78%	"	"	
Pyrene	"	1.91	0.0400	0.0400	"	"	--	2.50	76.3%	(21-141)	3.92%	(35)	10/22/07 13:03	
Surrogate(s): Fluorene-d10		*Recovery: 80.2%*			*Limits: 25-125%*	"							*10/22/07 13:03*	
Pyrene-d10		*66.6%*			*23-150%*	"							"	

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7100835 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (7100835-BSD1)							**Extracted: 10/18/07 13:00**							
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 77.5%*			*Limits: 10-125%*	*2x*							*10/22/07 13:03*	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	11/20/07 11:56

Notes and Definitions

Report Specific Notes:

J	-	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
RL1	-	Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQJ0645

CLIENT: City of Portland

REPORT TO: Jennifer Shackelford
ADDRESS:

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

PRESERVATIVE

REQUESTED ANALYSES

TURNAROUND REQUEST
in Business Days *

Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	(*) PAH + phthalates 8270-SIM	(**) PCB 209 Congeners	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	F0071253	10/16/07 0950	X	X	W	2		
2	F0071254	1020	X	X	W	2		
3	F0071255	1040	X	X	W	2		
4	F0071256	1055	X	X	W	2		
5	F0071257	1110	X	X	W	2		
6	F0071258	0950	X	X	W	2		
7	F0071259	1006	X	X	W	2		
8	F0071260	1031	X	X	W	2		
9	F0071261	1105	X	X	W	2		
10	F0071262	1140	X	X	W	2		

RELEASED BY: Rona Kluch
PRINT NAME: Rona Kluch FIRM: City of Portland DATE: 10/17/07 TIME: 1120

RELEASED BY: Jeremy Morgan
PRINT NAME: Jeremy Morgan FIRM: TAP DATE: 10/17/07 TIME: 1235

RECEIVED BY: [illegible]
PRINT NAME: [illegible] FIRM: TAP DATE: 10/17/07 TIME: 1120

RECEIVED BY: Peggy Stafford
PRINT NAME: Peggy Stafford FIRM: TAP DATE: 10/17/07 TIME: 1235

ADDITIONAL REMARKS:
(*) PAH + phthalates as for UIC project - same MRLs.
(**) PCB Congeners to Pace Analytical please.

TEMP: 3.4 3.2

COC REV 09-2004

PAGE 1 OF 2

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQJ0645

CLIENT: City of Portland
INVOICE TO: Charles Lythe
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	PAH + phthalates 8270 SIM (*)	PCB 209 Congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1	F0071263	10/16/07	1212	X	X	W	2		
2	F0071264	↓	1137	X	X	W	2		
3	F0071265	↓	—	X	X	W	2		
4									
5									
6									
7									
8									
9									
10									

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: ~~10~~ STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

RELEASED BY: [signature]
PRINT NAME: Rona Kluch
FIRM: City of Portland
DATE: 10/17/07
TIME: 1120

RECEIVED BY: [signature]
PRINT NAME: Jeremy Morgan
FIRM: TAP
DATE: 10/17/07
TIME: 1120

RELEASED BY: [signature]
PRINT NAME: Jeremy Morgan
FIRM: TAP
DATE: 10/17/07
TIME: 1235

RECEIVED BY:
PRINT NAME:
FIRM:
DATE:
TIME:

ADDITIONAL REMARKS:
(*) PAH + phthalates as for UIC project – same MRLs.
(**) PCB Congeners to Pace Analytical please.

COC REV 09-2004

TEMP: 3.4 3.2
PAGE 2 OF 2

TestAmerica Sample Receipt Checklist

Received by: (section A)
Date: 10/17/07
Time: 1235
Initials: JD

Unpacked by: (section B)
Date: 10/17/07
Initials: JA

Logged-in by:
Date: 10/17/07
Initials: JI

Work Order No. PQJ0645
Client: City of Portland
Project: Portland Harbor

Cooler ID(s):

***ESI Clients (see Section C)

Cooler Temperature (IR): 3.2 / 3.4 °C plastic (glass) NA (oil/air samples, ESI client)

Temperature out of range:
___No Ice
___Ice Melted
___W/in 4 Hours
___Other:

A

Custody Seals: (#____)
Signature: Y N (X) Dated:_____
(X) None

Container Type:
2 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
____Gel Ice
(X) Loose Ice
____None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
(X) None (___Other:_____)

Received from:
(X) TA Courier
____Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:_____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? (Y) N
Containers Match COC? (Y) N none given
IDs Match COC? (Y) N

For Analyses Requested:
Correct Type & Preservation? (Y) N
Adequate Volume? (Y) N
Within Hold Time? (Y) N

Volatiles:
VOAs Free of Headspace? Y N (NA)
TB on COC? not provided Y N (NA)

Metals:
HNO3 Preserved? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: _____°C not provided

All preserved bottles checked Y N NA (voas/soils/all unp.)
All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

Was the Tracking paper keepable? YES NO

If circled NO, what is the Tracking Number? _____

UPS FED EX DHL OTHER: _____

Comments:

Project Managers:

PM Reviewed:_____ (Initial/Date)

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www.pacelabs.com

Pace Analytical Services, Inc.
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DETERMINATION OF PCB CONGENERS

Prepared for:
Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

ACCREDITED IN ACCORDANCE WITH nelac

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: PQJ0645

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES

DATE: November 13, 2007

ISSUED TO: Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

REPORT NO: 07-1061177

INTRODUCTION

This report presents the results from the analyses performed on thirteen samples submitted by a representative of Test America. The samples were analyzed for the presence or absence of polychlorobiphenyl (PCB) congeners using USEPA Method 1668A.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
PQJ0645-01	Water	10/05/07	1061177001
PQJ0645-02	Water	10/05/07	1061177002
PQJ0645-03	Water	10/05/07	1061177003
PQJ0645-04	Water	10/05/07	1061177004
PQJ0645-05	Water	10/05/07	1061177005
PQJ0645-06	Water	10/05/07	1061177006
PQJ0645-07	Water	10/05/07	1061177007
PQJ0645-08	Water	10/05/07	1061177008
PQJ0645-09	Water	10/05/07	1061177009
PQJ0645-10	Water	10/05/07	1061177010
PQJ0645-11	Water	10/05/07	1061177011
PQJ0645-12	Water	10/05/07	1061177012
PQJ0645-13	Water	10/05/07	1061177013

RESULTS

The results from the analyses are included in the following:

Appendix A - Documentation
Appendix B - Sample Analysis Results

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: **PCB CONGENER ANALYSES**

DATE: November 13, 2007

REPORT NO: 07-1061177

DISCUSSION

The recoveries of the isotopically labeled PCB internal standards in the sample extracts ranged from 54-126%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. The results show that the sample preparation procedures did not significantly impact the results of the sample analyses.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The results show that spiked native compounds were recovered at 89-150%, with relative percent differences of 0.0-50%. These results indicate generally high degrees of accuracy and precision for these determinations.

REMARKS

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

APPENDIX A

REPORT OF LABORATORY ANALYSIS

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SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQJ0645

1061177

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PQJ0645-01	**Water**		Sampled: **10/16/07 09:50**	001
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 09:50	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-02	**Water**		Sampled: **10/16/07 10:20**	002
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 10:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-03	**Water**		Sampled: **10/16/07 10:40**	003
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 10:40	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-04	**Water**		Sampled: **10/16/07 10:55**	004
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 10:55	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-05	**Water**		Sampled: **10/16/07 11:10**	005
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 11:10	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-06	**Water**		Sampled: **10/16/07 09:50**	006
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 09:50	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Jessica Pfaff — Released By — 10-17 — Date/Time

Released By — Date/Time

PACE — Received By — 10/18/07 0930 — Date/Time

T = 4.4°C
4.0°C

Received By — Date/Time

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQJ0645

Analysis	Units	Due	Expires	Comments
Sample ID: PQJ0645-07	**Water**		Sampled: 10/16/07 10:06	007
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 10:06	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-08	**Water**		Sampled: 10/16/07 10:31	008
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 10:31	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-09	**Water**		Sampled: 10/16/07 11:05	009
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 11:05	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-10	**Water**		Sampled: 10/16/07 11:40	010
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 11:40	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-11	**Water**		Sampled: 10/16/07 12:12	011
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 12:12	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-12	**Water**		Sampled: 10/16/07 11:37	012
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 11:37	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQJ0645-13	**Water**		Sampled: 10/16/07 00:00	013
1668 Coplanar PCBs - SUB	ug/l	10/30/07	04/13/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

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www.pacelabs.com

Pace Analytical Services, Inc
1700 Elm Stree
Minneapolis, MN 5541
Phone: 612.607.170
Fax: 612.607.644

APPENDIX B

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID	BLANK-14689		
Filename	P71107A_10		
Injected By	SMT	Matrix	Water
Total Amount Extracted	874 mL	Extracted	11/05/2007
ICAL Date	11/07/2007	Analyzed	11/08/2007 01:36
CCal Filename(s)	P71107A_07	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.912	3.11	2.0	1.02	51
13C-4-MoCB	3	9.907	3.32	2.0	1.13	56
13C-2,2'-DiCB	4	10.207	1.60	2.0	1.12	56
13C-4,4'-DiCB	15	18.199	1.54	2.0	1.15	57
13C-2,2',6-TrCB	19	14.472	1.09	2.0	1.19	60
13C-3,4,4'-TrCB	37	26.714	1.10	2.0	1.49	74
13C-2,2',6,6'-TeCB	54	18.465	0.80	2.0	1.32	66
13C-3,4,4',5-TeCB	81	34.310	0.78	2.0	1.61	80
13C-3,3',4,4'-TeCB	77	34.931	0.81	2.0	1.56	78
13C-2,2',4,6,6'-PeCB	104	25.205	1.57	2.0	1.41	71
13C-2,3,3',4,4'-PeCB	105	38.687	1.64	2.0	1.65	82
13C-2,3,4,4',5-PeCB	114	38.000	1.56	2.0	1.55	77
13C-2,3',4,4',5-PeCB	118	37.446	1.60	2.0	1.74	87
13C-2,3',4,4',5'-PeCB	123	37.094	1.61	2.0	1.67	83
13C-3,3',4,4',5-PeCB	126	42.041	1.58	2.0	1.66	83
13C-2,2',4,4',6,6'-HxCB	155	31.728	1.28	2.0	1.30	65
13C-HxCB (156/157)	156/157	45.210	1.25	4.0	2.96	74
13C-2,3',4,4',5,5'-HxCB	167	44.003	1.26	2.0	1.51	76
13C-3,3',4,4',5,5'-HxCB	169	48.664	1.26	2.0	1.39	70
13C-2,2',3,4',5,6,6'-HpCB	188	37.966	1.07	2.0	1.77	88
13C-2,3,3',4,4',5,5'-HpCB	189	51.292	1.09	2.0	1.48	74
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.684	0.90	2.0	1.74	87
13C-2,3,3',4,4',5,5',6-OcCB	205	53.943	0.87	2.0	1.85	92
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.753	0.80	2.0	1.82	91
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.710	0.79	2.0	1.76	88
13C--DeCB	209	57.391	0.70	2.0	1.80	90
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.969	1.03	2.0	1.62	81
13C-2,3,3',5,5'-PeCB	111	34.998	1.59	2.0	1.73	86
13C-2,2',3,3',5,5',6-HpCB	178	41.253	1.05	2.0	1.49	74
Recovery Standards						
13C-2,5-DiCB	9	12.999	1.57	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.149	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.996	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.750	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.469	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14689
Filename P71107A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.572
2		---	---	ND	---	0.572
3		---	---	ND	---	0.572
4		---	---	ND	---	0.572
5		---	---	ND	---	0.572
6		---	---	ND	---	0.572
7		---	---	ND	---	0.572
8		---	---	ND	---	0.572
9		---	---	ND	---	0.572
10		---	---	ND	---	0.572
11		---	---	ND	---	0.687
12	12/13	---	---	ND	---	0.572
13	12/13	---	---	ND	---	0.572
14		---	---	ND	---	0.572
15		---	---	ND	---	0.572
16		---	---	ND	---	0.572
17		---	---	ND	---	0.572
18	18/30	---	---	ND	---	0.572
19		---	---	ND	---	0.572
20	20/28	---	---	ND	---	0.687
21	21/33	---	---	ND	---	0.572
22		---	---	ND	---	0.572
23		---	---	ND	---	0.572
24		---	---	ND	---	0.572
25		---	---	ND	---	0.572
26	26/29	---	---	ND	---	0.572
27		---	---	ND	---	0.572
28	20/28	---	---	ND	---	0.687
29	26/29	---	---	ND	---	0.572
30	18/30	---	---	ND	---	0.572
31		---	---	ND	---	0.572
32		---	---	ND	---	0.572
33	21/33	---	---	ND	---	0.572
34		---	---	ND	---	0.572
35		---	---	ND	---	0.572
36		---	---	ND	---	0.572
37		---	---	ND	---	0.572
38		---	---	ND	---	0.572
39		---	---	ND	---	0.572
40	40/41/71	---	---	ND	---	0.572
41	40/41/71	---	---	ND	---	0.572
42		---	---	ND	---	0.572

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14689
Filename P71107A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.572
44	44/47/65	---	---	ND	---	0.687
45	45/51	---	---	ND	---	0.572
46		---	---	ND	---	0.572
47	44/47/65	---	---	ND	---	0.687
48		---	---	ND	---	0.572
49	49/69	---	---	ND	---	0.572
50	50/53	---	---	ND	---	0.572
51	45/51	---	---	ND	---	0.572
52		---	---	ND	---	0.572
53	50/53	---	---	ND	---	0.572
54		---	---	ND	---	0.572
55		---	---	ND	---	0.572
56		---	---	ND	---	0.572
57		---	---	ND	---	0.572
58		---	---	ND	---	0.572
59	59/62/75	---	---	ND	---	0.572
60		---	---	ND	---	0.572
61	61/70/74/76	---	---	ND	---	0.572
62	59/62/75	---	---	ND	---	0.572
63		---	---	ND	---	0.572
64		---	---	ND	---	0.572
65	44/47/65	---	---	ND	---	0.687
66		---	---	ND	---	0.572
67		---	---	ND	---	0.572
68		---	---	ND	---	0.572
69	49/69	---	---	ND	---	0.572
70	61/70/74/76	---	---	ND	---	0.572
71	40/41/71	---	---	ND	---	0.572
72		---	---	ND	---	0.572
73		---	---	ND	---	0.572
74	61/70/74/76	---	---	ND	---	0.572
75	59/62/75	---	---	ND	---	0.572
76	61/70/74/76	---	---	ND	---	0.572
77		---	---	ND	---	0.572
78		---	---	ND	---	0.572
79		---	---	ND	---	0.572
80		---	---	ND	---	0.572
81		---	---	ND	---	0.572
82		---	---	ND	---	0.572
83		---	---	ND	---	0.572
84		---	---	ND	---	0.572

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14689
Filename P71107A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.687
86	86/87/97/108/119/125	---	---	ND	---	1.14
87	86/87/97/108/119/125	---	---	ND	---	1.14
88	88/91	---	---	ND	---	0.572
89		---	---	ND	---	0.572
90	90/101/113	---	---	ND	---	0.572
91	88/91	---	---	ND	---	0.572
92		---	---	ND	---	0.572
93	93/98/100/102	---	---	ND	---	0.858
94		---	---	ND	---	0.572
95		---	---	ND	---	0.572
96		---	---	ND	---	0.572
97	86/87/97/108/119/125	---	---	ND	---	1.14
98	93/98/100/102	---	---	ND	---	0.858
99		---	---	ND	---	0.572
100	93/98/100/102	---	---	ND	---	0.858
101	90/101/113	---	---	ND	---	0.572
102	93/98/100/102	---	---	ND	---	0.858
103		---	---	ND	---	0.572
104		---	---	ND	---	0.572
105		---	---	ND	---	0.572
106		---	---	ND	---	0.572
107	107/124	---	---	ND	---	0.572
108	86/87/97/108/119/125	---	---	ND	---	1.14
109		---	---	ND	---	0.572
110	110/115	---	---	ND	---	0.572
111		---	---	ND	---	0.572
112		---	---	ND	---	0.572
113	90/101/113	---	---	ND	---	0.572
114		---	---	ND	---	0.572
115	110/115	---	---	ND	---	0.572
116	85/116/117	---	---	ND	---	0.687
117	85/116/117	---	---	ND	---	0.687
118		---	---	ND	---	0.572
119	86/87/97/108/119/125	---	---	ND	---	1.14
120		---	---	ND	---	0.572
121		---	---	ND	---	0.572
122		---	---	ND	---	0.572
123		---	---	ND	---	0.572
124	107/124	---	---	ND	---	0.572
125	86/87/97/108/119/125	---	---	ND	---	1.14
126		---	---	ND	---	0.572

Conc = Concentration
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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14689
Filename P71107A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.572
128	128/166	---	---	ND	---	1.14
129	129/138/163	---	---	ND	---	0.572
130		---	---	ND	---	0.572
131		---	---	ND	---	0.572
132		---	---	ND	---	0.572
133		---	---	ND	---	0.572
134	134/143	---	---	ND	---	0.572
135	135/151	---	---	ND	---	0.584
136		---	---	ND	---	0.572
137		---	---	ND	---	0.572
138	129/138/163	---	---	ND	---	0.572
139	139/140	---	---	ND	---	0.572
140	139/140	---	---	ND	---	0.572
141		---	---	ND	---	0.572
142		---	---	ND	---	0.572
143	134/143	---	---	ND	---	0.572
144		---	---	ND	---	0.572
145		---	---	ND	---	0.572
146		---	---	ND	---	0.572
147	147/149	---	---	ND	---	0.572
148		---	---	ND	---	0.572
149	147/149	---	---	ND	---	0.572
150		---	---	ND	---	0.572
151	135/151	---	---	ND	---	0.584
152		---	---	ND	---	0.572
153	153/168	---	---	ND	---	0.687
154		---	---	ND	---	0.572
155		---	---	ND	---	0.572
156	156/157	---	---	ND	---	0.572
157	156/157	---	---	ND	---	0.572
158		---	---	ND	---	0.572
159		---	---	ND	---	0.572
160		---	---	ND	---	0.572
161		---	---	ND	---	0.572
162		---	---	ND	---	0.572
163	129/138/163	---	---	ND	---	0.572
164		---	---	ND	---	0.572
165		---	---	ND	---	0.572
166	128/166	---	---	ND	---	1.14
167		---	---	ND	---	0.572
168	153/168	---	---	ND	---	0.687

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
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ND = Not Detected
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14689
Filename P71107A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.572
170		---	---	ND	---	0.572
171	171/173	---	---	ND	---	0.572
172		---	---	ND	---	0.572
173	171/173	---	---	ND	---	0.572
174		---	---	ND	---	0.572
175		---	---	ND	---	0.572
176		---	---	ND	---	0.572
177		---	---	ND	---	0.572
178		---	---	ND	---	0.572
179		---	---	ND	---	0.572
180	180/193	---	---	ND	---	0.572
181		---	---	ND	---	0.572
182		---	---	ND	---	0.572
183	183/185	---	---	ND	---	0.572
184		---	---	ND	---	0.572
185	183/185	---	---	ND	---	0.572
186		---	---	ND	---	0.572
187		---	---	ND	---	0.572
188		---	---	ND	---	0.572
189		---	---	ND	---	0.572
190		---	---	ND	---	0.572
191		---	---	ND	---	0.572
192		---	---	ND	---	0.572
193	180/193	---	---	ND	---	0.572
194		---	---	ND	---	0.572
195		---	---	ND	---	0.572
196		---	---	ND	---	0.801
197	197/200	---	---	ND	---	2.86
198	198/199	---	---	ND	---	0.572
199	198/199	---	---	ND	---	0.572
200	197/200	---	---	ND	---	2.86
201		---	---	ND	---	0.572
202		---	---	ND	---	0.572
203		---	---	ND	---	0.572
204		---	---	ND	---	0.572
205		---	---	ND	---	0.572
206		---	---	ND	---	0.572
207		---	---	ND	---	0.572
208		---	---	ND	---	0.572
209		---	---	ND	---	0.572

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1061177

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Client Sample ID BLANK-14689
Lab Sample ID BLANK-14689
Filename P71107A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-01		
Lab Sample ID	1061177001		
Filename	P71107A_11		
Injected By	SMT		
Total Amount Extracted	969 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 02:40

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.900	3.16	2.0	1.57	78
13C-4-MoCB	3	9.895	2.80	2.0	1.48	74
13C-2,2'-DiCB	4	10.195	1.62	2.0	1.50	75
13C-4,4'-DiCB	15	18.199	1.56	2.0	1.79	89
13C-2,2',6-TrCB	19	14.473	1.05	2.0	1.65	82
13C-3,4,4'-TrCB	37	26.699	1.06	2.0	2.03	102
13C-2,2',6,6'-TeCB	54	18.466	0.79	2.0	1.69	84
13C-3,4,4',5-TeCB	81	34.312	0.79	2.0	2.04	102
13C-3,3',4,4'-TeCB	77	34.915	0.79	2.0	1.97	98
13C-2,2',4,6,6'-PeCB	104	25.206	1.62	2.0	1.69	85
13C-2,3,3',4,4'-PeCB	105	38.688	1.58	2.0	2.01	101
13C-2,3,4,4',5-PeCB	114	38.001	1.59	2.0	1.87	94
13C-2,3',4,4',5-PeCB	118	37.448	1.55	2.0	2.12	106
13C-2,3',4,4',5'-PeCB	123	37.095	1.61	2.0	2.03	101
13C-3,3',4,4',5-PeCB	126	42.042	1.56	2.0	2.14	107
13C-2,2',4,4',6,6'-HxCB	155	31.729	1.26	2.0	1.47	73
13C-HxCB (156/157)	156/157	45.228	1.26	4.0	3.58	89
13C-2,3',4,4',5,5'-HxCB	167	44.021	1.23	2.0	1.80	90
13C-3,3',4,4',5,5'-HxCB	169	48.700	1.26	2.0	1.68	84
13C-2,2',3,4',5,6,6'-HpCB	188	37.967	1.06	2.0	1.84	92
13C-2,3,3',4,4',5,5'-HpCB	189	51.315	1.03	2.0	1.92	96
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.702	0.91	2.0	1.84	92
13C-2,3,3',4,4',5,5',6-OcCB	205	53.988	0.90	2.0	1.94	97
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.799	0.79	2.0	1.74	87
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.755	0.79	2.0	1.82	91
13C--DeCB	209	57.437	0.72	2.0	1.64	82
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.970	1.08	2.0	1.81	91
13C-2,3,3',5,5'-PeCB	111	34.999	1.59	2.0	1.74	87
13C-2,2',3,3',5,5',6-HpCB	178	41.271	1.05	2.0	1.48	74
Recovery Standards						
13C-2,5-DiCB	9	12.999	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.150	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.998	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.768	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.492	0.90	2.0	NA	NA

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-01
Lab Sample ID 1061177001
Filename P71107A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.516
2		---	---	ND	---	0.516
3		---	---	ND	---	0.516
4		---	---	ND	---	0.516
5		---	---	ND	---	0.516
6		---	---	ND	---	0.516
7		---	---	ND	---	0.516
8		---	---	ND	---	0.516
9		---	---	ND	---	0.516
10		---	---	ND	---	0.516
11		---	---	ND	---	0.619
12	12/13	---	---	ND	---	0.516
13	12/13	---	---	ND	---	0.516
14		---	---	ND	---	0.516
15		---	---	ND	---	0.516
16		---	---	ND	---	0.516
17		---	---	ND	---	0.516
18	18/30	---	---	ND	---	0.516
19		---	---	ND	---	0.516
20	20/28	---	---	ND	---	0.619
21	21/33	---	---	ND	---	0.516
22		---	---	ND	---	0.516
23		---	---	ND	---	0.516
24		---	---	ND	---	0.516
25		---	---	ND	---	0.516
26	26/29	---	---	ND	---	0.516
27		---	---	ND	---	0.516
28	20/28	---	---	ND	---	0.619
29	26/29	---	---	ND	---	0.516
30	18/30	---	---	ND	---	0.516
31		---	---	ND	---	0.516
32		---	---	ND	---	0.516
33	21/33	---	---	ND	---	0.516
34		---	---	ND	---	0.516
35		---	---	ND	---	0.516
36		---	---	ND	---	0.516
37		---	---	ND	---	0.516
38		---	---	ND	---	0.516
39		---	---	ND	---	0.516
40	40/41/71	---	---	ND	---	0.516
41	40/41/71	---	---	ND	---	0.516
42		---	---	ND	---	0.516

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-01
Lab Sample ID 1061177001
Filename P71107A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.516
44	44/47/65	---	---	ND	---	0.619
45	45/51	---	---	ND	---	0.516
46		---	---	ND	---	0.516
47	44/47/65	---	---	ND	---	0.619
48		---	---	ND	---	0.516
49	49/69	---	---	ND	---	0.516
50	50/53	---	---	ND	---	0.516
51	45/51	---	---	ND	---	0.516
52		---	---	ND	---	0.516
53	50/53	---	---	ND	---	0.516
54		---	---	ND	---	0.516
55		---	---	ND	---	0.516
56		---	---	ND	---	0.516
57		---	---	ND	---	0.516
58		---	---	ND	---	0.516
59	59/62/75	---	---	ND	---	0.516
60		---	---	ND	---	0.516
61	61/70/74/76	---	---	ND	---	0.516
62	59/62/75	---	---	ND	---	0.516
63		---	---	ND	---	0.516
64		---	---	ND	---	0.516
65	44/47/65	---	---	ND	---	0.619
66		---	---	ND	---	0.516
67		---	---	ND	---	0.516
68		---	---	ND	---	0.516
69	49/69	---	---	ND	---	0.516
70	61/70/74/76	---	---	ND	---	0.516
71	40/41/71	---	---	ND	---	0.516
72		---	---	ND	---	0.516
73		---	---	ND	---	0.516
74	61/70/74/76	---	---	ND	---	0.516
75	59/62/75	---	---	ND	---	0.516
76	61/70/74/76	---	---	ND	---	0.516
77		---	---	ND	---	0.516
78		---	---	ND	---	0.516
79		---	---	ND	---	0.516
80		---	---	ND	---	0.516
81		---	---	ND	---	0.516
82		---	---	ND	---	0.516
83		---	---	ND	---	0.516
84		---	---	ND	---	0.516

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-01
Lab Sample ID 1061177001
Filename P71107A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.619
86	86/87/97/108/119/125	---	---	ND	---	1.03
87	86/87/97/108/119/125	---	---	ND	---	1.03
88	88/91	---	---	ND	---	0.516
89		---	---	ND	---	0.516
90	90/101/113	---	---	ND	---	0.516
91	88/91	---	---	ND	---	0.516
92		---	---	ND	---	0.516
93	93/98/100/102	---	---	ND	---	0.774
94		---	---	ND	---	0.516
95		---	---	ND	---	0.516
96		---	---	ND	---	0.516
97	86/87/97/108/119/125	---	---	ND	---	1.03
98	93/98/100/102	---	---	ND	---	0.774
99		---	---	ND	---	0.516
100	93/98/100/102	---	---	ND	---	0.774
101	90/101/113	---	---	ND	---	0.516
102	93/98/100/102	---	---	ND	---	0.774
103		---	---	ND	---	0.516
104		---	---	ND	---	0.516
105		---	---	ND	---	0.516
106		---	---	ND	---	0.516
107	107/124	---	---	ND	---	0.516
108	86/87/97/108/119/125	---	---	ND	---	1.03
109		---	---	ND	---	0.516
110	110/115	---	---	ND	---	0.516
111		---	---	ND	---	0.516
112		---	---	ND	---	0.516
113	90/101/113	---	---	ND	---	0.516
114		---	---	ND	---	0.516
115	110/115	---	---	ND	---	0.516
116	85/116/117	---	---	ND	---	0.619
117	85/116/117	---	---	ND	---	0.619
118		---	---	ND	---	0.516
119	86/87/97/108/119/125	---	---	ND	---	1.03
120		---	---	ND	---	0.516
121		---	---	ND	---	0.516
122		---	---	ND	---	0.516
123		---	---	ND	---	0.516
124	107/124	---	---	ND	---	0.516
125	86/87/97/108/119/125	---	---	ND	---	1.03
126		---	---	ND	---	0.516

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-01
Lab Sample ID	1061177001
Filename	P71107A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.516
128	128/166	---	---	ND	---	1.03
129	129/138/163	40.801	1.25	0.856	---	0.516
130		---	---	ND	---	0.516
131		---	---	ND	---	0.516
132		---	---	ND	---	0.516
133		---	---	ND	---	0.516
134	134/143	---	---	ND	---	0.516
135	135/151	---	---	ND	---	0.526
136		---	---	ND	---	0.516
137		---	---	ND	---	0.516
138	129/138/163	40.801	1.25	(0.856)	---	0.516
139	139/140	---	---	ND	---	0.516
140	139/140	---	---	ND	---	0.516
141		---	---	ND	---	0.516
142		---	---	ND	---	0.516
143	134/143	---	---	ND	---	0.516
144		---	---	ND	---	0.516
145		---	---	ND	---	0.516
146		---	---	ND	---	0.516
147	147/149	36.190	1.26	0.686	---	0.516
148		---	---	ND	---	0.516
149	147/149	36.190	1.26	(0.686)	---	0.516
150		---	---	ND	---	0.516
151	135/151	---	---	ND	---	0.526
152		---	---	ND	---	0.516
153	153/168	39.493	1.24	0.748	---	0.619
154		---	---	ND	---	0.516
155		---	---	ND	---	0.516
156	156/157	---	---	ND	---	0.516
157	156/157	---	---	ND	---	0.516
158		---	---	ND	---	0.516
159		---	---	ND	---	0.516
160		---	---	ND	---	0.516
161		---	---	ND	---	0.516
162		---	---	ND	---	0.516
163	129/138/163	40.801	1.25	(0.856)	---	0.516
164		---	---	ND	---	0.516
165		---	---	ND	---	0.516
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.516
168	153/168	39.493	1.24	(0.748)	---	0.619

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-01
Lab Sample ID 1061177001
Filename P71107A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.516
170		---	---	ND	---	0.516
171	171/173	---	---	ND	---	0.516
172		---	---	ND	---	0.516
173	171/173	---	---	ND	---	0.516
174		---	---	ND	---	0.516
175		---	---	ND	---	0.516
176		---	---	ND	---	0.516
177		---	---	ND	---	0.516
178		---	---	ND	---	0.516
179		---	---	ND	---	0.516
180	180/193	46.721	1.04	0.663	---	0.516
181		---	---	ND	---	0.516
182		---	---	ND	---	0.516
183	183/185	---	---	ND	---	0.516
184		---	---	ND	---	0.516
185	183/185	---	---	ND	---	0.516
186		---	---	ND	---	0.516
187		---	---	ND	---	0.516
188		---	---	ND	---	0.516
189		---	---	ND	---	0.516
190		---	---	ND	---	0.516
191		---	---	ND	---	0.516
192		---	---	ND	---	0.516
193	180/193	46.721	1.04	(0.663)	---	0.516
194		---	---	ND	---	0.516
195		---	---	ND	---	0.516
196		---	---	ND	---	0.722
197	197/200	---	---	ND	---	2.58
198	198/199	---	---	ND	---	0.516
199	198/199	---	---	ND	---	0.516
200	197/200	---	---	ND	---	2.58
201		---	---	ND	---	0.516
202		---	---	ND	---	0.516
203		---	---	ND	---	0.516
204		---	---	ND	---	0.516
205		---	---	ND	---	0.516
206		---	---	ND	---	0.516
207		---	---	ND	---	0.516
208		---	---	ND	---	0.516
209		---	---	ND	---	0.516

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-01
Lab Sample ID 1061177001
Filename P71107A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	2.29
Total Heptachloro Biphenyls	0.663
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	2.95

ND = Not Detected

Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-02		
Lab Sample ID	1061177002		
Filename	P71107A_12		
Injected By	SMT		
Total Amount Extracted	938 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 03:45

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.924	3.22	2.0	1.57	78
13C-4-MoCB	3	9.919	3.38	2.0	1.38	69
13C-2,2'-DiCB	4	10.218	1.59	2.0	1.47	73
13C-4,4'-DiCB	15	18.211	1.55	2.0	1.64	82
13C-2,2',6-TrCB	19	14.484	1.08	2.0	1.56	78
13C-3,4,4'-TrCB	37	26.732	1.03	2.0	2.00	100
13C-2,2',6,6'-TeCB	54	18.481	0.80	2.0	1.69	85
13C-3,4,4',5-TeCB	81	34.328	0.78	2.0	2.22	111
13C-3,3',4,4'-TeCB	77	34.949	0.79	2.0	2.11	105
13C-2,2',4,6,6'-PeCB	104	25.223	1.60	2.0	1.68	84
13C-2,3,3',4,4'-PeCB	105	38.705	1.61	2.0	2.03	101
13C-2,3,4,4',5-PeCB	114	38.017	1.54	2.0	1.95	98
13C-2,3',4,4',5-PeCB	118	37.464	1.57	2.0	2.23	111
13C-2,3',4,4',5'-PeCB	123	37.112	1.60	2.0	2.14	107
13C-3,3',4,4',5-PeCB	126	42.059	1.61	2.0	2.07	104
13C-2,2',4,4',6,6'-HxCB	155	31.746	1.27	2.0	1.47	73
13C-HxCB (156/157)	156/157	45.245	1.28	4.0	3.55	89
13C-2,3',4,4',5,5'-HxCB	167	44.038	1.26	2.0	1.76	88
13C-3,3',4,4',5,5'-HxCB	169	48.700	1.27	2.0	1.68	84
13C-2,2',3,4',5,6,6'-HpCB	188	37.984	1.05	2.0	1.85	93
13C-2,3,3',4,4',5,5'-HpCB	189	51.337	1.04	2.0	1.88	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.719	0.92	2.0	1.82	91
13C-2,3,3',4,4',5,5',6-OcCB	205	54.010	0.90	2.0	1.88	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.799	0.79	2.0	1.71	86
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.755	0.79	2.0	1.81	91
13C--DeCB	209	57.437	0.71	2.0	1.63	82
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.986	1.06	2.0	1.77	89
13C-2,3,3',5,5'-PeCB	111	35.016	1.58	2.0	1.83	91
13C-2,2',3,3',5,5',6-HpCB	178	41.287	1.08	2.0	1.47	74
Recovery Standards						
13C-2,5-DiCB	9	13.022	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.183	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.014	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.784	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.514	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1061177

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-02
Lab Sample ID	1061177002
Filename	P71107A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.533
2		---	---	ND	---	0.533
3		---	---	ND	---	0.533
4		---	---	ND	---	0.533
5		---	---	ND	---	0.533
6		---	---	ND	---	0.533
7		---	---	ND	---	0.533
8		---	---	ND	---	0.533
9		---	---	ND	---	0.533
10		---	---	ND	---	0.533
11		---	---	ND	---	0.640
12	12/13	---	---	ND	---	0.533
13	12/13	---	---	ND	---	0.533
14		---	---	ND	---	0.533
15		---	---	ND	---	0.533
16		---	---	ND	---	0.533
17		---	---	ND	---	0.533
18	18/30	---	---	ND	---	0.533
19		---	---	ND	---	0.533
20	20/28	---	---	ND	---	0.640
21	21/33	---	---	ND	---	0.533
22		---	---	ND	---	0.533
23		---	---	ND	---	0.533
24		---	---	ND	---	0.533
25		---	---	ND	---	0.533
26	26/29	---	---	ND	---	0.533
27		---	---	ND	---	0.533
28	20/28	---	---	ND	---	0.640
29	26/29	---	---	ND	---	0.533
30	18/30	---	---	ND	---	0.533
31		---	---	ND	---	0.533
32		---	---	ND	---	0.533
33	21/33	---	---	ND	---	0.533
34		---	---	ND	---	0.533
35		---	---	ND	---	0.533
36		---	---	ND	---	0.533
37		---	---	ND	---	0.533
38		---	---	ND	---	0.533
39		---	---	ND	---	0.533
40	40/41/71	---	---	ND	---	0.533
41	40/41/71	---	---	ND	---	0.533
42		---	---	ND	---	0.533

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-02
Lab Sample ID	1061177002
Filename	P71107A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.533
44	44/47/65	---	---	ND	---	0.640
45	45/51	---	---	ND	---	0.533
46		---	---	ND	---	0.533
47	44/47/65	---	---	ND	---	0.640
48		---	---	ND	---	0.533
49	49/69	---	---	ND	---	0.533
50	50/53	---	---	ND	---	0.533
51	45/51	---	---	ND	---	0.533
52		---	---	ND	---	0.533
53	50/53	---	---	ND	---	0.533
54		---	---	ND	---	0.533
55		---	---	ND	---	0.533
56		---	---	ND	---	0.533
57		---	---	ND	---	0.533
58		---	---	ND	---	0.533
59	59/62/75	---	---	ND	---	0.533
60		---	---	ND	---	0.533
61	61/70/74/76	---	---	ND	---	0.533
62	59/62/75	---	---	ND	---	0.533
63		---	---	ND	---	0.533
64		---	---	ND	---	0.533
65	44/47/65	---	---	ND	---	0.640
66		---	---	ND	---	0.533
67		---	---	ND	---	0.533
68		---	---	ND	---	0.533
69	49/69	---	---	ND	---	0.533
70	61/70/74/76	---	---	ND	---	0.533
71	40/41/71	---	---	ND	---	0.533
72		---	---	ND	---	0.533
73		---	---	ND	---	0.533
74	61/70/74/76	---	---	ND	---	0.533
75	59/62/75	---	---	ND	---	0.533
76	61/70/74/76	---	---	ND	---	0.533
77		---	---	ND	---	0.533
78		---	---	ND	---	0.533
79		---	---	ND	---	0.533
80		---	---	ND	---	0.533
81		---	---	ND	---	0.533
82		---	---	ND	---	0.533
83		---	---	ND	---	0.533
84		---	---	ND	---	0.533

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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! = Outside QC Limits
RT = Retention Time
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-02
Lab Sample ID 1061177002
Filename P71107A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.640
86	86/87/97/108/119/125	---	---	ND	---	1.07
87	86/87/97/108/119/125	---	---	ND	---	1.07
88	88/91	---	---	ND	---	0.533
89		---	---	ND	---	0.533
90	90/101/113	32.048	1.56	1.97	---	0.533
91	88/91	---	---	ND	---	0.533
92		---	---	ND	---	0.533
93	93/98/100/102	---	---	ND	---	0.799
94		---	---	ND	---	0.533
95		28.694	1.54	1.08	---	0.533
96		---	---	ND	---	0.533
97	86/87/97/108/119/125	---	---	ND	---	1.07
98	93/98/100/102	---	---	ND	---	0.799
99		---	---	ND	---	0.533
100	93/98/100/102	---	---	ND	---	0.799
101	90/101/113	32.048	1.56	(1.97)	---	0.533
102	93/98/100/102	---	---	ND	---	0.799
103		---	---	ND	---	0.533
104		---	---	ND	---	0.533
105		---	---	ND	---	0.533
106		---	---	ND	---	0.533
107	107/124	---	---	ND	---	0.533
108	86/87/97/108/119/125	---	---	ND	---	1.07
109		---	---	ND	---	0.533
110	110/115	34.194	1.60	1.04	---	0.533
111		---	---	ND	---	0.533
112		---	---	ND	---	0.533
113	90/101/113	32.048	1.56	(1.97)	---	0.533
114		---	---	ND	---	0.533
115	110/115	34.194	1.60	(1.04)	---	0.533
116	85/116/117	---	---	ND	---	0.640
117	85/116/117	---	---	ND	---	0.640
118		37.498	1.59	0.660	---	0.533
119	86/87/97/108/119/125	---	---	ND	---	1.07
120		---	---	ND	---	0.533
121		---	---	ND	---	0.533
122		---	---	ND	---	0.533
123		---	---	ND	---	0.533
124	107/124	---	---	ND	---	0.533
125	86/87/97/108/119/125	---	---	ND	---	1.07
126		---	---	ND	---	0.533

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-02
Lab Sample ID 1061177002
Filename P71107A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.533
128	128/166	---	---	ND	---	1.07
129	129/138/163	40.818	1.25	6.06	---	0.533
130		---	---	ND	---	0.533
131		---	---	ND	---	0.533
132		37.531	1.23	1.43	---	0.533
133		---	---	ND	---	0.533
134	134/143	---	---	ND	---	0.533
135	135/151	35.200	1.25	1.89	---	0.544
136		32.501	1.25	0.567	---	0.533
137		---	---	ND	---	0.533
138	129/138/163	40.818	1.25	(6.06)	---	0.533
139	139/140	---	---	ND	---	0.533
140	139/140	---	---	ND	---	0.533
141		39.694	1.29	1.26	---	0.533
142		---	---	ND	---	0.533
143	134/143	---	---	ND	---	0.533
144		---	---	ND	---	0.533
145		---	---	ND	---	0.533
146		38.856	1.20	0.705	---	0.533
147	147/149	36.206	1.24	4.65	---	0.533
148		---	---	ND	---	0.533
149	147/149	36.206	1.24	(4.65)	---	0.533
150		---	---	ND	---	0.533
151	135/151	35.200	1.25	(1.89)	---	0.544
152		---	---	ND	---	0.533
153	153/168	39.510	1.24	7.00	---	0.640
154		---	---	ND	---	0.533
155		---	---	ND	---	0.533
156	156/157	---	---	ND	---	0.533
157	156/157	---	---	ND	---	0.533
158		41.237	1.22	0.562	---	0.533
159		---	---	ND	---	0.533
160		---	---	ND	---	0.533
161		---	---	ND	---	0.533
162		---	---	ND	---	0.533
163	129/138/163	40.818	1.25	(6.06)	---	0.533
164		---	---	ND	---	0.533
165		---	---	ND	---	0.533
166	128/166	---	---	ND	---	1.07
167		---	---	ND	---	0.533
168	153/168	39.510	1.24	(7.00)	---	0.640

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-02
Lab Sample ID 1061177002
Filename P71107A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.533
170		48.029	1.04	2.71	---	0.533
171	171/173	44.289	1.01	0.796	---	0.533
172		---	---	ND	---	0.533
173	171/173	44.289	1.01	(0.796)	---	0.533
174		43.149	1.04	2.00	---	0.533
175		---	---	ND	---	0.533
176		---	---	ND	---	0.533
177		43.618	1.04	1.17	---	0.533
178		---	---	ND	---	0.533
179		38.353	1.06	0.700	---	0.533
180	180/193	46.738	1.05	6.14	---	0.533
181		---	---	ND	---	0.533
182		---	---	ND	---	0.533
183	183/185	42.931	1.06	1.96	---	0.533
184		---	---	ND	---	0.533
185	183/185	42.931	1.06	(1.96)	---	0.533
186		---	---	ND	---	0.533
187		42.277	1.06	2.34	---	0.533
188		---	---	ND	---	0.533
189		---	---	ND	---	0.533
190		48.599	1.04	0.558	---	0.533
191		---	---	ND	---	0.533
192		---	---	ND	---	0.533
193	180/193	46.738	1.05	(6.14)	---	0.533
194		53.535	0.91	1.02	---	0.533
195		---	---	ND	---	0.533
196		---	---	ND	---	0.746
197	197/200	---	---	ND	---	2.66
198	198/199	48.783	0.89	0.789	---	0.533
199	198/199	48.783	0.89	(0.789)	---	0.533
200	197/200	---	---	ND	---	2.66
201		---	---	ND	---	0.533
202		---	---	ND	---	0.533
203		49.672	0.89	0.653	---	0.533
204		---	---	ND	---	0.533
205		---	---	ND	---	0.533
206		---	---	ND	---	0.533
207		---	---	ND	---	0.533
208		---	---	ND	---	0.533
209		---	---	ND	---	0.533

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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NA = Not Applicable
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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-02
Lab Sample ID 1061177002
Filename P71107A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	4.75
Total Hexachloro Biphenyls	24.1
Total Heptachloro Biphenyls	18.4
Total Octachloro Biphenyls	2.47
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	49.7

ND = Not Detected

Report No.....1061177

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-03		
Lab Sample ID	1061177003		
Filename	P71107A_13		
Injected By	SMT		
Total Amount Extracted	952 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 04:49

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.912	3.15	2.0	1.69	84
13C-4-MoCB	3	9.907	3.23	2.0	1.44	72
13C-2,2'-DiCB	4	10.219	1.61	2.0	1.49	74
13C-4,4'-DiCB	15	18.211	1.55	2.0	1.62	81
13C-2,2',6-TrCB	19	14.484	1.05	2.0	1.54	77
13C-3,4,4'-TrCB	37	26.715	1.03	2.0	1.97	98
13C-2,2',6,6'-TeCB	54	18.482	0.80	2.0	1.61	81
13C-3,4,4',5-TeCB	81	34.328	0.79	2.0	2.18	109
13C-3,3',4,4'-TeCB	77	34.932	0.81	2.0	2.09	105
13C-2,2',4,6,6'-PeCB	104	25.223	1.60	2.0	1.64	82
13C-2,3,3',4,4'-PeCB	105	38.705	1.58	2.0	2.02	101
13C-2,3,4,4',5-PeCB	114	38.017	1.59	2.0	1.90	95
13C-2,3',4,4',5-PeCB	118	37.464	1.62	2.0	2.14	107
13C-2,3',4,4',5'-PeCB	123	37.112	1.63	2.0	2.07	103
13C-3,3',4,4',5-PeCB	126	42.059	1.54	2.0	2.16	108
13C-2,2',4,4',6,6'-HxCB	155	31.746	1.28	2.0	1.40	70
13C-HxCB (156/157)	156/157	45.245	1.25	4.0	3.57	89
13C-2,3',4,4',5,5'-HxCB	167	44.054	1.26	2.0	1.75	88
13C-3,3',4,4',5,5'-HxCB	169	48.716	1.26	2.0	1.69	85
13C-2,2',3,4',5,6,6'-HpCB	188	37.984	1.06	2.0	1.77	89
13C-2,3,3',4,4',5,5'-HpCB	189	51.336	1.03	2.0	1.88	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.719	0.92	2.0	1.76	88
13C-2,3,3',4,4',5,5',6-OcCB	205	54.009	0.87	2.0	1.82	91
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.798	0.79	2.0	1.64	82
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.754	0.79	2.0	1.75	87
13C--DeCB	209	57.436	0.73	2.0	1.48	74
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.970	1.01	2.0	1.75	87
13C-2,3,3',5,5'-PeCB	111	35.016	1.60	2.0	1.82	91
13C-2,2',3,3',5,5',6-HpCB	178	41.287	1.07	2.0	1.44	72
Recovery Standards						
13C-2,5-DiCB	9	13.011	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.166	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.014	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.784	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.513	0.91	2.0	NA	NA

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.525
2		---	---	ND	---	0.525
3		---	---	ND	---	0.525
4		---	---	ND	---	0.525
5		---	---	ND	---	0.525
6		---	---	ND	---	0.525
7		---	---	ND	---	0.525
8		---	---	ND	---	0.525
9		---	---	ND	---	0.525
10		---	---	ND	---	0.525
11		---	---	ND	---	0.630
12	12/13	---	---	ND	---	0.525
13	12/13	---	---	ND	---	0.525
14		---	---	ND	---	0.525
15		---	---	ND	---	0.525
16		---	---	ND	---	0.525
17		---	---	ND	---	0.525
18	18/30	---	---	ND	---	0.525
19		---	---	ND	---	0.525
20	20/28	---	---	ND	---	0.630
21	21/33	---	---	ND	---	0.525
22		---	---	ND	---	0.525
23		---	---	ND	---	0.525
24		---	---	ND	---	0.525
25		---	---	ND	---	0.525
26	26/29	---	---	ND	---	0.525
27		---	---	ND	---	0.525
28	20/28	---	---	ND	---	0.630
29	26/29	---	---	ND	---	0.525
30	18/30	---	---	ND	---	0.525
31		---	---	ND	---	0.525
32		---	---	ND	---	0.525
33	21/33	---	---	ND	---	0.525
34		---	---	ND	---	0.525
35		---	---	ND	---	0.525
36		---	---	ND	---	0.525
37		---	---	ND	---	0.525
38		---	---	ND	---	0.525
39		---	---	ND	---	0.525
40	40/41/71	---	---	ND	---	0.525
41	40/41/71	---	---	ND	---	0.525
42		---	---	ND	---	0.525

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.525
44	44/47/65	---	---	ND	---	0.630
45	45/51	---	---	ND	---	0.525
46		---	---	ND	---	0.525
47	44/47/65	---	---	ND	---	0.630
48		---	---	ND	---	0.525
49	49/69	---	---	ND	---	0.525
50	50/53	---	---	ND	---	0.525
51	45/51	---	---	ND	---	0.525
52		---	---	ND	---	0.525
53	50/53	---	---	ND	---	0.525
54		---	---	ND	---	0.525
55		---	---	ND	---	0.525
56		---	---	ND	---	0.525
57		---	---	ND	---	0.525
58		---	---	ND	---	0.525
59	59/62/75	---	---	ND	---	0.525
60		---	---	ND	---	0.525
61	61/70/74/76	---	---	ND	---	0.525
62	59/62/75	---	---	ND	---	0.525
63		---	---	ND	---	0.525
64		---	---	ND	---	0.525
65	44/47/65	---	---	ND	---	0.630
66		---	---	ND	---	0.525
67		---	---	ND	---	0.525
68		---	---	ND	---	0.525
69	49/69	---	---	ND	---	0.525
70	61/70/74/76	---	---	ND	---	0.525
71	40/41/71	---	---	ND	---	0.525
72		---	---	ND	---	0.525
73		---	---	ND	---	0.525
74	61/70/74/76	---	---	ND	---	0.525
75	59/62/75	---	---	ND	---	0.525
76	61/70/74/76	---	---	ND	---	0.525
77		---	---	ND	---	0.525
78		---	---	ND	---	0.525
79		---	---	ND	---	0.525
80		---	---	ND	---	0.525
81		---	---	ND	---	0.525
82		---	---	ND	---	0.525
83		---	---	ND	---	0.525
84		---	---	ND	---	0.525

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.630
86	86/87/97/108/119/125	---	---	ND	---	1.05
87	86/87/97/108/119/125	---	---	ND	---	1.05
88	88/91	---	---	ND	---	0.525
89		---	---	ND	---	0.525
90	90/101/113	32.048	1.61	0.561	---	0.525
91	88/91	---	---	ND	---	0.525
92		---	---	ND	---	0.525
93	93/98/100/102	---	---	ND	---	0.788
94		---	---	ND	---	0.525
95		---	---	ND	---	0.525
96		---	---	ND	---	0.525
97	86/87/97/108/119/125	---	---	ND	---	1.05
98	93/98/100/102	---	---	ND	---	0.788
99		---	---	ND	---	0.525
100	93/98/100/102	---	---	ND	---	0.788
101	90/101/113	32.048	1.61	(0.561)	---	0.525
102	93/98/100/102	---	---	ND	---	0.788
103		---	---	ND	---	0.525
104		---	---	ND	---	0.525
105		---	---	ND	---	0.525
106		---	---	ND	---	0.525
107	107/124	---	---	ND	---	0.525
108	86/87/97/108/119/125	---	---	ND	---	1.05
109		---	---	ND	---	0.525
110	110/115	34.177	1.58	0.750	---	0.525
111		---	---	ND	---	0.525
112		---	---	ND	---	0.525
113	90/101/113	32.048	1.61	(0.561)	---	0.525
114		---	---	ND	---	0.525
115	110/115	34.177	1.58	(0.750)	---	0.525
116	85/116/117	---	---	ND	---	0.630
117	85/116/117	---	---	ND	---	0.630
118		37.498	1.57	0.598	---	0.525
119	86/87/97/108/119/125	---	---	ND	---	1.05
120		---	---	ND	---	0.525
121		---	---	ND	---	0.525
122		---	---	ND	---	0.525
123		---	---	ND	---	0.525
124	107/124	---	---	ND	---	0.525
125	86/87/97/108/119/125	---	---	ND	---	1.05
126		---	---	ND	---	0.525

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.525
128	128/166	---	---	ND	---	1.05
129	129/138/163	40.818	1.22	1.73	---	0.525
130		---	---	ND	---	0.525
131		---	---	ND	---	0.525
132		---	---	ND	---	0.525
133		---	---	ND	---	0.525
134	134/143	---	---	ND	---	0.525
135	135/151	---	---	ND	---	0.536
136		---	---	ND	---	0.525
137		---	---	ND	---	0.525
138	129/138/163	40.818	1.22	(1.73)	---	0.525
139	139/140	---	---	ND	---	0.525
140	139/140	---	---	ND	---	0.525
141		---	---	ND	---	0.525
142		---	---	ND	---	0.525
143	134/143	---	---	ND	---	0.525
144		---	---	ND	---	0.525
145		---	---	ND	---	0.525
146		---	---	ND	---	0.525
147	147/149	36.206	1.23	1.02	---	0.525
148		---	---	ND	---	0.525
149	147/149	36.206	1.23	(1.02)	---	0.525
150		---	---	ND	---	0.525
151	135/151	---	---	ND	---	0.536
152		---	---	ND	---	0.525
153	153/168	39.510	1.24	1.33	---	0.630
154		---	---	ND	---	0.525
155		---	---	ND	---	0.525
156	156/157	---	---	ND	---	0.525
157	156/157	---	---	ND	---	0.525
158		---	---	ND	---	0.525
159		---	---	ND	---	0.525
160		---	---	ND	---	0.525
161		---	---	ND	---	0.525
162		---	---	ND	---	0.525
163	129/138/163	40.818	1.22	(1.73)	---	0.525
164		---	---	ND	---	0.525
165		---	---	ND	---	0.525
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.525
168	153/168	39.510	1.24	(1.33)	---	0.630

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.525
170		48.028	1.03	0.678	---	0.525
171	171/173	---	---	ND	---	0.525
172		---	---	ND	---	0.525
173	171/173	---	---	ND	---	0.525
174		43.149	1.05	0.574	---	0.525
175		---	---	ND	---	0.525
176		---	---	ND	---	0.525
177		---	---	ND	---	0.525
178		---	---	ND	---	0.525
179		---	---	ND	---	0.525
180	180/193	46.737	1.01	1.42	---	0.525
181		---	---	ND	---	0.525
182		---	---	ND	---	0.525
183	183/185	---	---	ND	---	0.525
184		---	---	ND	---	0.525
185	183/185	---	---	ND	---	0.525
186		---	---	ND	---	0.525
187		42.277	1.10	0.576	---	0.525
188		---	---	ND	---	0.525
189		---	---	ND	---	0.525
190		---	---	ND	---	0.525
191		---	---	ND	---	0.525
192		---	---	ND	---	0.525
193	180/193	46.737	1.01	(1.42)	---	0.525
194		---	---	ND	---	0.525
195		---	---	ND	---	0.525
196		---	---	ND	---	0.735
197	197/200	---	---	ND	---	2.63
198	198/199	---	---	ND	---	0.525
199	198/199	---	---	ND	---	0.525
200	197/200	---	---	ND	---	2.63
201		---	---	ND	---	0.525
202		---	---	ND	---	0.525
203		---	---	ND	---	0.525
204		---	---	ND	---	0.525
205		---	---	ND	---	0.525
206		---	---	ND	---	0.525
207		---	---	ND	---	0.525
208		---	---	ND	---	0.525
209		---	---	ND	---	0.525

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-03
Lab Sample ID 1061177003
Filename P71107A_13

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	1.91
Total Hexachloro Biphenyls	4.08
Total Heptachloro Biphenyls	3.25
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	9.24

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-04		
Lab Sample ID	1061177004		
Filename	P71107A_14		
Injected By	SMT		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 05:54

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.912	3.15	2.0	1.72	86
13C-4-MoCB	3	9.919	3.53	2.0	1.47	73
13C-2,2'-DiCB	4	10.219	1.60	2.0	1.56	78
13C-4,4'-DiCB	15	18.211	1.55	2.0	1.63	82
13C-2,2',6-TrCB	19	14.484	1.04	2.0	1.56	78
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13C-3,4,4',5-TeCB	81	34.345	0.79	2.0	2.04	102
13C-3,3',4,4'-TeCB	77	34.949	0.80	2.0	1.95	97
13C-2,2',4,6,6'-PeCB	104	25.239	1.59	2.0	1.63	81
13C-2,3,3',4,4'-PeCB	105	38.722	1.58	2.0	2.05	103
13C-2,3,4,4',5-PeCB	114	38.034	1.56	2.0	1.92	96
13C-2,3',4,4',5-PeCB	118	37.498	1.56	2.0	2.16	108
13C-2,3',4,4',5'-PeCB	123	37.129	1.58	2.0	2.07	104
13C-3,3',4,4',5-PeCB	126	42.092	1.58	2.0	2.03	102
13C-2,2',4,4',6,6'-HxCB	155	31.746	1.26	2.0	1.34	67
13C-HxCB (156/157)	156/157	45.279	1.25	4.0	3.16	79
13C-2,3',4,4',5,5'-HxCB	167	44.088	1.31	2.0	1.62	81
13C-3,3',4,4',5,5'-HxCB	169	48.750	1.27	2.0	1.33	67
13C-2,2',3,4',5,6,6'-HpCB	188	38.001	1.06	2.0	2.20	110
13C-2,3,3',4,4',5,5'-HpCB	189	51.380	1.04	2.0	1.90	95
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.753	0.92	2.0	2.01	100
13C-2,3,3',4,4',5,5',6-OcCB	205	54.074	0.91	2.0	1.76	88
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.863	0.79	2.0	1.61	80
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.798	0.80	2.0	1.75	88
13C--DeCB	209	57.501	0.71	2.0	1.44	72
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.986	1.06	2.0	1.67	84
13C-2,3,3',5,5'-PeCB	111	35.033	1.58	2.0	1.75	88
13C-2,2',3,3',5,5',6-HpCB	178	41.304	1.08	2.0	1.31	66
Recovery Standards						
13C-2,5-DiCB	9	13.022	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.183	0.81	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.031	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.818	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.578	0.91	2.0	NA	NA

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-04
Lab Sample ID 1061177004
Filename P71107A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		17.456	1.54	0.698	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-04
Lab Sample ID 1061177004
Filename P71107A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.600
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.600
48		---	---	ND	---	0.500
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	29.750	0.78	0.699	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.600
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	29.750	0.78	(0.699)	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	29.750	0.78	(0.699)	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	29.750	0.78	(0.699)	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-04
Lab Sample ID 1061177004
Filename P71107A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.600
86	86/87/97/108/119/125	---	---	ND	---	1.000
87	86/87/97/108/119/125	---	---	ND	---	1.000
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	32.064	1.56	0.840	---	0.500
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		---	---	ND	---	0.500
96		---	---	ND	---	0.500
97	86/87/97/108/119/125	---	---	ND	---	1.000
98	93/98/100/102	---	---	ND	---	0.750
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	32.064	1.56	(0.840)	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	1.000
109		---	---	ND	---	0.500
110	110/115	34.194	1.57	1.07	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	32.064	1.56	(0.840)	---	0.500
114		---	---	ND	---	0.500
115	110/115	34.194	1.57	(1.07)	---	0.500
116	85/116/117	---	---	ND	---	0.600
117	85/116/117	---	---	ND	---	0.600
118		37.514	1.60	0.935	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	1.000
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	1.000
126		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-04
Lab Sample ID 1061177004
Filename P71107A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.000
129	129/138/163	40.851	1.25	2.47	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		37.548	1.25	0.704	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	35.217	1.25	0.556	---	0.510
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	40.851	1.25	(2.47)	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	36.223	1.23	1.50	---	0.500
148		---	---	ND	---	0.500
149	147/149	36.223	1.23	(1.50)	---	0.500
150		---	---	ND	---	0.500
151	135/151	35.217	1.25	(0.556)	---	0.510
152		---	---	ND	---	0.500
153	153/168	39.543	1.27	2.01	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	40.851	1.25	(2.47)	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.000
167		---	---	ND	---	0.500
168	153/168	39.543	1.27	(2.01)	---	0.600

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-04
Lab Sample ID 1061177004
Filename P71107A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.500
170		48.079	1.03	0.855	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		43.182	0.97	0.827	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	46.771	1.03	1.94	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	42.964	1.15	0.602	---	0.500
184		---	---	ND	---	0.500
185	183/185	42.964	1.15	(0.602)	---	0.500
186		---	---	ND	---	0.500
187		42.310	1.03	0.857	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500
193	180/193	46.771	1.03	(1.94)	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-04
Lab Sample ID	1061177004
Filename	P71107A_14

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.698
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.699
Total Pentachloro Biphenyls	2.85
Total Hexachloro Biphenyls	7.24
Total Heptachloro Biphenyls	5.08
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	16.6

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-05		
Lab Sample ID	1061177005		
Filename	P71107A_15		
Injected By	SMT		
Total Amount Extracted	980 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 06:59

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.911	3.06	2.0	1.18	59
13C-4-MoCB	3	9.919	3.26	2.0	1.32	66
13C-2,2'-DiCB	4	10.218	1.63	2.0	1.30	65
13C-4,4'-DiCB	15	18.223	1.56	2.0	1.43	71
13C-2,2',6-TrCB	19	14.484	1.09	2.0	1.37	68
13C-3,4,4'-TrCB	37	26.731	1.05	2.0	1.84	92
13C-2,2',6,6'-TeCB	54	18.481	0.80	2.0	1.51	76
13C-3,4,4',5-TeCB	81	34.328	0.78	2.0	1.98	99
13C-3,3',4,4'-TeCB	77	34.948	0.82	2.0	1.72	86
13C-2,2',4,6,6'-PeCB	104	25.239	1.62	2.0	1.50	75
13C-2,3,3',4,4'-PeCB	105	38.721	1.56	2.0	1.81	90
13C-2,3,4,4',5-PeCB	114	38.033	1.55	2.0	1.66	83
13C-2,3',4,4',5-PeCB	118	37.480	1.54	2.0	1.84	92
13C-2,3',4,4',5'-PeCB	123	37.128	1.57	2.0	1.78	89
13C-3,3',4,4',5-PeCB	126	42.075	1.55	2.0	1.93	96
13C-2,2',4,4',6,6'-HxCB	155	31.745	1.27	2.0	1.35	67
13C-HxCB (156/157)	156/157	45.244	1.26	4.0	3.36	84
13C-2,3',4,4',5,5'-HxCB	167	44.053	1.25	2.0	1.70	85
13C-3,3',4,4',5,5'-HxCB	169	48.715	1.27	2.0	1.55	77
13C-2,2',3,4',5,6,6'-HpCB	188	38.000	1.07	2.0	1.70	85
13C-2,3,3',4,4',5,5'-HpCB	189	51.335	1.03	2.0	1.82	91
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.718	0.92	2.0	1.77	89
13C-2,3,3',4,4',5,5',6-OcCB	205	54.008	0.91	2.0	1.78	89
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.797	0.78	2.0	1.52	76
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.753	0.81	2.0	1.71	85
13C--DeCB	209	57.435	0.71	2.0	1.40	70
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.986	1.03	2.0	1.66	83
13C-2,3,3',5,5'-PeCB	111	35.032	1.60	2.0	1.58	79
13C-2,2',3,3',5,5',6-HpCB	178	41.287	1.06	2.0	1.38	69
Recovery Standards						
13C-2,5-DiCB	9	13.022	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.183	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.030	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.800	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.512	0.91	2.0	NA	NA

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-05
Lab Sample ID 1061177005
Filename P71107A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.510
2		---	---	ND	---	0.510
3		---	---	ND	---	0.510
4		---	---	ND	---	0.510
5		---	---	ND	---	0.510
6		---	---	ND	---	0.510
7		---	---	ND	---	0.510
8		---	---	ND	---	0.510
9		---	---	ND	---	0.510
10		---	---	ND	---	0.510
11		---	---	ND	---	0.612
12	12/13	---	---	ND	---	0.510
13	12/13	---	---	ND	---	0.510
14		---	---	ND	---	0.510
15		---	---	ND	---	0.510
16		---	---	ND	---	0.510
17		---	---	ND	---	0.510
18	18/30	---	---	ND	---	0.510
19		---	---	ND	---	0.510
20	20/28	---	---	ND	---	0.612
21	21/33	---	---	ND	---	0.510
22		---	---	ND	---	0.510
23		---	---	ND	---	0.510
24		---	---	ND	---	0.510
25		---	---	ND	---	0.510
26	26/29	---	---	ND	---	0.510
27		---	---	ND	---	0.510
28	20/28	---	---	ND	---	0.612
29	26/29	---	---	ND	---	0.510
30	18/30	---	---	ND	---	0.510
31		---	---	ND	---	0.510
32		---	---	ND	---	0.510
33	21/33	---	---	ND	---	0.510
34		---	---	ND	---	0.510
35		---	---	ND	---	0.510
36		---	---	ND	---	0.510
37		---	---	ND	---	0.510
38		---	---	ND	---	0.510
39		---	---	ND	---	0.510
40	40/41/71	---	---	ND	---	0.510
41	40/41/71	---	---	ND	---	0.510
42		---	---	ND	---	0.510

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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NC = Not Calculated
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! = Outside QC Limits
RT = Retention Time
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ng's = Nanograms

Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-05
Lab Sample ID 1061177005
Filename P71107A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.510
44	44/47/65	---	---	ND	---	0.612
45	45/51	---	---	ND	---	0.510
46		---	---	ND	---	0.510
47	44/47/65	---	---	ND	---	0.612
48		---	---	ND	---	0.510
49	49/69	---	---	ND	---	0.510
50	50/53	---	---	ND	---	0.510
51	45/51	---	---	ND	---	0.510
52		---	---	ND	---	0.510
53	50/53	---	---	ND	---	0.510
54		---	---	ND	---	0.510
55		---	---	ND	---	0.510
56		---	---	ND	---	0.510
57		---	---	ND	---	0.510
58		---	---	ND	---	0.510
59	59/62/75	---	---	ND	---	0.510
60		---	---	ND	---	0.510
61	61/70/74/76	---	---	ND	---	0.510
62	59/62/75	---	---	ND	---	0.510
63		---	---	ND	---	0.510
64		---	---	ND	---	0.510
65	44/47/65	---	---	ND	---	0.612
66		---	---	ND	---	0.510
67		---	---	ND	---	0.510
68		---	---	ND	---	0.510
69	49/69	---	---	ND	---	0.510
70	61/70/74/76	---	---	ND	---	0.510
71	40/41/71	---	---	ND	---	0.510
72		---	---	ND	---	0.510
73		---	---	ND	---	0.510
74	61/70/74/76	---	---	ND	---	0.510
75	59/62/75	---	---	ND	---	0.510
76	61/70/74/76	---	---	ND	---	0.510
77		---	---	ND	---	0.510
78		---	---	ND	---	0.510
79		---	---	ND	---	0.510
80		---	---	ND	---	0.510
81		---	---	ND	---	0.510
82		---	---	ND	---	0.510
83		---	---	ND	---	0.510
84		---	---	ND	---	0.510

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-05
Lab Sample ID 1061177005
Filename P71107A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.612
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.510
89		---	---	ND	---	0.510
90	90/101/113	---	---	ND	---	0.510
91	88/91	---	---	ND	---	0.510
92		---	---	ND	---	0.510
93	93/98/100/102	---	---	ND	---	0.765
94		---	---	ND	---	0.510
95		---	---	ND	---	0.510
96		---	---	ND	---	0.510
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.765
99		---	---	ND	---	0.510
100	93/98/100/102	---	---	ND	---	0.765
101	90/101/113	---	---	ND	---	0.510
102	93/98/100/102	---	---	ND	---	0.765
103		---	---	ND	---	0.510
104		---	---	ND	---	0.510
105		---	---	ND	---	0.510
106		---	---	ND	---	0.510
107	107/124	---	---	ND	---	0.510
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.510
110	110/115	---	---	ND	---	0.510
111		---	---	ND	---	0.510
112		---	---	ND	---	0.510
113	90/101/113	---	---	ND	---	0.510
114		---	---	ND	---	0.510
115	110/115	---	---	ND	---	0.510
116	85/116/117	---	---	ND	---	0.612
117	85/116/117	---	---	ND	---	0.612
118		---	---	ND	---	0.510
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.510
121		---	---	ND	---	0.510
122		---	---	ND	---	0.510
123		---	---	ND	---	0.510
124	107/124	---	---	ND	---	0.510
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.510

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-05
Lab Sample ID 1061177005
Filename P71107A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.510
128	128/166	---	---	ND	---	1.02
129	129/138/163	---	---	ND	---	0.510
130		---	---	ND	---	0.510
131		---	---	ND	---	0.510
132		---	---	ND	---	0.510
133		---	---	ND	---	0.510
134	134/143	---	---	ND	---	0.510
135	135/151	---	---	ND	---	0.521
136		---	---	ND	---	0.510
137		---	---	ND	---	0.510
138	129/138/163	---	---	ND	---	0.510
139	139/140	---	---	ND	---	0.510
140	139/140	---	---	ND	---	0.510
141		---	---	ND	---	0.510
142		---	---	ND	---	0.510
143	134/143	---	---	ND	---	0.510
144		---	---	ND	---	0.510
145		---	---	ND	---	0.510
146		---	---	ND	---	0.510
147	147/149	---	---	ND	---	0.510
148		---	---	ND	---	0.510
149	147/149	---	---	ND	---	0.510
150		---	---	ND	---	0.510
151	135/151	---	---	ND	---	0.521
152		---	---	ND	---	0.510
153	153/168	---	---	ND	---	0.612
154		---	---	ND	---	0.510
155		---	---	ND	---	0.510
156	156/157	---	---	ND	---	0.510
157	156/157	---	---	ND	---	0.510
158		---	---	ND	---	0.510
159		---	---	ND	---	0.510
160		---	---	ND	---	0.510
161		---	---	ND	---	0.510
162		---	---	ND	---	0.510
163	129/138/163	---	---	ND	---	0.510
164		---	---	ND	---	0.510
165		---	---	ND	---	0.510
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.510
168	153/168	---	---	ND	---	0.612

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-05
Lab Sample ID 1061177005
Filename P71107A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.510
170		---	---	ND	---	0.510
171	171/173	---	---	ND	---	0.510
172		---	---	ND	---	0.510
173	171/173	---	---	ND	---	0.510
174		---	---	ND	---	0.510
175		---	---	ND	---	0.510
176		---	---	ND	---	0.510
177		---	---	ND	---	0.510
178		---	---	ND	---	0.510
179		---	---	ND	---	0.510
180	180/193	---	---	ND	---	0.510
181		---	---	ND	---	0.510
182		---	---	ND	---	0.510
183	183/185	---	---	ND	---	0.510
184		---	---	ND	---	0.510
185	183/185	---	---	ND	---	0.510
186		---	---	ND	---	0.510
187		---	---	ND	---	0.510
188		---	---	ND	---	0.510
189		---	---	ND	---	0.510
190		---	---	ND	---	0.510
191		---	---	ND	---	0.510
192		---	---	ND	---	0.510
193	180/193	---	---	ND	---	0.510
194		---	---	ND	---	0.510
195		---	---	ND	---	0.510
196		---	---	ND	---	0.714
197	197/200	---	---	ND	---	2.55
198	198/199	---	---	ND	---	0.510
199	198/199	---	---	ND	---	0.510
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.510
202		---	---	ND	---	0.510
203		---	---	ND	---	0.510
204		---	---	ND	---	0.510
205		---	---	ND	---	0.510
206		---	---	ND	---	0.510
207		---	---	ND	---	0.510
208		---	---	ND	---	0.510
209		---	---	ND	---	0.510

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-05
Lab Sample ID	1061177005
Filename	P71107A_15

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-06		
Lab Sample ID	1061177006		
Filename	P71107A_16		
Injected By	SMT		
Total Amount Extracted	905 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 08:03

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.923	3.16	2.0	1.75	88
13C-4-MoCB	3	9.919	3.22	2.0	1.52	76
13C-2,2'-DiCB	4	10.230	1.63	2.0	1.52	76
13C-4,4'-DiCB	15	18.223	1.56	2.0	1.66	83
13C-2,2',6-TrCB	19	14.496	1.07	2.0	1.58	79
13C-3,4,4'-TrCB	37	26.748	1.04	2.0	2.01	101
13C-2,2',6,6'-TeCB	54	18.498	0.79	2.0	1.64	82
13C-3,4,4',5-TeCB	81	34.345	0.79	2.0	2.10	105
13C-3,3',4,4'-TeCB	77	34.965	0.78	2.0	2.06	103
13C-2,2',4,6,6'-PeCB	104	25.239	1.60	2.0	1.68	84
13C-2,3,3',4,4'-PeCB	105	38.738	1.60	2.0	2.17	108
13C-2,3,4,4',5-PeCB	114	38.051	1.53	2.0	2.02	101
13C-2,3',4,4',5-PeCB	118	37.497	1.62	2.0	2.29	115
13C-2,3',4,4',5'-PeCB	123	37.145	1.58	2.0	2.21	111
13C-3,3',4,4',5-PeCB	126	42.109	1.60	2.0	2.15	107
13C-2,2',4,4',6,6'-HxCB	155	31.762	1.26	2.0	1.41	70
13C-HxCB (156/157)	156/157	45.295	1.26	4.0	3.36	84
13C-2,3',4,4',5,5'-HxCB	167	44.087	1.26	2.0	1.73	86
13C-3,3',4,4',5,5'-HxCB	169	48.766	1.28	2.0	1.45	73
13C-2,2',3,4',5,6,6'-HpCB	188	38.017	1.06	2.0	2.17	108
13C-2,3,3',4,4',5,5'-HpCB	189	51.379	1.07	2.0	2.01	101
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.752	0.91	2.0	1.97	98
13C-2,3,3',4,4',5,5',6-OcCB	205	54.073	0.92	2.0	1.88	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.862	0.80	2.0	1.65	82
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.819	0.79	2.0	1.78	89
13C--DeCB	209	57.500	0.72	2.0	1.46	73
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.986	1.03	2.0	1.85	92
13C-2,3,3',5,5'-PeCB	111	35.049	1.57	2.0	1.95	97
13C-2,2',3,3',5,5',6-HpCB	178	41.321	1.07	2.0	1.44	72
Recovery Standards						
13C-2,5-DiCB	9	13.022	1.57	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.183	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.030	1.66	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.817	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.556	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-06
Lab Sample ID 1061177006
Filename P71107A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.552
2		---	---	ND	---	0.552
3		---	---	ND	---	0.552
4		---	---	ND	---	0.552
5		---	---	ND	---	0.552
6		---	---	ND	---	0.552
7		---	---	ND	---	0.552
8		---	---	ND	---	0.552
9		---	---	ND	---	0.552
10		---	---	ND	---	0.552
11		---	---	ND	---	0.663
12	12/13	---	---	ND	---	0.552
13	12/13	---	---	ND	---	0.552
14		---	---	ND	---	0.552
15		---	---	ND	---	0.552
16		---	---	ND	---	0.552
17		---	---	ND	---	0.552
18	18/30	---	---	ND	---	0.552
19		---	---	ND	---	0.552
20	20/28	---	---	ND	---	0.663
21	21/33	---	---	ND	---	0.552
22		---	---	ND	---	0.552
23		---	---	ND	---	0.552
24		---	---	ND	---	0.552
25		---	---	ND	---	0.552
26	26/29	---	---	ND	---	0.552
27		---	---	ND	---	0.552
28	20/28	---	---	ND	---	0.663
29	26/29	---	---	ND	---	0.552
30	18/30	---	---	ND	---	0.552
31		---	---	ND	---	0.552
32		---	---	ND	---	0.552
33	21/33	---	---	ND	---	0.552
34		---	---	ND	---	0.552
35		---	---	ND	---	0.552
36		---	---	ND	---	0.552
37		---	---	ND	---	0.552
38		---	---	ND	---	0.552
39		---	---	ND	---	0.552
40	40/41/71	---	---	ND	---	0.552
41	40/41/71	---	---	ND	---	0.552
42		---	---	ND	---	0.552

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Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
I = Outside QC Limits
RT = Retention Time
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Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-06
Lab Sample ID 1061177006
Filename P71107A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.552
44	44/47/65	---	---	ND	---	0.663
45	45/51	---	---	ND	---	0.552
46		---	---	ND	---	0.552
47	44/47/65	---	---	ND	---	0.663
48		---	---	ND	---	0.552
49	49/69	---	---	ND	---	0.552
50	50/53	---	---	ND	---	0.552
51	45/51	---	---	ND	---	0.552
52		---	---	ND	---	0.552
53	50/53	---	---	ND	---	0.552
54		---	---	ND	---	0.552
55		---	---	ND	---	0.552
56		---	---	ND	---	0.552
57		---	---	ND	---	0.552
58		---	---	ND	---	0.552
59	59/62/75	---	---	ND	---	0.552
60		---	---	ND	---	0.552
61	61/70/74/76	---	---	ND	---	0.552
62	59/62/75	---	---	ND	---	0.552
63		---	---	ND	---	0.552
64		---	---	ND	---	0.552
65	44/47/65	---	---	ND	---	0.663
66		---	---	ND	---	0.552
67		---	---	ND	---	0.552
68		---	---	ND	---	0.552
69	49/69	---	---	ND	---	0.552
70	61/70/74/76	---	---	ND	---	0.552
71	40/41/71	---	---	ND	---	0.552
72		---	---	ND	---	0.552
73		---	---	ND	---	0.552
74	61/70/74/76	---	---	ND	---	0.552
75	59/62/75	---	---	ND	---	0.552
76	61/70/74/76	---	---	ND	---	0.552
77		---	---	ND	---	0.552
78		---	---	ND	---	0.552
79		---	---	ND	---	0.552
80		---	---	ND	---	0.552
81		---	---	ND	---	0.552
82		---	---	ND	---	0.552
83		---	---	ND	---	0.552
84		---	---	ND	---	0.552

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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Minneapolis, MN 55414

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-06
Lab Sample ID 1061177006
Filename P71107A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.663
86	86/87/97/108/119/125	---	---	ND	---	1.10
87	86/87/97/108/119/125	---	---	ND	---	1.10
88	88/91	---	---	ND	---	0.552
89		---	---	ND	---	0.552
90	90/101/113	---	---	ND	---	0.552
91	88/91	---	---	ND	---	0.552
92		---	---	ND	---	0.552
93	93/98/100/102	---	---	ND	---	0.829
94		---	---	ND	---	0.552
95		28.710	1.58	1.31	---	0.552
96		---	---	ND	---	0.552
97	86/87/97/108/119/125	---	---	ND	---	1.10
98	93/98/100/102	---	---	ND	---	0.829
99		---	---	ND	---	0.552
100	93/98/100/102	---	---	ND	---	0.829
101	90/101/113	---	---	ND	---	0.552
102	93/98/100/102	---	---	ND	---	0.829
103		---	---	ND	---	0.552
104		---	---	ND	---	0.552
105		---	---	ND	---	0.552
106		---	---	ND	---	0.552
107	107/124	---	---	ND	---	0.552
108	86/87/97/108/119/125	---	---	ND	---	1.10
109		---	---	ND	---	0.552
110	110/115	34.210	1.58	0.876	---	0.552
111		---	---	ND	---	0.552
112		---	---	ND	---	0.552
113	90/101/113	---	---	ND	---	0.552
114		---	---	ND	---	0.552
115	110/115	34.210	1.58	(0.876)	---	0.552
116	85/116/117	---	---	ND	---	0.663
117	85/116/117	---	---	ND	---	0.663
118		---	---	ND	---	0.552
119	86/87/97/108/119/125	---	---	ND	---	1.10
120		---	---	ND	---	0.552
121		---	---	ND	---	0.552
122		---	---	ND	---	0.552
123		---	---	ND	---	0.552
124	107/124	---	---	ND	---	0.552
125	86/87/97/108/119/125	---	---	ND	---	1.10
126		---	---	ND	---	0.552

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-06
Lab Sample ID	1061177006
Filename	P71107A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.552
128	128/166	---	---	ND	---	1.10
129	129/138/163	40.868	1.27	2.48	---	0.552
130		---	---	ND	---	0.552
131		---	---	ND	---	0.552
132		37.564	1.23	1.66	---	0.552
133		---	---	ND	---	0.552
134	134/143	---	---	ND	---	0.552
135	135/151	35.250	1.28	1.01	---	0.563
136		---	---	ND	---	0.552
137		---	---	ND	---	0.552
138	129/138/163	40.868	1.27	(2.48)	---	0.552
139	139/140	---	---	ND	---	0.552
140	139/140	---	---	ND	---	0.552
141		---	---	ND	---	0.552
142		---	---	ND	---	0.552
143	134/143	---	---	ND	---	0.552
144		---	---	ND	---	0.552
145		---	---	ND	---	0.552
146		---	---	ND	---	0.552
147	147/149	36.240	1.24	2.77	---	0.552
148		---	---	ND	---	0.552
149	147/149	36.240	1.24	(2.77)	---	0.552
150		---	---	ND	---	0.552
151	135/151	35.250	1.28	(1.01)	---	0.563
152		---	---	ND	---	0.552
153	153/168	39.543	1.25	1.57	---	0.663
154		---	---	ND	---	0.552
155		---	---	ND	---	0.552
156	156/157	---	---	ND	---	0.552
157	156/157	---	---	ND	---	0.552
158		---	---	ND	---	0.552
159		---	---	ND	---	0.552
160		---	---	ND	---	0.552
161		---	---	ND	---	0.552
162		---	---	ND	---	0.552
163	129/138/163	40.868	1.27	(2.48)	---	0.552
164		---	---	ND	---	0.552
165		---	---	ND	---	0.552
166	128/166	---	---	ND	---	1.10
167		---	---	ND	---	0.552
168	153/168	39.543	1.25	(1.57)	---	0.663

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-06
Lab Sample ID	1061177006
Filename	P71107A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.552
170		---	---	ND	---	0.552
171	171/173	---	---	ND	---	0.552
172		---	---	ND	---	0.552
173	171/173	---	---	ND	---	0.552
174		---	---	ND	---	0.552
175		---	---	ND	---	0.552
176		---	---	ND	---	0.552
177		---	---	ND	---	0.552
178		---	---	ND	---	0.552
179		---	---	ND	---	0.552
180	180/193	46.787	1.06	0.956	---	0.552
181		---	---	ND	---	0.552
182		---	---	ND	---	0.552
183	183/185	---	---	ND	---	0.552
184		---	---	ND	---	0.552
185	183/185	---	---	ND	---	0.552
186		---	---	ND	---	0.552
187		---	---	ND	---	0.552
188		---	---	ND	---	0.552
189		---	---	ND	---	0.552
190		---	---	ND	---	0.552
191		---	---	ND	---	0.552
192		---	---	ND	---	0.552
193	180/193	46.787	1.06	(0.956)	---	0.552
194		---	---	ND	---	0.552
195		---	---	ND	---	0.552
196		---	---	ND	---	0.773
197	197/200	---	---	ND	---	2.76
198	198/199	---	---	ND	---	0.552
199	198/199	---	---	ND	---	0.552
200	197/200	---	---	ND	---	2.76
201		---	---	ND	---	0.552
202		---	---	ND	---	0.552
203		---	---	ND	---	0.552
204		---	---	ND	---	0.552
205		---	---	ND	---	0.552
206		---	---	ND	---	0.552
207		---	---	ND	---	0.552
208		---	---	ND	---	0.552
209		---	---	ND	---	0.552

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-06
Lab Sample ID	1061177006
Filename	P71107A_16

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	2.19
Total Hexachloro Biphenyls	9.49
Total Heptachloro Biphenyls	0.956
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	12.6

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-07		
Lab Sample ID	1061177007		
Filename	P71107A_17		
Injected By	SMT		
Total Amount Extracted	935 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/07/2007	Received	10/18/2007
CCal Filename(s)	P71107A_07	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/08/2007 09:08

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.924	2.97	2.0	1.59	79
13C-4-MoCB	3	9.919	3.23	2.0	1.69	85
13C-2,2'-DiCB	4	10.219	1.61	2.0	1.66	83
13C-4,4'-DiCB	15	18.223	1.57	2.0	1.79	89
13C-2,2',6-TrCB	19	14.497	1.04	2.0	1.68	84
13C-3,4,4'-TrCB	37	26.732	1.07	2.0	2.14	107
13C-2,2',6,6'-TeCB	54	18.499	0.80	2.0	1.75	88
13C-3,4,4',5-TeCB	81	34.345	0.80	2.0	2.07	104
13C-3,3',4,4'-TeCB	77	34.949	0.80	2.0	1.98	99
13C-2,2',4,6,6'-PeCB	104	25.240	1.60	2.0	1.71	86
13C-2,3,3',4,4'-PeCB	105	38.722	1.55	2.0	2.11	105
13C-2,3,4,4',5-PeCB	114	38.034	1.61	2.0	1.94	97
13C-2,3',4,4',5-PeCB	118	37.481	1.58	2.0	2.17	108
13C-2,3',4,4',5'-PeCB	123	37.129	1.63	2.0	2.10	105
13C-3,3',4,4',5-PeCB	126	42.075	1.57	2.0	2.23	111
13C-2,2',4,4',6,6'-HxCB	155	31.763	1.27	2.0	1.45	72
13C-HxCB (156/157)	156/157	45.262	1.24	4.0	3.74	93
13C-2,3',4,4',5,5'-HxCB	167	44.071	1.27	2.0	1.86	93
13C-3,3',4,4',5,5'-HxCB	169	48.733	1.29	2.0	1.71	85
13C-2,2',3,4',5,6,6'-HpCB	188	38.001	1.03	2.0	1.99	99
13C-2,3,3',4,4',5,5'-HpCB	189	51.358	1.06	2.0	2.08	104
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.736	0.89	2.0	1.99	99
13C-2,3,3',4,4',5,5',6-OcCB	205	54.030	0.91	2.0	1.92	96
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.819	0.79	2.0	1.68	84
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.776	0.81	2.0	1.83	92
13C--DeCB	209	57.458	0.72	2.0	1.51	76
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.987	1.04	2.0	1.90	95
13C-2,3,3',5,5'-PeCB	111	35.033	1.56	2.0	1.77	89
13C-2,2',3,3',5,5',6-HpCB	178	41.304	1.05	2.0	1.47	74
Recovery Standards						
13C-2,5-DiCB	9	13.023	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.184	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	32.031	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.801	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.513	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-07
Lab Sample ID 1061177007
Filename P71107A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.535
2		---	---	ND	---	0.535
3		---	---	ND	---	0.535
4		---	---	ND	---	0.535
5		---	---	ND	---	0.535
6		---	---	ND	---	0.535
7		---	---	ND	---	0.535
8		---	---	ND	---	0.535
9		---	---	ND	---	0.535
10		---	---	ND	---	0.535
11		---	---	ND	---	0.642
12	12/13	---	---	ND	---	0.535
13	12/13	---	---	ND	---	0.535
14		---	---	ND	---	0.535
15		---	---	ND	---	0.535
16		---	---	ND	---	0.535
17		---	---	ND	---	0.535
18	18/30	---	---	ND	---	0.535
19		---	---	ND	---	0.535
20	20/28	---	---	ND	---	0.642
21	21/33	---	---	ND	---	0.535
22		---	---	ND	---	0.535
23		---	---	ND	---	0.535
24		---	---	ND	---	0.535
25		---	---	ND	---	0.535
26	26/29	---	---	ND	---	0.535
27		---	---	ND	---	0.535
28	20/28	---	---	ND	---	0.642
29	26/29	---	---	ND	---	0.535
30	18/30	---	---	ND	---	0.535
31		---	---	ND	---	0.535
32		---	---	ND	---	0.535
33	21/33	---	---	ND	---	0.535
34		---	---	ND	---	0.535
35		---	---	ND	---	0.535
36		---	---	ND	---	0.535
37		---	---	ND	---	0.535
38		---	---	ND	---	0.535
39		---	---	ND	---	0.535
40	40/41/71	---	---	ND	---	0.535
41	40/41/71	---	---	ND	---	0.535
42		---	---	ND	---	0.535

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Client Sample ID PQJ0645-07
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.535
44	44/47/65	---	---	ND	---	0.642
45	45/51	---	---	ND	---	0.535
46		---	---	ND	---	0.535
47	44/47/65	---	---	ND	---	0.642
48		---	---	ND	---	0.535
49	49/69	---	---	ND	---	0.535
50	50/53	---	---	ND	---	0.535
51	45/51	---	---	ND	---	0.535
52		---	---	ND	---	0.535
53	50/53	---	---	ND	---	0.535
54		---	---	ND	---	0.535
55		---	---	ND	---	0.535
56		---	---	ND	---	0.535
57		---	---	ND	---	0.535
58		---	---	ND	---	0.535
59	59/62/75	---	---	ND	---	0.535
60		---	---	ND	---	0.535
61	61/70/74/76	---	---	ND	---	0.535
62	59/62/75	---	---	ND	---	0.535
63		---	---	ND	---	0.535
64		---	---	ND	---	0.535
65	44/47/65	---	---	ND	---	0.642
66		---	---	ND	---	0.535
67		---	---	ND	---	0.535
68		---	---	ND	---	0.535
69	49/69	---	---	ND	---	0.535
70	61/70/74/76	---	---	ND	---	0.535
71	40/41/71	---	---	ND	---	0.535
72		---	---	ND	---	0.535
73		---	---	ND	---	0.535
74	61/70/74/76	---	---	ND	---	0.535
75	59/62/75	---	---	ND	---	0.535
76	61/70/74/76	---	---	ND	---	0.535
77		---	---	ND	---	0.535
78		---	---	ND	---	0.535
79		---	---	ND	---	0.535
80		---	---	ND	---	0.535
81		---	---	ND	---	0.535
82		---	---	ND	---	0.535
83		---	---	ND	---	0.535
84		---	---	ND	---	0.535

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Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-07
Lab Sample ID 1061177007
Filename P71107A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.642
86	86/87/97/108/119/125	---	---	ND	---	1.07
87	86/87/97/108/119/125	---	---	ND	---	1.07
88	88/91	---	---	ND	---	0.535
89		---	---	ND	---	0.535
90	90/101/113	---	---	ND	---	0.535
91	88/91	---	---	ND	---	0.535
92		---	---	ND	---	0.535
93	93/98/100/102	---	---	ND	---	0.802
94		---	---	ND	---	0.535
95		---	---	ND	---	0.535
96		---	---	ND	---	0.535
97	86/87/97/108/119/125	---	---	ND	---	1.07
98	93/98/100/102	---	---	ND	---	0.802
99		---	---	ND	---	0.535
100	93/98/100/102	---	---	ND	---	0.802
101	90/101/113	---	---	ND	---	0.535
102	93/98/100/102	---	---	ND	---	0.802
103		---	---	ND	---	0.535
104		---	---	ND	---	0.535
105		---	---	ND	---	0.535
106		---	---	ND	---	0.535
107	107/124	---	---	ND	---	0.535
108	86/87/97/108/119/125	---	---	ND	---	1.07
109		---	---	ND	---	0.535
110	110/115	---	---	ND	---	0.535
111		---	---	ND	---	0.535
112		---	---	ND	---	0.535
113	90/101/113	---	---	ND	---	0.535
114		---	---	ND	---	0.535
115	110/115	---	---	ND	---	0.535
116	85/116/117	---	---	ND	---	0.642
117	85/116/117	---	---	ND	---	0.642
118		---	---	ND	---	0.535
119	86/87/97/108/119/125	---	---	ND	---	1.07
120		---	---	ND	---	0.535
121		---	---	ND	---	0.535
122		---	---	ND	---	0.535
123		---	---	ND	---	0.535
124	107/124	---	---	ND	---	0.535
125	86/87/97/108/119/125	---	---	ND	---	1.07
126		---	---	ND	---	0.535

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-07
Lab Sample ID	1061177007
Filename	P71107A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.535
128	128/166	---	---	ND	---	1.07
129	129/138/163	40.835	1.27	1.04	---	0.535
130		---	---	ND	---	0.535
131		---	---	ND	---	0.535
132		---	---	ND	---	0.535
133		---	---	ND	---	0.535
134	134/143	---	---	ND	---	0.535
135	135/151	---	---	ND	---	0.546
136		---	---	ND	---	0.535
137		---	---	ND	---	0.535
138	129/138/163	40.835	1.27	(1.04)	---	0.535
139	139/140	---	---	ND	---	0.535
140	139/140	---	---	ND	---	0.535
141		---	---	ND	---	0.535
142		---	---	ND	---	0.535
143	134/143	---	---	ND	---	0.535
144		---	---	ND	---	0.535
145		---	---	ND	---	0.535
146		---	---	ND	---	0.535
147	147/149	36.223	1.23	0.550	---	0.535
148		---	---	ND	---	0.535
149	147/149	36.223	1.23	(0.550)	---	0.535
150		---	---	ND	---	0.535
151	135/151	---	---	ND	---	0.546
152		---	---	ND	---	0.535
153	153/168	39.527	1.22	0.760	---	0.642
154		---	---	ND	---	0.535
155		---	---	ND	---	0.535
156	156/157	---	---	ND	---	0.535
157	156/157	---	---	ND	---	0.535
158		---	---	ND	---	0.535
159		---	---	ND	---	0.535
160		---	---	ND	---	0.535
161		---	---	ND	---	0.535
162		---	---	ND	---	0.535
163	129/138/163	40.835	1.27	(1.04)	---	0.535
164		---	---	ND	---	0.535
165		---	---	ND	---	0.535
166	128/166	---	---	ND	---	1.07
167		---	---	ND	---	0.535
168	153/168	39.527	1.22	(0.760)	---	0.642

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-07
Lab Sample ID 1061177007
Filename P71107A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.535
170		---	---	ND	---	0.535
171	171/173	---	---	ND	---	0.535
172		---	---	ND	---	0.535
173	171/173	---	---	ND	---	0.535
174		---	---	ND	---	0.535
175		---	---	ND	---	0.535
176		---	---	ND	---	0.535
177		---	---	ND	---	0.535
178		---	---	ND	---	0.535
179		---	---	ND	---	0.535
180	180/193	46.754	1.02	0.863	---	0.535
181		---	---	ND	---	0.535
182		---	---	ND	---	0.535
183	183/185	---	---	ND	---	0.535
184		---	---	ND	---	0.535
185	183/185	---	---	ND	---	0.535
186		---	---	ND	---	0.535
187		---	---	ND	---	0.535
188		---	---	ND	---	0.535
189		---	---	ND	---	0.535
190		---	---	ND	---	0.535
191		---	---	ND	---	0.535
192		---	---	ND	---	0.535
193	180/193	46.754	1.02	(0.863)	---	0.535
194		---	---	ND	---	0.535
195		---	---	ND	---	0.535
196		---	---	ND	---	0.749
197	197/200	---	---	ND	---	2.67
198	198/199	---	---	ND	---	0.535
199	198/199	---	---	ND	---	0.535
200	197/200	---	---	ND	---	2.67
201		---	---	ND	---	0.535
202		---	---	ND	---	0.535
203		---	---	ND	---	0.535
204		---	---	ND	---	0.535
205		---	---	ND	---	0.535
206		---	---	ND	---	0.535
207		---	---	ND	---	0.535
208		---	---	ND	---	0.535
209		---	---	ND	---	0.535

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-07
Lab Sample ID	1061177007
Filename	P71107A_17

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	2.35
Total Heptachloro Biphenyls	0.863
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	3.21

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-08		
Lab Sample ID	1061177008		
Filename	P71109A_07		
Injected By	SMT		
Total Amount Extracted	954 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/09/2007 19:04

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.899	3.10	2.0	1.13	56
13C-4-MoCB	3	9.883	3.26	2.0	1.09	54
13C-2,2'-DiCB	4	10.182	1.58	2.0	1.56	78
13C-4,4'-DiCB	15	18.174	1.52	2.0	1.27	63
13C-2,2',6-TrCB	19	14.436	1.06	2.0	1.40	70
13C-3,4,4'-TrCB	37	26.680	1.07	2.0	1.34	67
13C-2,2',6,6'-TeCB	54	18.430	0.80	2.0	1.24	62
13C-3,4,4',5-TeCB	81	34.276	0.78	2.0	1.51	75
13C-3,3',4,4'-TeCB	77	34.896	0.79	2.0	1.42	71
13C-2,2',4,6,6'-PeCB	104	25.171	1.58	2.0	1.62	81
13C-2,3,3',4,4'-PeCB	105	38.652	1.61	2.0	1.46	73
13C-2,3,4,4',5-PeCB	114	37.948	1.55	2.0	1.40	70
13C-2,3',4,4',5-PeCB	118	37.411	1.59	2.0	1.53	76
13C-2,3',4,4',5'-PeCB	123	37.059	1.59	2.0	1.44	72
13C-3,3',4,4',5-PeCB	126	42.005	1.53	2.0	1.51	75
13C-2,2',4,4',6,6'-HxCB	155	31.677	1.28	2.0	1.46	73
13C-HxCB (156/157)	156/157	45.174	1.27	4.0	2.76	69
13C-2,3',4,4',5,5'-HxCB	167	43.967	1.27	2.0	1.34	67
13C-3,3',4,4',5,5'-HxCB	169	48.628	1.28	2.0	1.25	63
13C-2,2',3,4',5,6,6'-HpCB	188	37.931	1.06	2.0	2.02	101
13C-2,3,3',4,4',5,5'-HpCB	189	51.246	1.05	2.0	1.62	81
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.648	0.88	2.0	1.86	93
13C-2,3,3',4,4',5,5',6-OcCB	205	53.919	0.91	2.0	1.65	82
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.707	0.78	2.0	1.69	85
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.686	0.79	2.0	1.70	85
13C--DeCB	209	57.345	0.71	2.0	1.91	96
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.935	1.03	2.0	1.22	61
13C-2,3,3',5,5'-PeCB	111	34.963	1.58	2.0	1.52	76
13C-2,2',3,3',5,5',6-HpCB	178	41.217	1.04	2.0	1.41	70
Recovery Standards						
13C-2,5-DiCB	9	12.974	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.115	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.962	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.714	1.24	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.423	0.91	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-08
Lab Sample ID 1061177008
Filename P71109A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.524
2		---	---	ND	---	0.524
3		---	---	ND	---	0.524
4		---	---	ND	---	0.524
5		---	---	ND	---	0.524
6		---	---	ND	---	0.524
7		---	---	ND	---	0.524
8		---	---	ND	---	0.524
9		---	---	ND	---	0.524
10		---	---	ND	---	0.524
11		---	---	ND	---	0.629
12	12/13	---	---	ND	---	0.524
13	12/13	---	---	ND	---	0.524
14		---	---	ND	---	0.524
15		---	---	ND	---	0.524
16		---	---	ND	---	0.524
17		---	---	ND	---	0.524
18	18/30	---	---	ND	---	0.524
19		---	---	ND	---	0.524
20	20/28	---	---	ND	---	0.629
21	21/33	---	---	ND	---	0.524
22		---	---	ND	---	0.524
23		---	---	ND	---	0.524
24		---	---	ND	---	0.524
25		---	---	ND	---	0.524
26	26/29	---	---	ND	---	0.524
27		---	---	ND	---	0.524
28	20/28	---	---	ND	---	0.629
29	26/29	---	---	ND	---	0.524
30	18/30	---	---	ND	---	0.524
31		---	---	ND	---	0.524
32		---	---	ND	---	0.524
33	21/33	---	---	ND	---	0.524
34		---	---	ND	---	0.524
35		---	---	ND	---	0.524
36		---	---	ND	---	0.524
37		---	---	ND	---	0.524
38		---	---	ND	---	0.524
39		---	---	ND	---	0.524
40	40/41/71	---	---	ND	---	0.524
41	40/41/71	---	---	ND	---	0.524
42		---	---	ND	---	0.524

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-08
Lab Sample ID 1061177008
Filename P71109A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.524
44	44/47/65	---	---	ND	---	0.629
45	45/51	---	---	ND	---	0.524
46		---	---	ND	---	0.524
47	44/47/65	---	---	ND	---	0.629
48		---	---	ND	---	0.524
49	49/69	---	---	ND	---	0.524
50	50/53	---	---	ND	---	0.524
51	45/51	---	---	ND	---	0.524
52		---	---	ND	---	0.524
53	50/53	---	---	ND	---	0.524
54		---	---	ND	---	0.524
55		---	---	ND	---	0.524
56		---	---	ND	---	0.524
57		---	---	ND	---	0.524
58		---	---	ND	---	0.524
59	59/62/75	---	---	ND	---	0.524
60		---	---	ND	---	0.524
61	61/70/74/76	---	---	ND	---	0.524
62	59/62/75	---	---	ND	---	0.524
63		---	---	ND	---	0.524
64		---	---	ND	---	0.524
65	44/47/65	---	---	ND	---	0.629
66		---	---	ND	---	0.524
67		---	---	ND	---	0.524
68		---	---	ND	---	0.524
69	49/69	---	---	ND	---	0.524
70	61/70/74/76	---	---	ND	---	0.524
71	40/41/71	---	---	ND	---	0.524
72		---	---	ND	---	0.524
73		---	---	ND	---	0.524
74	61/70/74/76	---	---	ND	---	0.524
75	59/62/75	---	---	ND	---	0.524
76	61/70/74/76	---	---	ND	---	0.524
77		---	---	ND	---	0.524
78		---	---	ND	---	0.524
79		---	---	ND	---	0.524
80		---	---	ND	---	0.524
81		---	---	ND	---	0.524
82		---	---	ND	---	0.524
83		---	---	ND	---	0.524
84		---	---	ND	---	0.524

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-08
Lab Sample ID 1061177008
Filename P71109A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.629
86	86/87/97/108/119/125	---	---	ND	---	1.05
87	86/87/97/108/119/125	---	---	ND	---	1.05
88	88/91	---	---	ND	---	0.524
89		---	---	ND	---	0.524
90	90/101/113	---	---	ND	---	0.524
91	88/91	---	---	ND	---	0.524
92		---	---	ND	---	0.524
93	93/98/100/102	---	---	ND	---	0.786
94		---	---	ND	---	0.524
95		---	---	ND	---	0.524
96		---	---	ND	---	0.524
97	86/87/97/108/119/125	---	---	ND	---	1.05
98	93/98/100/102	---	---	ND	---	0.786
99		---	---	ND	---	0.524
100	93/98/100/102	---	---	ND	---	0.786
101	90/101/113	---	---	ND	---	0.524
102	93/98/100/102	---	---	ND	---	0.786
103		---	---	ND	---	0.524
104		---	---	ND	---	0.524
105		---	---	ND	---	0.524
106		---	---	ND	---	0.524
107	107/124	---	---	ND	---	0.524
108	86/87/97/108/119/125	---	---	ND	---	1.05
109		---	---	ND	---	0.524
110	110/115	---	---	ND	---	0.524
111		---	---	ND	---	0.524
112		---	---	ND	---	0.524
113	90/101/113	---	---	ND	---	0.524
114		---	---	ND	---	0.524
115	110/115	---	---	ND	---	0.524
116	85/116/117	---	---	ND	---	0.629
117	85/116/117	---	---	ND	---	0.629
118		---	---	ND	---	0.524
119	86/87/97/108/119/125	---	---	ND	---	1.05
120		---	---	ND	---	0.524
121		---	---	ND	---	0.524
122		---	---	ND	---	0.524
123		---	---	ND	---	0.524
124	107/124	---	---	ND	---	0.524
125	86/87/97/108/119/125	---	---	ND	---	1.05
126		---	---	ND	---	0.524

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-08
Lab Sample ID 1061177008
Filename P71109A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.524
128	128/166	---	---	ND	---	1.05
129	129/138/163	---	---	ND	---	0.524
130		---	---	ND	---	0.524
131		---	---	ND	---	0.524
132		---	---	ND	---	0.524
133		---	---	ND	---	0.524
134	134/143	---	---	ND	---	0.524
135	135/151	---	---	ND	---	0.535
136		---	---	ND	---	0.524
137		---	---	ND	---	0.524
138	129/138/163	---	---	ND	---	0.524
139	139/140	---	---	ND	---	0.524
140	139/140	---	---	ND	---	0.524
141		---	---	ND	---	0.524
142		---	---	ND	---	0.524
143	134/143	---	---	ND	---	0.524
144		---	---	ND	---	0.524
145		---	---	ND	---	0.524
146		---	---	ND	---	0.524
147	147/149	---	---	ND	---	0.524
148		---	---	ND	---	0.524
149	147/149	---	---	ND	---	0.524
150		---	---	ND	---	0.524
151	135/151	---	---	ND	---	0.535
152		---	---	ND	---	0.524
153	153/168	---	---	ND	---	0.629
154		---	---	ND	---	0.524
155		---	---	ND	---	0.524
156	156/157	---	---	ND	---	0.524
157	156/157	---	---	ND	---	0.524
158		---	---	ND	---	0.524
159		---	---	ND	---	0.524
160		---	---	ND	---	0.524
161		---	---	ND	---	0.524
162		---	---	ND	---	0.524
163	129/138/163	---	---	ND	---	0.524
164		---	---	ND	---	0.524
165		---	---	ND	---	0.524
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.524
168	153/168	---	---	ND	---	0.629

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-08
Lab Sample ID 1061177008
Filename P71109A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.524
170		---	---	ND	---	0.524
171	171/173	---	---	ND	---	0.524
172		---	---	ND	---	0.524
173	171/173	---	---	ND	---	0.524
174		---	---	ND	---	0.524
175		---	---	ND	---	0.524
176		---	---	ND	---	0.524
177		---	---	ND	---	0.524
178		---	---	ND	---	0.524
179		---	---	ND	---	0.524
180	180/193	---	---	ND	---	0.524
181		---	---	ND	---	0.524
182		---	---	ND	---	0.524
183	183/185	---	---	ND	---	0.524
184		---	---	ND	---	0.524
185	183/185	---	---	ND	---	0.524
186		---	---	ND	---	0.524
187		---	---	ND	---	0.524
188		---	---	ND	---	0.524
189		---	---	ND	---	0.524
190		---	---	ND	---	0.524
191		---	---	ND	---	0.524
192		---	---	ND	---	0.524
193	180/193	---	---	ND	---	0.524
194		---	---	ND	---	0.524
195		---	---	ND	---	0.524
196		---	---	ND	---	0.734
197	197/200	---	---	ND	---	2.62
198	198/199	---	---	ND	---	0.524
199	198/199	---	---	ND	---	0.524
200	197/200	---	---	ND	---	2.62
201		---	---	ND	---	0.524
202		---	---	ND	---	0.524
203		---	---	ND	---	0.524
204		---	---	ND	---	0.524
205		---	---	ND	---	0.524
206		---	---	ND	---	0.524
207		---	---	ND	---	0.524
208		---	---	ND	---	0.524
209		---	---	ND	---	0.524

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-08
Lab Sample ID	1061177008
Filename	P71109A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-09		
Lab Sample ID	1061177009		
Filename	P71109A_08		
Injected By	SMT		
Total Amount Extracted	926 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/09/2007 20:08

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.876	3.03	2.0	1.37	69
13C-4-MoCB	3	9.871	3.18	2.0	1.40	70
13C-2,2'-DiCB	4	10.171	1.58	2.0	1.98	99
13C-4,4'-DiCB	15	18.163	1.57	2.0	1.70	85
13C-2,2',6-TrCB	19	14.437	1.05	2.0	1.76	88
13C-3,4,4'-TrCB	37	26.683	1.04	2.0	1.56	78
13C-2,2',6,6'-TeCB	54	18.432	0.80	2.0	1.48	74
13C-3,4,4',5-TeCB	81	34.281	0.77	2.0	1.52	76
13C-3,3',4,4'-TeCB	77	34.901	0.77	2.0	1.43	72
13C-2,2',4,6,6'-PeCB	104	25.174	1.57	2.0	2.01	100
13C-2,3,3',4,4'-PeCB	105	38.675	1.57	2.0	1.42	71
13C-2,3,4,4',5-PeCB	114	37.987	1.54	2.0	1.37	69
13C-2,3',4,4',5-PeCB	118	37.434	1.55	2.0	1.50	75
13C-2,3',4,4',5'-PeCB	123	37.081	1.54	2.0	1.44	72
13C-3,3',4,4',5-PeCB	126	42.029	1.56	2.0	1.42	71
13C-2,2',4,4',6,6'-HxCB	155	31.698	1.27	2.0	1.77	88
13C-HxCB (156/157)	156/157	45.215	1.24	4.0	2.56	64
13C-2,3',4,4',5,5'-HxCB	167	44.024	1.23	2.0	1.26	63
13C-3,3',4,4',5,5'-HxCB	169	48.686	1.28	2.0	1.15	57
13C-2,2',3,4',5,6,6'-HpCB	188	37.953	1.05	2.0	2.45	123
13C-2,3,3',4,4',5,5'-HpCB	189	51.319	1.03	2.0	1.50	75
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.689	0.91	2.0	2.14	107
13C-2,3,3',4,4',5,5',6-OcCB	205	53.992	0.89	2.0	1.74	87
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.781	0.79	2.0	1.91	95
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.737	0.80	2.0	1.93	97
13C--DeCB	209	57.420	0.71	2.0	2.06	103
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.920	1.05	2.0	1.68	84
13C-2,3,3',5,5'-PeCB	111	34.968	1.56	2.0	1.90	95
13C-2,2',3,3',5,5',6-HpCB	178	41.257	1.04	2.0	1.83	91
Recovery Standards						
13C-2,5-DiCB	9	12.963	1.55	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.117	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.966	1.56	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.754	1.26	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.496	0.89	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-09
Lab Sample ID 1061177009
Filename P71109A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.540
2		---	---	ND	---	0.540
3		---	---	ND	---	0.540
4		---	---	ND	---	0.540
5		---	---	ND	---	0.540
6		---	---	ND	---	0.540
7		---	---	ND	---	0.540
8		---	---	ND	---	0.540
9		---	---	ND	---	0.540
10		---	---	ND	---	0.540
11		---	---	ND	---	0.648
12	12/13	---	---	ND	---	0.540
13	12/13	---	---	ND	---	0.540
14		---	---	ND	---	0.540
15		---	---	ND	---	0.540
16		---	---	ND	---	0.540
17		---	---	ND	---	0.540
18	18/30	16.965	1.02	0.586	---	0.540
19		---	---	ND	---	0.540
20	20/28	21.954	1.05	1.11	---	0.648
21	21/33	22.222	1.05	0.632	---	0.540
22		---	---	ND	---	0.540
23		---	---	ND	---	0.540
24		---	---	ND	---	0.540
25		---	---	ND	---	0.540
26	26/29	---	---	ND	---	0.540
27		---	---	ND	---	0.540
28	20/28	21.954	1.05	(1.11)	---	0.648
29	26/29	---	---	ND	---	0.540
30	18/30	16.965	1.02	(0.586)	---	0.540
31		21.601	1.04	0.795	---	0.540
32		---	---	ND	---	0.540
33	21/33	22.222	1.05	(0.632)	---	0.540
34		---	---	ND	---	0.540
35		---	---	ND	---	0.540
36		---	---	ND	---	0.540
37		---	---	ND	---	0.540
38		---	---	ND	---	0.540
39		---	---	ND	---	0.540
40	40/41/71	26.432	0.81	0.573	---	0.540
41	40/41/71	26.432	0.81	(0.573)	---	0.540
42		---	---	ND	---	0.540

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-09
Lab Sample ID 1061177009
Filename P71109A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.540
44	44/47/65	25.291	0.76	0.743	---	0.648
45	45/51	---	---	ND	---	0.540
46		---	---	ND	---	0.540
47	44/47/65	25.291	0.76	(0.743)	---	0.648
48		---	---	ND	---	0.540
49	49/69	---	---	ND	---	0.540
50	50/53	---	---	ND	---	0.540
51	45/51	---	---	ND	---	0.540
52		24.151	0.78	0.865	---	0.540
53	50/53	---	---	ND	---	0.540
54		---	---	ND	---	0.540
55		---	---	ND	---	0.540
56		---	---	ND	---	0.540
57		---	---	ND	---	0.540
58		---	---	ND	---	0.540
59	59/62/75	---	---	ND	---	0.540
60		---	---	ND	---	0.540
61	61/70/74/76	29.685	0.79	1.28	---	0.540
62	59/62/75	---	---	ND	---	0.540
63		---	---	ND	---	0.540
64		---	---	ND	---	0.540
65	44/47/65	25.291	0.76	(0.743)	---	0.648
66		30.037	0.77	0.650	---	0.540
67		---	---	ND	---	0.540
68		---	---	ND	---	0.540
69	49/69	---	---	ND	---	0.540
70	61/70/74/76	29.685	0.79	(1.28)	---	0.540
71	40/41/71	26.432	0.81	(0.573)	---	0.540
72		---	---	ND	---	0.540
73		---	---	ND	---	0.540
74	61/70/74/76	29.685	0.79	(1.28)	---	0.540
75	59/62/75	---	---	ND	---	0.540
76	61/70/74/76	29.685	0.79	(1.28)	---	0.540
77		---	---	ND	---	0.540
78		---	---	ND	---	0.540
79		---	---	ND	---	0.540
80		---	---	ND	---	0.540
81		---	---	ND	---	0.540
82		---	---	ND	---	0.540
83		---	---	ND	---	0.540
84		---	---	ND	---	0.540

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQJ0645-09
Lab Sample ID 1061177009
Filename P71109A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.648
86	86/87/97/108/119/125	---	---	ND	---	1.08
87	86/87/97/108/119/125	---	---	ND	---	1.08
88	88/91	---	---	ND	---	0.540
89		---	---	ND	---	0.540
90	90/101/113	32.000	1.55	1.51	---	0.540
91	88/91	---	---	ND	---	0.540
92		---	---	ND	---	0.540
93	93/98/100/102	---	---	ND	---	0.810
94		---	---	ND	---	0.540
95		28.645	1.55	1.10	---	0.540
96		---	---	ND	---	0.540
97	86/87/97/108/119/125	---	---	ND	---	1.08
98	93/98/100/102	---	---	ND	---	0.810
99		---	---	ND	---	0.540
100	93/98/100/102	---	---	ND	---	0.810
101	90/101/113	32.000	1.55	(1.51)	---	0.540
102	93/98/100/102	---	---	ND	---	0.810
103		---	---	ND	---	0.540
104		---	---	ND	---	0.540
105		---	---	ND	---	0.540
106		---	---	ND	---	0.540
107	107/124	---	---	ND	---	0.540
108	86/87/97/108/119/125	---	---	ND	---	1.08
109		---	---	ND	---	0.540
110	110/115	34.146	1.57	1.97	---	0.540
111		---	---	ND	---	0.540
112		---	---	ND	---	0.540
113	90/101/113	32.000	1.55	(1.51)	---	0.540
114		---	---	ND	---	0.540
115	110/115	34.146	1.57	(1.97)	---	0.540
116	85/116/117	---	---	ND	---	0.648
117	85/116/117	---	---	ND	---	0.648
118		37.450	1.56	1.16	---	0.540
119	86/87/97/108/119/125	---	---	ND	---	1.08
120		---	---	ND	---	0.540
121		---	---	ND	---	0.540
122		---	---	ND	---	0.540
123		---	---	ND	---	0.540
124	107/124	---	---	ND	---	0.540
125	86/87/97/108/119/125	---	---	ND	---	1.08
126		---	---	ND	---	0.540

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Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-09
Lab Sample ID	1061177009
Filename	P71109A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.540
128	128/166	---	---	ND	---	1.08
129	129/138/163	40.788	1.23	5.23	---	0.540
130		---	---	ND	---	0.540
131		---	---	ND	---	0.540
132		37.501	1.25	1.50	---	0.540
133		---	---	ND	---	0.540
134	134/143	---	---	ND	---	0.540
135	135/151	35.169	1.25	1.50	---	0.551
136		---	---	ND	---	0.540
137		---	---	ND	---	0.540
138	129/138/163	40.788	1.23	(5.23)	---	0.540
139	139/140	---	---	ND	---	0.540
140	139/140	---	---	ND	---	0.540
141		39.664	1.13	1.05	---	0.540
142		---	---	ND	---	0.540
143	134/143	---	---	ND	---	0.540
144		---	---	ND	---	0.540
145		---	---	ND	---	0.540
146		38.825	1.23	0.631	---	0.540
147	147/149	36.176	1.24	3.74	---	0.540
148		---	---	ND	---	0.540
149	147/149	36.176	1.24	(3.74)	---	0.540
150		---	---	ND	---	0.540
151	135/151	35.169	1.25	(1.50)	---	0.551
152		---	---	ND	---	0.540
153	153/168	39.479	1.25	4.60	---	0.648
154		---	---	ND	---	0.540
155		---	---	ND	---	0.540
156	156/157	---	---	ND	---	0.540
157	156/157	---	---	ND	---	0.540
158		---	---	ND	---	0.540
159		---	---	ND	---	0.540
160		---	---	ND	---	0.540
161		---	---	ND	---	0.540
162		---	---	ND	---	0.540
163	129/138/163	40.788	1.23	(5.23)	---	0.540
164		---	---	ND	---	0.540
165		---	---	ND	---	0.540
166	128/166	---	---	ND	---	1.08
167		---	---	ND	---	0.540
168	153/168	39.479	1.25	(4.60)	---	0.648

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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P = Recovery outside of Method 1668A control limits
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! = Outside QC Limits
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-09
Lab Sample ID 1061177009
Filename P71109A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.540
170		48.016	1.05	2.11	---	0.540
171	171/173	44.242	1.03	0.608	---	0.540
172		---	---	ND	---	0.540
173	171/173	44.242	1.03	(0.608)	---	0.540
174		43.119	1.04	1.80	---	0.540
175		---	---	ND	---	0.540
176		---	---	ND	---	0.540
177		43.588	1.02	1.04	---	0.540
178		---	---	ND	---	0.540
179		38.306	1.03	0.580	---	0.540
180	180/193	46.708	1.03	4.23	---	0.540
181		---	---	ND	---	0.540
182		---	---	ND	---	0.540
183	183/185	42.901	1.01	1.30	---	0.540
184		---	---	ND	---	0.540
185	183/185	42.901	1.01	(1.30)	---	0.540
186		---	---	ND	---	0.540
187		42.247	1.04	1.97	---	0.540
188		---	---	ND	---	0.540
189		---	---	ND	---	0.540
190		---	---	ND	---	0.540
191		---	---	ND	---	0.540
192		---	---	ND	---	0.540
193	180/193	46.708	1.03	(4.23)	---	0.540
194		53.518	0.88	0.582	---	0.540
195		---	---	ND	---	0.540
196		---	---	ND	---	0.756
197	197/200	---	---	ND	---	2.70
198	198/199	48.753	0.90	0.680	---	0.540
199	198/199	48.753	0.90	(0.680)	---	0.540
200	197/200	---	---	ND	---	2.70
201		---	---	ND	---	0.540
202		---	---	ND	---	0.540
203		---	---	ND	---	0.540
204		---	---	ND	---	0.540
205		---	---	ND	---	0.540
206		---	---	ND	---	0.540
207		---	---	ND	---	0.540
208		---	---	ND	---	0.540
209		---	---	ND	---	0.540

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-09
Lab Sample ID	1061177009
Filename	P71109A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.12
Total Tetrachloro Biphenyls	4.11
Total Pentachloro Biphenyls	5.73
Total Hexachloro Biphenyls	18.3
Total Heptachloro Biphenyls	13.6
Total Octachloro Biphenyls	1.26
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	46.1

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-10		
Lab Sample ID	1061177010		
Filename	P71109A_09		
Injected By	SMT		
Total Amount Extracted	946 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/09/2007 21:13

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.900	3.07	2.0	1.54	77
13C-4-MoCB	3	9.895	3.06	2.0	1.48	74
13C-2,2'-DiCB	4	10.182	1.60	2.0	2.01	100
13C-4,4'-DiCB	15	18.186	1.53	2.0	1.51	75
13C-2,2',6-TrCB	19	14.448	1.05	2.0	1.68	84
13C-3,4,4'-TrCB	37	26.697	1.05	2.0	1.63	81
13C-2,2',6,6'-TeCB	54	18.447	0.79	2.0	1.46	73
13C-3,4,4',5-TeCB	81	34.293	0.79	2.0	1.81	91
13C-3,3',4,4'-TeCB	77	34.897	0.79	2.0	1.70	85
13C-2,2',4,6,6'-PeCB	104	25.188	1.58	2.0	1.68	84
13C-2,3,3',4,4'-PeCB	105	38.670	1.59	2.0	1.51	75
13C-2,3,4,4',5-PeCB	114	37.982	1.54	2.0	1.46	73
13C-2,3',4,4',5-PeCB	118	37.429	1.62	2.0	1.62	81
13C-2,3',4,4',5'-PeCB	123	37.077	1.55	2.0	1.56	78
13C-3,3',4,4',5-PeCB	126	42.024	1.56	2.0	1.47	73
13C-2,2',4,4',6,6'-HxCB	155	31.694	1.28	2.0	1.76	88
13C-HxCB (156/157)	156/157	45.193	1.27	4.0	2.66	67
13C-2,3',4,4',5,5'-HxCB	167	44.002	1.25	2.0	1.32	66
13C-3,3',4,4',5,5'-HxCB	169	48.647	1.23	2.0	1.15	57
13C-2,2',3,4',5,6,6'-HpCB	188	37.949	1.06	2.0	2.46	123
13C-2,3,3',4,4',5,5'-HpCB	189	51.270	1.04	2.0	1.50	75
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.667	0.91	2.0	2.13	107
13C-2,3,3',4,4',5,5',6-OcCB	205	53.942	0.88	2.0	1.78	89
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.731	0.77	2.0	1.97	99
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.710	0.78	2.0	1.95	98
13C--DeCB	209	57.369	0.71	2.0	2.28	114
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.952	1.02	2.0	1.48	74
13C-2,3,3',5,5'-PeCB	111	34.981	1.55	2.0	1.66	83
13C-2,2',3,3',5,5',6-HpCB	178	41.236	1.05	2.0	1.65	82
Recovery Standards						
13C-2,5-DiCB	9	12.986	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.131	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.979	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.749	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.447	0.91	2.0	NA	NA

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-10
Lab Sample ID 1061177010
Filename P71109A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.528
2		---	---	ND	---	0.528
3		---	---	ND	---	0.528
4		---	---	ND	---	0.528
5		---	---	ND	---	0.528
6		---	---	ND	---	0.528
7		---	---	ND	---	0.528
8		---	---	ND	---	0.528
9		---	---	ND	---	0.528
10		---	---	ND	---	0.528
11		---	---	ND	---	0.634
12	12/13	---	---	ND	---	0.528
13	12/13	---	---	ND	---	0.528
14		---	---	ND	---	0.528
15		---	---	ND	---	0.528
16		---	---	ND	---	0.528
17		---	---	ND	---	0.528
18	18/30	---	---	ND	---	0.528
19		---	---	ND	---	0.528
20	20/28	---	---	ND	---	0.634
21	21/33	---	---	ND	---	0.528
22		---	---	ND	---	0.528
23		---	---	ND	---	0.528
24		---	---	ND	---	0.528
25		---	---	ND	---	0.528
26	26/29	---	---	ND	---	0.528
27		---	---	ND	---	0.528
28	20/28	---	---	ND	---	0.634
29	26/29	---	---	ND	---	0.528
30	18/30	---	---	ND	---	0.528
31		---	---	ND	---	0.528
32		---	---	ND	---	0.528
33	21/33	---	---	ND	---	0.528
34		---	---	ND	---	0.528
35		---	---	ND	---	0.528
36		---	---	ND	---	0.528
37		---	---	ND	---	0.528
38		---	---	ND	---	0.528
39		---	---	ND	---	0.528
40	40/41/71	---	---	ND	---	0.528
41	40/41/71	---	---	ND	---	0.528
42		---	---	ND	---	0.528

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Lab Sample ID	1061177010
Filename	P71109A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.528
44	44/47/65	---	---	ND	---	0.634
45	45/51	---	---	ND	---	0.528
46		---	---	ND	---	0.528
47	44/47/65	---	---	ND	---	0.634
48		---	---	ND	---	0.528
49	49/69	---	---	ND	---	0.528
50	50/53	---	---	ND	---	0.528
51	45/51	---	---	ND	---	0.528
52		---	---	ND	---	0.528
53	50/53	---	---	ND	---	0.528
54		---	---	ND	---	0.528
55		---	---	ND	---	0.528
56		---	---	ND	---	0.528
57		---	---	ND	---	0.528
58		---	---	ND	---	0.528
59	59/62/75	---	---	ND	---	0.528
60		---	---	ND	---	0.528
61	61/70/74/76	---	---	ND	---	0.528
62	59/62/75	---	---	ND	---	0.528
63		---	---	ND	---	0.528
64		---	---	ND	---	0.528
65	44/47/65	---	---	ND	---	0.634
66		---	---	ND	---	0.528
67		---	---	ND	---	0.528
68		---	---	ND	---	0.528
69	49/69	---	---	ND	---	0.528
70	61/70/74/76	---	---	ND	---	0.528
71	40/41/71	---	---	ND	---	0.528
72		---	---	ND	---	0.528
73		---	---	ND	---	0.528
74	61/70/74/76	---	---	ND	---	0.528
75	59/62/75	---	---	ND	---	0.528
76	61/70/74/76	---	---	ND	---	0.528
77		---	---	ND	---	0.528
78		---	---	ND	---	0.528
79		---	---	ND	---	0.528
80		---	---	ND	---	0.528
81		---	---	ND	---	0.528
82		---	---	ND	---	0.528
83		---	---	ND	---	0.528
84		---	---	ND	---	0.528

Conc = Concentration
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Client Sample ID	PQJ0645-10
Lab Sample ID	1061177010
Filename	P71109A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.634
86	86/87/97/108/119/125	---	---	ND	---	1.06
87	86/87/97/108/119/125	---	---	ND	---	1.06
88	88/91	---	---	ND	---	0.528
89		---	---	ND	---	0.528
90	90/101/113	32.013	1.55	1.20	---	0.528
91	88/91	---	---	ND	---	0.528
92		---	---	ND	---	0.528
93	93/98/100/102	---	---	ND	---	0.793
94		---	---	ND	---	0.528
95		28.659	1.64	0.655	---	0.528
96		---	---	ND	---	0.528
97	86/87/97/108/119/125	---	---	ND	---	1.06
98	93/98/100/102	---	---	ND	---	0.793
99		---	---	ND	---	0.528
100	93/98/100/102	---	---	ND	---	0.793
101	90/101/113	32.013	1.55	(1.20)	---	0.528
102	93/98/100/102	---	---	ND	---	0.793
103		---	---	ND	---	0.528
104		---	---	ND	---	0.528
105		---	---	ND	---	0.528
106		---	---	ND	---	0.528
107	107/124	---	---	ND	---	0.528
108	86/87/97/108/119/125	---	---	ND	---	1.06
109		---	---	ND	---	0.528
110	110/115	34.142	1.56	0.874	---	0.528
111		---	---	ND	---	0.528
112		---	---	ND	---	0.528
113	90/101/113	32.013	1.55	(1.20)	---	0.528
114		---	---	ND	---	0.528
115	110/115	34.142	1.56	(0.874)	---	0.528
116	85/116/117	---	---	ND	---	0.634
117	85/116/117	---	---	ND	---	0.634
118		37.462	1.60	0.539	---	0.528
119	86/87/97/108/119/125	---	---	ND	---	1.06
120		---	---	ND	---	0.528
121		---	---	ND	---	0.528
122		---	---	ND	---	0.528
123		---	---	ND	---	0.528
124	107/124	---	---	ND	---	0.528
125	86/87/97/108/119/125	---	---	ND	---	1.06
126		---	---	ND	---	0.528

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Client Sample ID	PQJ0645-10
Lab Sample ID	1061177010
Filename	P71109A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.528
128	128/166	---	---	ND	---	1.06
129	129/138/163	40.783	1.23	3.85	---	0.528
130		---	---	ND	---	0.528
131		---	---	ND	---	0.528
132		37.496	1.22	0.880	---	0.528
133		---	---	ND	---	0.528
134	134/143	---	---	ND	---	0.528
135	135/151	35.165	1.27	1.000	---	0.539
136		---	---	ND	---	0.528
137		---	---	ND	---	0.528
138	129/138/163	40.783	1.23	(3.85)	---	0.528
139	139/140	---	---	ND	---	0.528
140	139/140	---	---	ND	---	0.528
141		39.659	1.25	0.825	---	0.528
142		---	---	ND	---	0.528
143	134/143	---	---	ND	---	0.528
144		---	---	ND	---	0.528
145		---	---	ND	---	0.528
146		---	---	ND	---	0.528
147	147/149	36.171	1.23	2.83	---	0.528
148		---	---	ND	---	0.528
149	147/149	36.171	1.23	(2.83)	---	0.528
150		---	---	ND	---	0.528
151	135/151	35.165	1.27	(1.000)	---	0.539
152		---	---	ND	---	0.528
153	153/168	39.475	1.24	4.38	---	0.634
154		---	---	ND	---	0.528
155		---	---	ND	---	0.528
156	156/157	---	---	ND	---	0.528
157	156/157	---	---	ND	---	0.528
158		---	---	ND	---	0.528
159		---	---	ND	---	0.528
160		---	---	ND	---	0.528
161		---	---	ND	---	0.528
162		---	---	ND	---	0.528
163	129/138/163	40.783	1.23	(3.85)	---	0.528
164		---	---	ND	---	0.528
165		---	---	ND	---	0.528
166	128/166	---	---	ND	---	1.06
167		---	---	ND	---	0.528
168	153/168	39.475	1.24	(4.38)	---	0.634

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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*= See Discussion
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-10
Lab Sample ID	1061177010
Filename	P71109A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.528
170		47.976	1.03	1.59	---	0.528
171	171/173	---	---	ND	---	0.528
172		---	---	ND	---	0.528
173	171/173	---	---	ND	---	0.528
174		43.097	1.01	1.13	---	0.528
175		---	---	ND	---	0.528
176		---	---	ND	---	0.528
177		43.566	1.01	0.682	---	0.528
178		---	---	ND	---	0.528
179		---	---	ND	---	0.528
180	180/193	46.685	1.03	3.48	---	0.528
181		---	---	ND	---	0.528
182		---	---	ND	---	0.528
183	183/185	42.879	1.03	1.07	---	0.528
184		---	---	ND	---	0.528
185	183/185	42.879	1.03	(1.07)	---	0.528
186		---	---	ND	---	0.528
187		42.225	1.05	1.39	---	0.528
188		---	---	ND	---	0.528
189		---	---	ND	---	0.528
190		---	---	ND	---	0.528
191		---	---	ND	---	0.528
192		---	---	ND	---	0.528
193	180/193	46.685	1.03	(3.48)	---	0.528
194		---	---	ND	---	0.528
195		---	---	ND	---	0.528
196		---	---	ND	---	0.740
197	197/200	---	---	ND	---	2.64
198	198/199	---	---	ND	---	0.528
199	198/199	---	---	ND	---	0.528
200	197/200	---	---	ND	---	2.64
201		---	---	ND	---	0.528
202		---	---	ND	---	0.528
203		---	---	ND	---	0.528
204		---	---	ND	---	0.528
205		---	---	ND	---	0.528
206		---	---	ND	---	0.528
207		---	---	ND	---	0.528
208		---	---	ND	---	0.528
209		---	---	ND	---	0.528

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-10
Lab Sample ID 1061177010
Filename P71109A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	3.26
Total Hexachloro Biphenyls	13.8
Total Heptachloro Biphenyls	9.34
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	26.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-11		
Lab Sample ID	1061177011		
Filename	P71109A_10		
Injected By	SMT		
Total Amount Extracted	941 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/09/2007 22:17

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.888	3.12	2.0	1.63	81
13C-4-MoCB	3	9.883	3.41	2.0	1.50	75
13C-2,2'-DiCB	4	10.183	1.58	2.0	2.13	106
13C-4,4'-DiCB	15	18.174	1.56	2.0	1.50	75
13C-2,2',6-TrCB	19	14.436	1.05	2.0	1.77	88
13C-3,4,4'-TrCB	37	26.680	1.06	2.0	1.58	79
13C-2,2',6,6'-TeCB	54	18.430	0.80	2.0	1.48	74
13C-3,4,4',5-TeCB	81	34.276	0.78	2.0	1.81	90
13C-3,3',4,4'-TeCB	77	34.896	0.80	2.0	1.76	88
13C-2,2',4,6,6'-PeCB	104	25.171	1.55	2.0	1.82	91
13C-2,3,3',4,4'-PeCB	105	38.652	1.64	2.0	1.67	84
13C-2,3,4,4',5-PeCB	114	37.965	1.64	2.0	1.63	82
13C-2,3',4,4',5-PeCB	118	37.411	1.64	2.0	1.79	90
13C-2,3',4,4',5'-PeCB	123	37.059	1.61	2.0	1.72	86
13C-3,3',4,4',5-PeCB	126	42.006	1.59	2.0	1.73	86
13C-2,2',4,4',6,6'-HxCB	155	31.677	1.27	2.0	1.73	87
13C-HxCB (156/157)	156/157	45.175	1.27	4.0	3.13	78
13C-2,3',4,4',5,5'-HxCB	167	43.984	1.26	2.0	1.53	77
13C-3,3',4,4',5,5'-HxCB	169	48.629	1.27	2.0	1.34	67
13C-2,2',3,4',5,6,6'-HpCB	188	37.931	1.05	2.0	2.37	119
13C-2,3,3',4,4',5,5'-HpCB	189	51.247	1.05	2.0	1.70	85
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.649	0.89	2.0	2.16	108
13C-2,3,3',4,4',5,5',6-OcCB	205	53.919	0.90	2.0	1.88	94
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.708	0.78	2.0	2.00	100
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.687	0.81	2.0	2.01	100
13C--DeCB	209	57.346	0.70	2.0	2.35	118
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.935	1.03	2.0	1.47	74
13C-2,3,3',5,5'-PeCB	111	34.963	1.58	2.0	1.83	92
13C-2,2',3,3',5,5',6-HpCB	178	41.218	1.04	2.0	1.70	85
Recovery Standards						
13C-2,5-DiCB	9	12.974	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.115	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.962	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.731	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.424	0.91	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-11
Lab Sample ID	1061177011
Filename	P71109A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.531
2		---	---	ND	---	0.531
3		---	---	ND	---	0.531
4		---	---	ND	---	0.531
5		---	---	ND	---	0.531
6		---	---	ND	---	0.531
7		---	---	ND	---	0.531
8		---	---	ND	---	0.531
9		---	---	ND	---	0.531
10		---	---	ND	---	0.531
11		---	---	ND	---	0.637
12	12/13	---	---	ND	---	0.531
13	12/13	---	---	ND	---	0.531
14		---	---	ND	---	0.531
15		---	---	ND	---	0.531
16		---	---	ND	---	0.531
17		---	---	ND	---	0.531
18	18/30	---	---	ND	---	0.531
19		---	---	ND	---	0.531
20	20/28	---	---	ND	---	0.637
21	21/33	---	---	ND	---	0.531
22		---	---	ND	---	0.531
23		---	---	ND	---	0.531
24		---	---	ND	---	0.531
25		---	---	ND	---	0.531
26	26/29	---	---	ND	---	0.531
27		---	---	ND	---	0.531
28	20/28	---	---	ND	---	0.637
29	26/29	---	---	ND	---	0.531
30	18/30	---	---	ND	---	0.531
31		---	---	ND	---	0.531
32		---	---	ND	---	0.531
33	21/33	---	---	ND	---	0.531
34		---	---	ND	---	0.531
35		---	---	ND	---	0.531
36		---	---	ND	---	0.531
37		---	---	ND	---	0.531
38		---	---	ND	---	0.531
39		---	---	ND	---	0.531
40	40/41/71	---	---	ND	---	0.531
41	40/41/71	---	---	ND	---	0.531
42		---	---	ND	---	0.531

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-11
Lab Sample ID	1061177011
Filename	P71109A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.531
44	44/47/65	---	---	ND	---	0.637
45	45/51	---	---	ND	---	0.531
46		---	---	ND	---	0.531
47	44/47/65	---	---	ND	---	0.637
48		---	---	ND	---	0.531
49	49/69	---	---	ND	---	0.531
50	50/53	---	---	ND	---	0.531
51	45/51	---	---	ND	---	0.531
52		---	---	ND	---	0.531
53	50/53	---	---	ND	---	0.531
54		---	---	ND	---	0.531
55		---	---	ND	---	0.531
56		---	---	ND	---	0.531
57		---	---	ND	---	0.531
58		---	---	ND	---	0.531
59	59/62/75	---	---	ND	---	0.531
60		---	---	ND	---	0.531
61	61/70/74/76	---	---	ND	---	0.531
62	59/62/75	---	---	ND	---	0.531
63		---	---	ND	---	0.531
64		---	---	ND	---	0.531
65	44/47/65	---	---	ND	---	0.637
66		---	---	ND	---	0.531
67		---	---	ND	---	0.531
68		---	---	ND	---	0.531
69	49/69	---	---	ND	---	0.531
70	61/70/74/76	---	---	ND	---	0.531
71	40/41/71	---	---	ND	---	0.531
72		---	---	ND	---	0.531
73		---	---	ND	---	0.531
74	61/70/74/76	---	---	ND	---	0.531
75	59/62/75	---	---	ND	---	0.531
76	61/70/74/76	---	---	ND	---	0.531
77		---	---	ND	---	0.531
78		---	---	ND	---	0.531
79		---	---	ND	---	0.531
80		---	---	ND	---	0.531
81		---	---	ND	---	0.531
82		---	---	ND	---	0.531
83		---	---	ND	---	0.531
84		---	---	ND	---	0.531

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-11
Lab Sample ID 1061177011
Filename P71109A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.637
86	86/87/97/108/119/125	---	---	ND	---	1.06
87	86/87/97/108/119/125	---	---	ND	---	1.06
88	88/91	---	---	ND	---	0.531
89		---	---	ND	---	0.531
90	90/101/113	---	---	ND	---	0.531
91	88/91	---	---	ND	---	0.531
92		---	---	ND	---	0.531
93	93/98/100/102	---	---	ND	---	0.797
94		---	---	ND	---	0.531
95		---	---	ND	---	0.531
96		---	---	ND	---	0.531
97	86/87/97/108/119/125	---	---	ND	---	1.06
98	93/98/100/102	---	---	ND	---	0.797
99		---	---	ND	---	0.531
100	93/98/100/102	---	---	ND	---	0.797
101	90/101/113	---	---	ND	---	0.531
102	93/98/100/102	---	---	ND	---	0.797
103		---	---	ND	---	0.531
104		---	---	ND	---	0.531
105		---	---	ND	---	0.531
106		---	---	ND	---	0.531
107	107/124	---	---	ND	---	0.531
108	86/87/97/108/119/125	---	---	ND	---	1.06
109		---	---	ND	---	0.531
110	110/115	---	---	ND	---	0.531
111		---	---	ND	---	0.531
112		---	---	ND	---	0.531
113	90/101/113	---	---	ND	---	0.531
114		---	---	ND	---	0.531
115	110/115	---	---	ND	---	0.531
116	85/116/117	---	---	ND	---	0.637
117	85/116/117	---	---	ND	---	0.637
118		---	---	ND	---	0.531
119	86/87/97/108/119/125	---	---	ND	---	1.06
120		---	---	ND	---	0.531
121		---	---	ND	---	0.531
122		---	---	ND	---	0.531
123		---	---	ND	---	0.531
124	107/124	---	---	ND	---	0.531
125	86/87/97/108/119/125	---	---	ND	---	1.06
126		---	---	ND	---	0.531

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-11
Lab Sample ID	1061177011
Filename	P71109A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.531
128	128/166	---	---	ND	---	1.06
129	129/138/163	---	---	ND	---	0.531
130		---	---	ND	---	0.531
131		---	---	ND	---	0.531
132		---	---	ND	---	0.531
133		---	---	ND	---	0.531
134	134/143	---	---	ND	---	0.531
135	135/151	---	---	ND	---	0.542
136		---	---	ND	---	0.531
137		---	---	ND	---	0.531
138	129/138/163	---	---	ND	---	0.531
139	139/140	---	---	ND	---	0.531
140	139/140	---	---	ND	---	0.531
141		---	---	ND	---	0.531
142		---	---	ND	---	0.531
143	134/143	---	---	ND	---	0.531
144		---	---	ND	---	0.531
145		---	---	ND	---	0.531
146		---	---	ND	---	0.531
147	147/149	---	---	ND	---	0.531
148		---	---	ND	---	0.531
149	147/149	---	---	ND	---	0.531
150		---	---	ND	---	0.531
151	135/151	---	---	ND	---	0.542
152		---	---	ND	---	0.531
153	153/168	---	---	ND	---	0.637
154		---	---	ND	---	0.531
155		---	---	ND	---	0.531
156	156/157	---	---	ND	---	0.531
157	156/157	---	---	ND	---	0.531
158		---	---	ND	---	0.531
159		---	---	ND	---	0.531
160		---	---	ND	---	0.531
161		---	---	ND	---	0.531
162		---	---	ND	---	0.531
163	129/138/163	---	---	ND	---	0.531
164		---	---	ND	---	0.531
165		---	---	ND	---	0.531
166	128/166	---	---	ND	---	1.06
167		---	---	ND	---	0.531
168	153/168	---	---	ND	---	0.637

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Method 1668A Polychlorobiphenyl Sample Analysis Results

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Lab Sample ID	1061177011
Filename	P71109A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.531
170		---	---	ND	---	0.531
171	171/173	---	---	ND	---	0.531
172		---	---	ND	---	0.531
173	171/173	---	---	ND	---	0.531
174		---	---	ND	---	0.531
175		---	---	ND	---	0.531
176		---	---	ND	---	0.531
177		---	---	ND	---	0.531
178		---	---	ND	---	0.531
179		---	---	ND	---	0.531
180	180/193	---	---	ND	---	0.531
181		---	---	ND	---	0.531
182		---	---	ND	---	0.531
183	183/185	---	---	ND	---	0.531
184		---	---	ND	---	0.531
185	183/185	---	---	ND	---	0.531
186		---	---	ND	---	0.531
187		---	---	ND	---	0.531
188		---	---	ND	---	0.531
189		---	---	ND	---	0.531
190		---	---	ND	---	0.531
191		---	---	ND	---	0.531
192		---	---	ND	---	0.531
193	180/193	---	---	ND	---	0.531
194		---	---	ND	---	0.531
195		---	---	ND	---	0.531
196		---	---	ND	---	0.744
197	197/200	---	---	ND	---	2.66
198	198/199	---	---	ND	---	0.531
199	198/199	---	---	ND	---	0.531
200	197/200	---	---	ND	---	2.66
201		---	---	ND	---	0.531
202		---	---	ND	---	0.531
203		---	---	ND	---	0.531
204		---	---	ND	---	0.531
205		---	---	ND	---	0.531
206		---	---	ND	---	0.531
207		---	---	ND	---	0.531
208		---	---	ND	---	0.531
209		---	---	ND	---	0.531

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-11
Lab Sample ID	1061177011
Filename	P71109A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-12		
Lab Sample ID	1061177012		
Filename	P71109A_11		
Injected By	SMT		
Total Amount Extracted	977 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/09/2007 23:22

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.900	3.19	2.0	1.44	72
13C-4-MoCB	3	9.883	3.29	2.0	1.34	67
13C-2,2'-DiCB	4	10.183	1.61	2.0	1.83	92
13C-4,4'-DiCB	15	18.175	1.56	2.0	1.43	71
13C-2,2',6-TrCB	19	14.449	1.06	2.0	1.63	82
13C-3,4,4'-TrCB	37	26.682	1.05	2.0	1.44	72
13C-2,2',6,6'-TeCB	54	18.432	0.79	2.0	1.45	73
13C-3,4,4',5-TeCB	81	34.278	0.79	2.0	1.52	76
13C-3,3',4,4'-TeCB	77	34.899	0.80	2.0	1.48	74
13C-2,2',4,6,6'-PeCB	104	25.173	1.58	2.0	1.86	93
13C-2,3,3',4,4'-PeCB	105	38.655	1.59	2.0	1.60	80
13C-2,3,4,4',5-PeCB	114	37.968	1.58	2.0	1.57	78
13C-2,3',4,4',5-PeCB	118	37.414	1.59	2.0	1.69	85
13C-2,3',4,4',5'-PeCB	123	37.062	1.55	2.0	1.61	80
13C-3,3',4,4',5-PeCB	126	42.009	1.59	2.0	1.64	82
13C-2,2',4,4',6,6'-HxCB	155	31.679	1.27	2.0	1.59	79
13C-HxCB (156/157)	156/157	45.179	1.27	4.0	3.03	76
13C-2,3',4,4',5,5'-HxCB	167	43.971	1.26	2.0	1.46	73
13C-3,3',4,4',5,5'-HxCB	169	48.633	1.27	2.0	1.31	65
13C-2,2',3,4',5,6,6'-HpCB	188	37.934	1.05	2.0	2.20	110
13C-2,3,3',4,4',5,5'-HpCB	189	51.251	1.08	2.0	1.65	83
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.653	0.89	2.0	1.96	98
13C-2,3,3',4,4',5,5',6-OcCB	205	53.924	0.89	2.0	1.78	89
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.713	0.78	2.0	1.91	95
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.691	0.81	2.0	1.87	94
13C--DeCB	209	57.351	0.71	2.0	2.21	111
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.936	1.02	2.0	1.36	68
13C-2,3,3',5,5'-PeCB	111	34.966	1.59	2.0	1.64	82
13C-2,2',3,3',5,5',6-HpCB	178	41.221	1.05	2.0	1.52	76
Recovery Standards						
13C-2,5-DiCB	9	12.975	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.116	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.964	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.718	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.428	0.88	2.0	NA	NA

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-12
Lab Sample ID	1061177012
Filename	P71109A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.512
2		---	---	ND	---	0.512
3		---	---	ND	---	0.512
4		---	---	ND	---	0.512
5		---	---	ND	---	0.512
6		---	---	ND	---	0.512
7		---	---	ND	---	0.512
8		---	---	ND	---	0.512
9		---	---	ND	---	0.512
10		---	---	ND	---	0.512
11		---	---	ND	---	0.614
12	12/13	---	---	ND	---	0.512
13	12/13	---	---	ND	---	0.512
14		---	---	ND	---	0.512
15		---	---	ND	---	0.512
16		---	---	ND	---	0.512
17		---	---	ND	---	0.512
18	18/30	---	---	ND	---	0.512
19		---	---	ND	---	0.512
20	20/28	---	---	ND	---	0.614
21	21/33	---	---	ND	---	0.512
22		---	---	ND	---	0.512
23		---	---	ND	---	0.512
24		---	---	ND	---	0.512
25		---	---	ND	---	0.512
26	26/29	---	---	ND	---	0.512
27		---	---	ND	---	0.512
28	20/28	---	---	ND	---	0.614
29	26/29	---	---	ND	---	0.512
30	18/30	---	---	ND	---	0.512
31		---	---	ND	---	0.512
32		---	---	ND	---	0.512
33	21/33	---	---	ND	---	0.512
34		---	---	ND	---	0.512
35		---	---	ND	---	0.512
36		---	---	ND	---	0.512
37		---	---	ND	---	0.512
38		---	---	ND	---	0.512
39		---	---	ND	---	0.512
40	40/41/71	---	---	ND	---	0.512
41	40/41/71	---	---	ND	---	0.512
42		---	---	ND	---	0.512

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-12
Lab Sample ID 1061177012
Filename P71109A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.512
44	44/47/65	---	---	ND	---	0.614
45	45/51	---	---	ND	---	0.512
46		---	---	ND	---	0.512
47	44/47/65	---	---	ND	---	0.614
48		---	---	ND	---	0.512
49	49/69	---	---	ND	---	0.512
50	50/53	---	---	ND	---	0.512
51	45/51	---	---	ND	---	0.512
52		---	---	ND	---	0.512
53	50/53	---	---	ND	---	0.512
54		---	---	ND	---	0.512
55		---	---	ND	---	0.512
56		---	---	ND	---	0.512
57		---	---	ND	---	0.512
58		---	---	ND	---	0.512
59	59/62/75	---	---	ND	---	0.512
60		---	---	ND	---	0.512
61	61/70/74/76	---	---	ND	---	0.512
62	59/62/75	---	---	ND	---	0.512
63		---	---	ND	---	0.512
64		---	---	ND	---	0.512
65	44/47/65	---	---	ND	---	0.614
66		---	---	ND	---	0.512
67		---	---	ND	---	0.512
68		---	---	ND	---	0.512
69	49/69	---	---	ND	---	0.512
70	61/70/74/76	---	---	ND	---	0.512
71	40/41/71	---	---	ND	---	0.512
72		---	---	ND	---	0.512
73		---	---	ND	---	0.512
74	61/70/74/76	---	---	ND	---	0.512
75	59/62/75	---	---	ND	---	0.512
76	61/70/74/76	---	---	ND	---	0.512
77		---	---	ND	---	0.512
78		---	---	ND	---	0.512
79		---	---	ND	---	0.512
80		---	---	ND	---	0.512
81		---	---	ND	---	0.512
82		---	---	ND	---	0.512
83		---	---	ND	---	0.512
84		---	---	ND	---	0.512

Conc = Concentration
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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-12
Lab Sample ID 1061177012
Filename P71109A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.614
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.512
89		---	---	ND	---	0.512
90	90/101/113	---	---	ND	---	0.512
91	88/91	---	---	ND	---	0.512
92		---	---	ND	---	0.512
93	93/98/100/102	---	---	ND	---	0.768
94		---	---	ND	---	0.512
95		---	---	ND	---	0.512
96		---	---	ND	---	0.512
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.768
99		---	---	ND	---	0.512
100	93/98/100/102	---	---	ND	---	0.768
101	90/101/113	---	---	ND	---	0.512
102	93/98/100/102	---	---	ND	---	0.768
103		---	---	ND	---	0.512
104		---	---	ND	---	0.512
105		---	---	ND	---	0.512
106		---	---	ND	---	0.512
107	107/124	---	---	ND	---	0.512
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.512
110	110/115	---	---	ND	---	0.512
111		---	---	ND	---	0.512
112		---	---	ND	---	0.512
113	90/101/113	---	---	ND	---	0.512
114		---	---	ND	---	0.512
115	110/115	---	---	ND	---	0.512
116	85/116/117	---	---	ND	---	0.614
117	85/116/117	---	---	ND	---	0.614
118		---	---	ND	---	0.512
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.512
121		---	---	ND	---	0.512
122		---	---	ND	---	0.512
123		---	---	ND	---	0.512
124	107/124	---	---	ND	---	0.512
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.512

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-12
Lab Sample ID 1061177012
Filename P71109A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.512
128	128/166	---	---	ND	---	1.02
129	129/138/163	40.751	1.23	1.47	---	0.512
130		---	---	ND	---	0.512
131		---	---	ND	---	0.512
132		---	---	ND	---	0.512
133		---	---	ND	---	0.512
134	134/143	---	---	ND	---	0.512
135	135/151	---	---	ND	---	0.522
136		---	---	ND	---	0.512
137		---	---	ND	---	0.512
138	129/138/163	40.751	1.23	(1.47)	---	0.512
139	139/140	---	---	ND	---	0.512
140	139/140	---	---	ND	---	0.512
141		---	---	ND	---	0.512
142		---	---	ND	---	0.512
143	134/143	---	---	ND	---	0.512
144		---	---	ND	---	0.512
145		---	---	ND	---	0.512
146		---	---	ND	---	0.512
147	147/149	36.157	1.19	1.19	---	0.512
148		---	---	ND	---	0.512
149	147/149	36.157	1.19	(1.19)	---	0.512
150		---	---	ND	---	0.512
151	135/151	---	---	ND	---	0.522
152		---	---	ND	---	0.512
153	153/168	39.460	1.25	1.66	---	0.614
154		---	---	ND	---	0.512
155		---	---	ND	---	0.512
156	156/157	---	---	ND	---	0.512
157	156/157	---	---	ND	---	0.512
158		---	---	ND	---	0.512
159		---	---	ND	---	0.512
160		---	---	ND	---	0.512
161		---	---	ND	---	0.512
162		---	---	ND	---	0.512
163	129/138/163	40.751	1.23	(1.47)	---	0.512
164		---	---	ND	---	0.512
165		---	---	ND	---	0.512
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.512
168	153/168	39.460	1.25	(1.66)	---	0.614

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-12
Lab Sample ID 1061177012
Filename P71109A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.512
170		47.962	1.05	0.703	---	0.512
171	171/173	---	---	ND	---	0.512
172		---	---	ND	---	0.512
173	171/173	---	---	ND	---	0.512
174		43.082	0.98	0.589	---	0.512
175		---	---	ND	---	0.512
176		---	---	ND	---	0.512
177		---	---	ND	---	0.512
178		---	---	ND	---	0.512
179		---	---	ND	---	0.512
180	180/193	46.654	1.03	1.51	---	0.512
181		---	---	ND	---	0.512
182		---	---	ND	---	0.512
183	183/185	---	---	ND	---	0.512
184		---	---	ND	---	0.512
185	183/185	---	---	ND	---	0.512
186		---	---	ND	---	0.512
187		42.210	1.04	0.610	---	0.512
188		---	---	ND	---	0.512
189		---	---	ND	---	0.512
190		---	---	ND	---	0.512
191		---	---	ND	---	0.512
192		---	---	ND	---	0.512
193	180/193	46.654	1.03	(1.51)	---	0.512
194		---	---	ND	---	0.512
195		---	---	ND	---	0.512
196		---	---	ND	---	0.717
197	197/200	---	---	ND	---	2.56
198	198/199	---	---	ND	---	0.512
199	198/199	---	---	ND	---	0.512
200	197/200	---	---	ND	---	2.56
201		---	---	ND	---	0.512
202		---	---	ND	---	0.512
203		---	---	ND	---	0.512
204		---	---	ND	---	0.512
205		---	---	ND	---	0.512
206		---	---	ND	---	0.512
207		---	---	ND	---	0.512
208		---	---	ND	---	0.512
209		---	---	ND	---	0.512

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P = Recovery outside of Method 1668A control limits
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NC = Not Calculated
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Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-12
Lab Sample ID 1061177012
Filename P71109A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	4.31
Total Heptachloro Biphenyls	3.41
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	7.73

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQJ0645-13		
Lab Sample ID	1061177013		
Filename	P71109A_12		
Injected By	SMT		
Total Amount Extracted	886 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	10/16/2007
ICAL Date	11/09/2007	Received	10/18/2007
CCal Filename(s)	P71109A_03	Extracted	11/05/2007
Method Blank ID	BLANK-14689	Analyzed	11/10/2007 00:26

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	6.888	3.00	2.0	1.63	82
13C-4-MoCB	3	9.871	3.11	2.0	1.60	80
13C-2,2'-DiCB	4	10.171	1.59	2.0	2.14	107
13C-4,4'-DiCB	15	18.163	1.55	2.0	1.80	90
13C-2,2',6-TrCB	19	14.437	1.01	2.0	1.87	93
13C-3,4,4'-TrCB	37	26.682	1.08	2.0	1.75	87
13C-2,2',6,6'-TeCB	54	18.432	0.79	2.0	1.58	79
13C-3,4,4',5-TeCB	81	34.278	0.76	2.0	1.58	79
13C-3,3',4,4'-TeCB	77	34.898	0.79	2.0	1.50	75
13C-2,2',4,6,6'-PeCB	104	25.173	1.59	2.0	2.03	101
13C-2,3,3',4,4'-PeCB	105	38.655	1.58	2.0	1.35	68
13C-2,3,4,4',5-PeCB	114	37.967	1.51	2.0	1.33	66
13C-2,3',4,4',5-PeCB	118	37.414	1.55	2.0	1.44	72
13C-2,3',4,4',5'-PeCB	123	37.062	1.60	2.0	1.44	72
13C-3,3',4,4',5-PeCB	126	42.025	1.56	2.0	1.39	69
13C-2,2',4,4',6,6'-HxCB	155	31.696	1.25	2.0	1.90	95
13C-HxCB (156/157)	156/157	45.195	1.27	4.0	2.62	65
13C-2,3',4,4',5,5'-HxCB	167	44.004	1.24	2.0	1.27	64
13C-3,3',4,4',5,5'-HxCB	169	48.666	1.26	2.0	1.16	58
13C-2,2',3,4',5,6,6'-HpCB	188	37.934	1.05	2.0	2.53	126
13C-2,3,3',4,4',5,5'-HpCB	189	51.293	1.03	2.0	1.45	73
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.669	0.90	2.0	2.20	110
13C-2,3,3',4,4',5,5',6-OcCB	205	53.966	0.88	2.0	1.81	90
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.755	0.78	2.0	2.01	101
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.711	0.80	2.0	1.98	99
13C--DeCB	209	57.393	0.72	2.0	2.24	112
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.920	1.06	2.0	1.67	83
13C-2,3,3',5,5'-PeCB	111	34.966	1.59	2.0	1.78	89
13C-2,2',3,3',5,5',6-HpCB	178	41.237	1.02	2.0	1.82	91
Recovery Standards						
13C-2,5-DiCB	9	12.963	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.116	0.77	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.964	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.751	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.470	0.92	2.0	NA	NA

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-13
Lab Sample ID	1061177013
Filename	P71109A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.565
2		---	---	ND	---	0.565
3		---	---	ND	---	0.565
4		---	---	ND	---	0.565
5		---	---	ND	---	0.565
6		---	---	ND	---	0.565
7		---	---	ND	---	0.565
8		---	---	ND	---	0.565
9		---	---	ND	---	0.565
10		---	---	ND	---	0.565
11		---	---	ND	---	0.678
12	12/13	---	---	ND	---	0.565
13	12/13	---	---	ND	---	0.565
14		---	---	ND	---	0.565
15		---	---	ND	---	0.565
16		---	---	ND	---	0.565
17		---	---	ND	---	0.565
18	18/30	16.965	1.01	0.605	---	0.565
19		---	---	ND	---	0.565
20	20/28	21.953	1.05	1.19	---	0.678
21	21/33	22.221	1.06	0.673	---	0.565
22		---	---	ND	---	0.565
23		---	---	ND	---	0.565
24		---	---	ND	---	0.565
25		---	---	ND	---	0.565
26	26/29	---	---	ND	---	0.565
27		---	---	ND	---	0.565
28	20/28	21.953	1.05	(1.19)	---	0.678
29	26/29	---	---	ND	---	0.565
30	18/30	16.965	1.01	(0.605)	---	0.565
31		21.601	1.05	0.872	---	0.565
32		---	---	ND	---	0.565
33	21/33	22.221	1.06	(0.673)	---	0.565
34		---	---	ND	---	0.565
35		---	---	ND	---	0.565
36		---	---	ND	---	0.565
37		---	---	ND	---	0.565
38		---	---	ND	---	0.565
39		---	---	ND	---	0.565
40	40/41/71	26.430	0.80	0.609	---	0.565
41	40/41/71	26.430	0.80	(0.609)	---	0.565
42		---	---	ND	---	0.565

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-13
Lab Sample ID 1061177013
Filename P71109A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.565
44	44/47/65	25.290	0.78	0.813	---	0.678
45	45/51	---	---	ND	---	0.565
46		---	---	ND	---	0.565
47	44/47/65	25.290	0.78	(0.813)	---	0.678
48		---	---	ND	---	0.565
49	49/69	---	---	ND	---	0.565
50	50/53	---	---	ND	---	0.565
51	45/51	---	---	ND	---	0.565
52		24.150	0.79	0.952	---	0.565
53	50/53	---	---	ND	---	0.565
54		---	---	ND	---	0.565
55		---	---	ND	---	0.565
56		---	---	ND	---	0.565
57		---	---	ND	---	0.565
58		---	---	ND	---	0.565
59	59/62/75	---	---	ND	---	0.565
60		---	---	ND	---	0.565
61	61/70/74/76	29.683	0.79	1.43	---	0.565
62	59/62/75	---	---	ND	---	0.565
63		---	---	ND	---	0.565
64		---	---	ND	---	0.565
65	44/47/65	25.290	0.78	(0.813)	---	0.678
66		30.036	0.77	0.728	---	0.565
67		---	---	ND	---	0.565
68		---	---	ND	---	0.565
69	49/69	---	---	ND	---	0.565
70	61/70/74/76	29.683	0.79	(1.43)	---	0.565
71	40/41/71	26.430	0.80	(0.609)	---	0.565
72		---	---	ND	---	0.565
73		---	---	ND	---	0.565
74	61/70/74/76	29.683	0.79	(1.43)	---	0.565
75	59/62/75	---	---	ND	---	0.565
76	61/70/74/76	29.683	0.79	(1.43)	---	0.565
77		---	---	ND	---	0.565
78		---	---	ND	---	0.565
79		---	---	ND	---	0.565
80		---	---	ND	---	0.565
81		---	---	ND	---	0.565
82		---	---	ND	---	0.565
83		---	---	ND	---	0.565
84		---	---	ND	---	0.565

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-13
Lab Sample ID 1061177013
Filename P71109A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.678
86	86/87/97/108/119/125	---	---	ND	---	1.13
87	86/87/97/108/119/125	---	---	ND	---	1.13
88	88/91	---	---	ND	---	0.565
89		---	---	ND	---	0.565
90	90/101/113	31.997	1.53	1.81	---	0.565
91	88/91	---	---	ND	---	0.565
92		---	---	ND	---	0.565
93	93/98/100/102	---	---	ND	---	0.847
94		---	---	ND	---	0.565
95		28.644	1.50	1.32	---	0.565
96		---	---	ND	---	0.565
97	86/87/97/108/119/125	---	---	ND	---	1.13
98	93/98/100/102	---	---	ND	---	0.847
99		32.635	1.54	0.568	---	0.565
100	93/98/100/102	---	---	ND	---	0.847
101	90/101/113	31.997	1.53	(1.81)	---	0.565
102	93/98/100/102	---	---	ND	---	0.847
103		---	---	ND	---	0.565
104		---	---	ND	---	0.565
105		---	---	ND	---	0.565
106		---	---	ND	---	0.565
107	107/124	---	---	ND	---	0.565
108	86/87/97/108/119/125	---	---	ND	---	1.13
109		---	---	ND	---	0.565
110	110/115	34.144	1.56	2.17	---	0.565
111		---	---	ND	---	0.565
112		---	---	ND	---	0.565
113	90/101/113	31.997	1.53	(1.81)	---	0.565
114		---	---	ND	---	0.565
115	110/115	34.144	1.56	(2.17)	---	0.565
116	85/116/117	---	---	ND	---	0.678
117	85/116/117	---	---	ND	---	0.678
118		37.447	1.57	1.29	---	0.565
119	86/87/97/108/119/125	---	---	ND	---	1.13
120		---	---	ND	---	0.565
121		---	---	ND	---	0.565
122		---	---	ND	---	0.565
123		---	---	ND	---	0.565
124	107/124	---	---	ND	---	0.565
125	86/87/97/108/119/125	---	---	ND	---	1.13
126		---	---	ND	---	0.565

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQJ0645-13
Lab Sample ID 1061177013
Filename P71109A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.565
128	128/166	---	---	ND	---	1.13
129	129/138/163	40.784	1.23	5.91	---	0.565
130		---	---	ND	---	0.565
131		---	---	ND	---	0.565
132		37.481	1.23	1.68	---	0.565
133		---	---	ND	---	0.565
134	134/143	---	---	ND	---	0.565
135	135/151	35.167	1.26	1.75	---	0.576
136		---	---	ND	---	0.565
137		---	---	ND	---	0.565
138	129/138/163	40.784	1.23	(5.91)	---	0.565
139	139/140	---	---	ND	---	0.565
140	139/140	---	---	ND	---	0.565
141		39.661	1.18	1.17	---	0.565
142		---	---	ND	---	0.565
143	134/143	---	---	ND	---	0.565
144		---	---	ND	---	0.565
145		---	---	ND	---	0.565
146		38.806	1.24	0.696	---	0.565
147	147/149	36.156	1.22	4.16	---	0.565
148		---	---	ND	---	0.565
149	147/149	36.156	1.22	(4.16)	---	0.565
150		---	---	ND	---	0.565
151	135/151	35.167	1.26	(1.75)	---	0.576
152		---	---	ND	---	0.565
153	153/168	39.476	1.23	5.28	---	0.678
154		---	---	ND	---	0.565
155		---	---	ND	---	0.565
156	156/157	---	---	ND	---	0.565
157	156/157	---	---	ND	---	0.565
158		---	---	ND	---	0.565
159		---	---	ND	---	0.565
160		---	---	ND	---	0.565
161		---	---	ND	---	0.565
162		---	---	ND	---	0.565
163	129/138/163	40.784	1.23	(5.91)	---	0.565
164		---	---	ND	---	0.565
165		---	---	ND	---	0.565
166	128/166	---	---	ND	---	1.13
167		---	---	ND	---	0.565
168	153/168	39.476	1.23	(5.28)	---	0.678

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-13
Lab Sample ID	1061177013
Filename	P71109A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.565
170		47.995	1.01	2.45	---	0.565
171	171/173	44.239	1.08	0.699	---	0.565
172		---	---	ND	---	0.565
173	171/173	44.239	1.08	(0.699)	---	0.565
174		43.099	1.05	2.08	---	0.565
175		---	---	ND	---	0.565
176		---	---	ND	---	0.565
177		43.568	1.03	1.19	---	0.565
178		---	---	ND	---	0.565
179		38.303	1.06	0.661	---	0.565
180	180/193	46.687	1.05	4.96	---	0.565
181		---	---	ND	---	0.565
182		---	---	ND	---	0.565
183	183/185	42.897	1.00	1.57	---	0.565
184		---	---	ND	---	0.565
185	183/185	42.897	1.00	(1.57)	---	0.565
186		---	---	ND	---	0.565
187		42.227	1.04	2.32	---	0.565
188		---	---	ND	---	0.565
189		---	---	ND	---	0.565
190		---	---	ND	---	0.565
191		---	---	ND	---	0.565
192		---	---	ND	---	0.565
193	180/193	46.687	1.05	(4.96)	---	0.565
194		53.492	0.87	0.684	---	0.565
195		---	---	ND	---	0.565
196		---	---	ND	---	0.790
197	197/200	---	---	ND	---	2.82
198	198/199	48.750	0.95	0.769	---	0.565
199	198/199	48.750	0.95	(0.769)	---	0.565
200	197/200	---	---	ND	---	2.82
201		---	---	ND	---	0.565
202		---	---	ND	---	0.565
203		---	---	ND	---	0.565
204		---	---	ND	---	0.565
205		---	---	ND	---	0.565
206		---	---	ND	---	0.565
207		---	---	ND	---	0.565
208		---	---	ND	---	0.565
209		---	---	ND	---	0.565

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQJ0645-13
Lab Sample ID	1061177013
Filename	P71109A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.34
Total Tetrachloro Biphenyls	4.53
Total Pentachloro Biphenyls	7.15
Total Hexachloro Biphenyls	20.6
Total Heptachloro Biphenyls	15.9
Total Octachloro Biphenyls	1.45
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	53.1

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCS-14690		
Filename	P71108A_07	Matrix	Water
Total Amount Extracted	902 mL	Dilution	NA
ICAL Date	11/08/2007	Extracted	11/05/2007
CCal Filename(s)	P71108A_05	Analyzed	11/08/2007 19:01
Method Blank ID	BLANK-14684	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.941	94	2.0	1.32	66
3	1.0	0.925	93	2.0	1.29	64
4	1.0	0.949	95	2.0	1.34	67
15	1.0	0.972	97	2.0	1.33	66
19	1.0	0.962	96	2.0	1.35	67
37	1.0	0.943	94	2.0	1.56	78
54	1.0	0.971	97	2.0	1.48	74
81	1.0	0.940	94	2.0	1.60	80
77	1.0	1.00	100	2.0	1.56	78
104	1.0	0.937	94	2.0	1.56	78
105	1.0	0.956	96	2.0	1.64	82
114	1.0	0.991	99	2.0	1.55	78
118	1.0	0.902	90	2.0	1.71	85
123	1.0	1.05	105	2.0	1.67	83
126	1.0	0.887	89	2.0	1.69	84
155	1.0	1.02	102	2.0	1.40	70
156/157	2.0	1.78	89	4.0	3.09	77
167	1.0	0.938	94	2.0	1.49	75
169	1.0	0.893	89	2.0	1.50	75
188	1.0	0.929	93	2.0	1.67	83
189	1.0	1.00	100	2.0	1.63	82
202	1.0	1.05	105	2.0	1.58	79
205	1.0	0.937	94	2.0	1.89	94
206	1.0	0.966	97	2.0	1.83	92
208	1.0	1.01	101	2.0	1.65	82
209	1.0	0.990	99	2.0	1.82	91

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCSD-14691		
Filename	P71108A_08	Matrix	Water
Total Amount Extracted	896 mL	Dilution	NA
ICAL Date	11/08/2007	Extracted	11/05/2007
CCal Filename(s)	P71108A_05	Analyzed	11/08/2007 20:06
Method Blank ID	BLANK-14684	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	0.961	96	2.0	1.18	59
3	1.0	0.962	96	2.0	1.06	53
4	1.0	0.959	96	2.0	1.31	65
15	1.0	0.959	96	2.0	1.27	63
19	1.0	0.952	95	2.0	1.33	66
37	1.0	0.978	98	2.0	1.42	71
54	1.0	0.996	100	2.0	1.40	70
81	1.0	0.973	97	2.0	1.43	72
77	1.0	1.02	102	2.0	1.38	69
104	1.0	0.950	95	2.0	1.57	78
105	1.0	0.982	98	2.0	1.51	75
114	1.0	0.965	97	2.0	1.45	72
118	1.0	1.50	150	2.0	1.64	82
123	1.0	0.976	98	2.0	1.53	77
126	1.0	0.926	93	2.0	1.47	73
155	1.0	1.00	100	2.0	1.41	71
156/157	2.0	2.24	112	4.0	2.79	70
167	1.0	1.14	114	2.0	1.36	68
169	1.0	0.949	95	2.0	1.25	62
188	1.0	0.934	93	2.0	1.84	92
189	1.0	1.12	112	2.0	1.52	76
202	1.0	1.12	112	2.0	1.73	87
205	1.0	0.904	90	2.0	1.76	88
206	1.0	1.04	104	2.0	1.76	88
208	1.0	0.994	99	2.0	1.68	84
209	1.0	0.898	90	2.0	1.85	92

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1061177

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A
Spike Recovery Relative Percent Difference (RPD) Results

Client

Spike 1 ID	LCS-14690	Spike 2 ID	LCSD-14691
Spike 1 Filename	P71108A_07	Spike 2 Filename	P71108A_08

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	94	96	2.1
4-MoCB	3	93	96	3.2
2,2'-DiCB	4	95	96	1.0
4,4'-DiCB	15	97	96	1.0
2,2',6-TrCB	19	96	95	1.0
3,4,4'-TrCB	37	94	98	4.2
2,2',6,6'-TeCB	54	97	100	3.0
3,3',4,4'-TeCB	77	100	102	2.0
3,4,4',5-TeCB	81	94	97	3.1
2,2',4,6,6'-PeCB	104	94	95	1.1
2,3,3',4,4'-PeCB	105	96	98	2.1
2,3,4,4',5-PeCB	114	99	97	2.0
2,3',4,4',5-PeCB	118	90	150	50.0
2,3',4,4',5'-PeCB	123	105	98	6.9
3,3',4,4',5-PeCB	126	89	93	4.4
2,2',4,4',6,6'-HxCB	155	102	100	2.0
HxCB (156/157)	156/157	89	112	22.9
2,3',4,4',5,5'-HxCB	167	94	114	19.2
3,3',4,4',5,5'-HxCB	169	89	95	6.5
2,2',3,4',5,6,6'-HpCB	188	93	93	0.0
2,3,3',4,4',5,5'-HpCB	189	100	112	11.3
2,2',3,3',5,5',6,6'-OcCB	202	105	112	6.5
2,3,3',4,4',5,5',6-OcCB	205	94	90	4.3
2,2',3,3',4,4',5,5',6-NoCB	206	97	104	7.0
2,2',3,3',4,5,5',6,6'-NoCB	208	101	99	2.0
Decachlorobiphenyl	209	99	90	9.5

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

Report No.....1061177

REPORT OF LABORATORY ANALYSIS

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November 16, 2007
Sampling Event

Laboratory Data QA/QC Review
Upland Source Control Investigation
November 16, 2007 Stormwater Sampling

To: File

From: Julia Fowler, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses conducted by the City of Portland (City) on November 16, 2007. Eleven stormwater samples, one field duplicate sample and one field decontamination blank were collected by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) laboratory and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with three exceptions: the method blank sample, and samples FO071391 and FO071401. Pace reports the data were automatically corrected for recovery variation and accurate values were obtained. See the Pace laboratory report for further discussion.

Matrix Spike/Matrix Spike Duplicates

Matrix spike recoveries were completed during the laboratory analysis of PAHs, phthalates and SVOCs. All matrix spike recoveries were within laboratory control limits.

Matrix spike duplicates were completed during the laboratory analysis of PAHs and phthalates. All matrix spike duplicates were within laboratory control limits, with one exception. The matrix spike duplicate recovery and related percent difference for bis(2-ethylhexyl)phthalate were outside of control limits. TA reports that review of the associated batch QC indicates the recovery for this analyte does not represent an out of control condition for the batch; see the TA laboratory report for further discussion.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control samples were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. All laboratory control sample recoveries were within laboratory control limits.

Duplicate laboratory control samples were processed during the laboratory analysis of SVOCs, and PCB congeners. The percent recovery for hexachlorocyclopentadiene during the EPA 8270C analysis was outside of control limits. CAS reports that, based on the method and historic data, the recoveries observed are in the range expected for this procedure. No further corrective action was taken. See the CAS laboratory report for further discussion.

Other

A field decontamination blank was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCBs. Zinc was detected in the FDB at a concentration of 0.6 ug/L. Concentrations in all samples are greater than 10 times the FDB detection.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11-16-07
Page: 1 of 1
Collected By: RCB, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071389	Cathedral Park	52_SWI	11-16-07	0545	G	o	o	o	o	o	o	12.5	74	6.8
FO 071390	8904 N Bradford St	52A-SWI	11-16-07	0609	G	o	o	o	o	o	o	12.5	30	7.3
FO 071391	6543 N. Burlington Ave	50_SWI	11-16-07	0635	G	o	o	o	o	o	o	11.4	54	6.9

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Lauren Patton Time: 0804	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: LAUREN PATTON Date: 11-16-07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0804	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Kyle Barnes Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 11/16/07
Page: 1 of 1
Collected By: DJH/MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) COMBO #3	Field: Conductivity (umhos/cm) COMBO #3	Field: pH (pH units) COMBO #3
FO 071392	N. Basin Ave + Emerson St.	M3-SW1	11/16/07	0524	G	X	X	X	X	X	X	12.8	31	6.3
FO 071393	5949 N Basin Ave	M2-SW1	11/16/07	0542	G	X	X	X	X	X	X	12.9	163	6.6
FO 071394	FIELD DEED BLANK	FDB	11/16/07	0605	G	X	X	X	X	X	X	—	—	—
FO 071395	6051 N Lagoon	S2-SW1	11/16/07	0633	G	X	X	X	X	X	X	12.6	36	7.1
FO 071396	5555 N. CHANNEL (CASCADE GEN.)	S6-SW1	11/16/07	0700	G	X	X	X	X	X	X	12.0	22	7.2
FO 071397	6208 N. Ensign	M1-SW1	11/16/07	0723	G	X	X	X	X	X	X	11.7	29	6.9
FO 071398	4800 N. CHANNEL	S5-SW1	11/16/07	0745	C	X	X	X	X	X	X	12.1	38	7.0
FO 071399	5555 N. CHANNEL (CN. LAGOON)	S1-SW1	11/16/07	0820	G	X	X	X	X	X	X	11.8	20	7.2
FO 071400	5828 N. VAN HOUTEN PL	48-SW1	11/16/07	0900	G	X	X	X	X	X	X	10.8	134	6.8
FO 071401	DUPLICATE	DUP	11/16/07	/	G	X	X	X	X	X	X	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 0957	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 0957	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: MYES DENNIS Date: 11/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071389 **Sample Collected:** 11/16/07 05:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11120
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	74	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.5	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	8	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0055	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.62	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	0.71	µg/L	0.4	EPA 200.8	11/23/07
COPPER	33.6	µg/L	0.2	EPA 200.8	11/23/07
LEAD	1.67	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	1.95	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	104	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(a)anthracene	0.0194	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(a)pyrene	0.0248	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(b)fluoranthene	0.0297	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(ghi)perylene	0.0238	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(k)fluoranthene	0.0209	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Bis(2-ethylhexyl) phthalate	7.46	µg/L	0.971	EPA 8270M-SIM	11/21/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Chrysene	0.0265	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071389 **Sample Collected:** 11/16/07 05:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11120
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Fluoranthene	0.0407	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Indeno(1,2,3-cd)pyrene	0.0164	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Pyrene	0.0396	µg/L	0.0194	EPA 8270M-SIM	11/21/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071389 **Sample Collected:** 11/16/07 05:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52-AAE519
CATHEDRAL PARK DS
Sample Point Code: 52_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11120
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071389 **Sample Collected:** 11/16/07 05:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-52-AAE519 CATHEDRAL PARK DS	**System ID:**	AL11120
Sample Point Code:	52_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071389

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071390 **Sample Collected:** 11/16/07 06:09 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11121
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	30	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	7.3	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.5	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	10	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0062	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.80	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	0.83	µg/L	0.4	EPA 200.8	11/23/07
COPPER	5.66	µg/L	0.2	EPA 200.8	11/23/07
LEAD	1.97	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	1.14	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	80.3	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Anthracene	0.0540	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(a)anthracene	0.0772	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(a)pyrene	0.0388	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(b)fluoranthene	0.0827	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(ghi)perylene	0.0267	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(k)fluoranthene	0.0527	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Chrysene	0.109	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071390 **Sample Collected:** 11/16/07 06:09 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11121
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Fluoranthene	0.321	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Indeno(1,2,3-cd)pyrene	0.0246	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Phenanthrene	0.0377	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Pyrene	0.146	µg/L	0.0194	EPA 8270M-SIM	11/21/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071390 **Sample Collected:** 11/16/07 06:09 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11121
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	0.35	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	0.34	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071390**
Sample Collected: 11/16/07 06:09
Sample Received: 11/16/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11121
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	1.4	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	0.25	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071390

Report Date: 01/10/08
Validated By:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071391 **Sample Collected:** 11/16/07 06:35 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11122
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	54	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	11.4	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	5	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0030	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.71	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	0.54	µg/L	0.4	EPA 200.8	11/23/07
COPPER	3.39	µg/L	0.2	EPA 200.8	11/23/07
LEAD	0.87	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	1.36	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	84.3	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Bis(2-ethylhexyl) phthalate	3.50	µg/L	0.971	EPA 8270M-SIM	11/21/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071391 **Sample Collected:** 11/16/07 06:35 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11122
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	11/23/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071391 **Sample Collected:** 11/16/07 06:35 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AL11122
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	11/23/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	11/23/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	11/23/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	11/23/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071391**
Sample Collected: 11/16/07 06:35
Sample Received: 11/16/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL11122
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	11/23/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Phenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	11/23/07

End of Report for Sample ID: FO071391

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071392 **Sample Collected:** 11/16/07 05:24 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11123
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	31	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.3	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.8	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	8	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0035	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.63	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.23	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	1.58	µg/L	0.4	EPA 200.8	11/23/07
COPPER	21.7	µg/L	0.2	EPA 200.8	11/23/07
LEAD	3.75	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	1.76	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	99.1	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Chrysene	0.0126	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071392 **Sample Collected:** 11/16/07 05:24 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11123
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/21/07
Fluoranthene	0.0310	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/21/07
Naphthalene	0.0283	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Phenanthrene	0.0230	µg/L	0.0194	EPA 8270M-SIM	11/21/07
Pyrene	0.0276	µg/L	0.0194	EPA 8270M-SIM	11/21/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071392 **Sample Collected:** 11/16/07 05:24 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M3-AAQ004
N BASIN AVE & EMERSON ST DS
Sample Point Code: M3_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11123
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071392 **Sample Collected:** 11/16/07 05:24 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-M3-AAQ004		
	N BASIN AVE & EMERSON ST DS	**System ID:**	AL11123
Sample Point Code:	M3_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071392

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071393 **Sample Collected:** 11/16/07 05:42 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11124
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	163	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.9	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	104	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0037	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.65	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.26	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	1.75	µg/L	0.4	EPA 200.8	11/23/07
COPPER	10.3	µg/L	0.2	EPA 200.8	11/23/07
LEAD	3.66	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	2.14	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	86.0	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Anthracene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	0.0110	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071393 **Sample Collected:** 11/16/07 05:42 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11124
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Fluorene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Phenanthrene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	11/23/07
Pyrene	0.0301	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071393 **Sample Collected:** 11/16/07 05:42 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AL11124
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071393**
Sample Collected: 11/16/07 05:42
Sample Received: 11/16/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL11124
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071393

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071394 **Sample Collected:** 11/16/07 06:05 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 1 of 4

System ID: AL11125
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	11/23/07
COPPER	<0.20	µg/L	0.2	EPA 200.8	11/23/07
LEAD	<0.10	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	<0.20	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	0.60	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071394 **Sample Collected:** 11/16/07 06:05 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 2 of 4

System ID: AL11125
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071394 **Sample Collected:** 11/16/07 06:05 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 3 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AL11125
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071394 **Sample Collected:** 11/16/07 06:05 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 4 of 4

System ID: AL11125
Sample Point Code: FDBLANK
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: DIWTR
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071394

Report Date: 01/10/08 **Validated By:**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071395 **Sample Collected:** 11/16/07 06:33 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11126
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	36	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.6	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0032	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.44	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.19	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	1.38	µg/L	0.4	EPA 200.8	11/23/07
COPPER	9.85	µg/L	0.2	EPA 200.8	11/23/07
LEAD	1.85	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	1.41	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	152	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071395 **Sample Collected:** 11/16/07 06:33 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11126
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	11/23/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071395 **Sample Collected:** 11/16/07 06:33 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11126
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<0.99	µg/L	0.99	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071395 **Sample Collected:** 11/16/07 06:33 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-S2-AAP957		
	5051 N LAGOON AVE DS	**System ID:**	AL11126
Sample Point Code:	S2_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071395

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071396 **Sample Collected:** 11/16/07 07:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11127
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	22	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	7.2	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.0	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	7	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0044	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.40	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.14	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	1.29	µg/L	0.4	EPA 200.8	11/23/07
COPPER	22.7	µg/L	0.2	EPA 200.8	11/23/07
LEAD	3.51	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	2.66	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	299	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	0.0347	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	0.0227	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	0.0321	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	0.0273	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	0.0270	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	1.14	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	0.0699	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071396 **Sample Collected:** 11/16/07 07:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11127
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	0.133	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	0.0130	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	0.0575	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	0.102	µg/L	0.0388	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071396 **Sample Collected:** 11/16/07 07:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11127
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	1.2	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071396 **Sample Collected:** 11/16/07 07:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11127
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071396

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071397 **Sample Collected:** 11/16/07 07:23 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	29	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	11.7	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	48	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0076	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.90	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.37	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	2.88	µg/L	0.4	EPA 200.8	11/23/07
COPPER	10.9	µg/L	0.2	EPA 200.8	11/23/07
LEAD	7.83	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	2.74	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	168	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	0.0128	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	0.0114	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	0.0179	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	0.0123	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	0.0244	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071397 **Sample Collected:** 11/16/07 07:23 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	11/23/07
Fluoranthene	0.0688	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	0.0312	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	0.0312	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	0.0384	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071397 **Sample Collected:** 11/16/07 07:23 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M1-AAM107
6208 N ENSIGN CT DS
Sample Point Code: M1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11128
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	0.26	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	2.6	µg/L	0.99	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071397 **Sample Collected:** 11/16/07 07:23 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-M1-AAM107 6208 N ENSIGN CT DS	**System ID:**	AL11128
Sample Point Code:	M1_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	0.74	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071397

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071398** **Sample Collected:** 11/16/07 07:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	38	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	12.1	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	29	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0075	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.73	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.21	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	2.91	µg/L	0.4	EPA 200.8	11/23/07
COPPER	15.7	µg/L	0.2	EPA 200.8	11/23/07
LEAD	5.79	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	2.61	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	345	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	0.0219	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	0.0432	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	0.0349	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	0.0305	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	0.0258	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	0.0377	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	0.0609	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071398 **Sample Collected:** 11/16/07 07:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	0.169	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	0.0185	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	0.107	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	0.0972	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	11/23/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071398 **Sample Collected:** 11/16/07 07:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11129
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	11/23/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	11/23/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Fluoranthene	0.25	µg/L	0.21	EPA 8270	11/23/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	11/23/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	11/23/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071398 **Sample Collected:** 11/16/07 07:45 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-S5-AAP982 4800 N CHANNEL AVE DS	**System ID:**	AL11129
Sample Point Code:	S5_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	11/23/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Phenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
Pyrene	0.29	µg/L	0.21	EPA 8270	11/23/07

End of Report for Sample ID: FO071398

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071399 **Sample Collected:** 11/16/07 08:20 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	20	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	7.2	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	11.8	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	78	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.017	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.18	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.36	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	6.09	µg/L	0.4	EPA 200.8	11/23/07
COPPER	35.3	µg/L	0.2	EPA 200.8	11/23/07
LEAD	22.2	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	5.89	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	266	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.192	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	0.0348	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	0.423	µg/L	0.0971	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	1.88	µg/L	0.0485	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	1.54	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	1.60	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	0.967	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	1.64	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	8.73	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	2.63	µg/L	0.0485	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	0.359	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071399 **Sample Collected:** 11/16/07 08:20 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	4.21	µg/L	0.0971	EPA 8270M-SIM	11/23/07
Fluorene	0.147	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	0.842	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	0.126	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	1.95	µg/L	0.0971	EPA 8270M-SIM	11/23/07
Pyrene	4.40	µg/L	0.0971	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	11/23/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071399** **Sample Collected:** 11/16/07 08:20 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 3 of 4
Address/Location:	SW-S1-AAM131 5555 N CHANNEL AVE DS	**System ID:**	AL11130
Sample Point Code:	S1_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/23/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	11/23/07
Acenaphthene	0.27	µg/L	0.21	EPA 8270	11/23/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Anthracene	0.57	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)anthracene	2.7	µg/L	0.21	EPA 8270	11/23/07
Benzo(a)pyrene	2.2	µg/L	0.21	EPA 8270	11/23/07
Benzo(b)fluoranthene	2.2	µg/L	0.21	EPA 8270	11/23/07
Benzo(g,h,i)perylene	1.4	µg/L	0.21	EPA 8270	11/23/07
Benzo(k)fluoranthene	2.5	µg/L	0.21	EPA 8270	11/23/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	11/23/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	2.3	µg/L	1.1	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Chrysene	4.1	µg/L	0.21	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	0.60	µg/L	0.21	EPA 8270	11/23/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	11/23/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	11/23/07
Fluoranthene	5.4	µg/L	0.21	EPA 8270	11/23/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	11/23/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	1.6	µg/L	0.21	EPA 8270	11/23/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	11/23/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	11/23/07
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071399 **Sample Collected:** 11/16/07 08:20 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL11130
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	11/23/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	11/23/07
Phenanthrene	2.6	µg/L	0.21	EPA 8270	11/23/07
Phenol	<0.51	µg/L	0.51	EPA 8270	11/23/07
Pyrene	6.3	µg/L	0.21	EPA 8270	11/23/07

End of Report for Sample ID: FO071399

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071400 **Sample Collected:** 11/16/07 09:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-48-AAJ670 5828 N VAN HOUTEN PLACE	**System ID:**	AL11131
Sample Point Code:	48_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	134	µmhos/cm	1	SM 2510 B	11/16/07
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	11/16/07
TEMPERATURE	10.8	Deg. C	0.1	SM 2550 B	11/16/07
GENERAL					
TOTAL SUSPENDED SOLIDS	11	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0034	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.40	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	0.43	µg/L	0.4	EPA 200.8	11/23/07
COPPER	4.84	µg/L	0.2	EPA 200.8	11/23/07
LEAD	1.30	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	3.70	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	20.5	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071400 **Sample Collected:** 11/16/07 09:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071400 **Sample Collected:** 11/16/07 09:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AL11131
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071400 **Sample Collected:** 11/16/07 09:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-48-AAJ670 5828 N VAN HOUTEN PLACE	**System ID:**	AL11131
Sample Point Code:	48_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07

End of Report for Sample ID: FO071400

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071401 **Sample Collected:** 11/16/07 00:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

System ID: AL11132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	27	mg/L	2	SM 2540 D	11/16/07
METALS					
MERCURY	0.0071	µg/L	0.002	WPCLSOP M-10.02	11/17/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.73	µg/L	0.1	EPA 200.8	11/23/07
CADMIUM	0.20	µg/L	0.1	EPA 200.8	11/23/07
CHROMIUM	2.87	µg/L	0.4	EPA 200.8	11/23/07
COPPER	15.4	µg/L	0.2	EPA 200.8	11/23/07
LEAD	5.63	µg/L	0.1	EPA 200.8	11/23/07
NICKEL	2.62	µg/L	0.2	EPA 200.8	11/23/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/23/07
ZINC	344	µg/L	0.5	EPA 200.8	11/23/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	11/20/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	11/23/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Anthracene	0.167	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(a)anthracene	0.0518	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(a)pyrene	0.0426	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(b)fluoranthene	0.0407	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Benzo(ghi)perylene	0.0348	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Benzo(k)fluoranthene	0.0432	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Chrysene	0.0798	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Dibenzo(a,h)anthracene	0.0103	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/23/07
Fluoranthene	0.206	µg/L	0.0194	EPA 8270M-SIM	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071401 **Sample Collected:** 11/16/07 00:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 2 of 4

System ID: AL11132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Indeno(1,2,3-cd)pyrene	0.0232	µg/L	0.00971	EPA 8270M-SIM	11/23/07
Naphthalene	0.0206	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Phenanthrene	0.179	µg/L	0.0194	EPA 8270M-SIM	11/23/07
Pyrene	0.135	µg/L	0.0194	EPA 8270M-SIM	11/23/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	11/23/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	11/23/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	11/23/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	11/23/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071401 **Sample Collected:** 11/16/07 00:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 3 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	11/23/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	11/23/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	11/23/07
Bis(2-ethylhexyl) phthalate	1.6	µg/L	1.0	EPA 8270	11/23/07
Butyl benzyl phthalate	0.29	µg/L	0.20	EPA 8270	11/23/07
Chrysene	0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	11/23/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	11/23/07
Fluoranthene	0.31	µg/L	0.20	EPA 8270	11/23/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	11/23/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	11/23/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	11/23/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	11/23/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	11/23/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	11/23/07
Phenanthrene	0.24	µg/L	0.20	EPA 8270	11/23/07
Phenol	<0.50	µg/L	0.50	EPA 8270	11/23/07
Pyrene	0.37	µg/L	0.20	EPA 8270	11/23/07

Report Date: 01/10/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071401 **Sample Collected:** 11/16/07 00:00 **Sample Received:** 11/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 4 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL11132
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO071401

Report Date: 01/10/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

January 2, 2008 Analytical Report for Service Request No: K0710889

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor SW/Inline

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on November 19, 2007. For your reference, these analyses have been assigned our service request number K0710889.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071389
Lab Code: K0710889-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

000 5

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071389
Lab Code: K0710889-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

000 6

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071389
Lab Code: K0710889-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	61	16-122	12/03/07	Acceptable
Phenol-d6	61	25-118	12/03/07	Acceptable
Nitrobenzene-d5	58	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	62	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	76	22-148	12/03/07	Acceptable
Terphenyl-d14	62	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

000 7

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071390
Lab Code: K0710889-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	**0.35**		0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071390
Lab Code: K0710889-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	**1.4**		1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	**0.34**		0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	**0.25**		0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

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Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071390
Lab Code: K0710889-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	16-122	12/03/07	Acceptable
Phenol-d6	68	25-118	12/03/07	Acceptable
Nitrobenzene-d5	68	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	70	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	71	22-148	12/03/07	Acceptable
Terphenyl-d14	73	28-144	12/03/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071391
Lab Code: K0710889-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.1	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.1	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.1	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071391
Lab Code: K0710889-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.1	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071391
Lab Code: K0710889-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	16-122	12/03/07	Acceptable
Phenol-d6	74	25-118	12/03/07	Acceptable
Nitrobenzene-d5	73	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	79	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	71	22-148	12/03/07	Acceptable
Terphenyl-d14	69	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071392
Lab Code: K0710889-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071392
Lab Code: K0710889-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071392
Lab Code: K0710889-004

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	12/03/07	Acceptable
Phenol-d6	66	25-118	12/03/07	Acceptable
Nitrobenzene-d5	65	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	70	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	69	22-148	12/03/07	Acceptable
Terphenyl-d14	61	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071393
Lab Code: K0710889-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00017

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071393
Lab Code: K0710889-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00018

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071393
Lab Code: K0710889-005

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	57	16-122	12/03/07	Acceptable
Phenol-d6	63	25-118	12/03/07	Acceptable
Nitrobenzene-d5	60	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	58	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	73	22-148	12/03/07	Acceptable
Terphenyl-d14	65	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071394
Lab Code: K0710889-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00020

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071394
Lab Code: K0710889-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00021

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071394
Lab Code: K0710889-006

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	48	16-122	12/03/07	Acceptable
Phenol-d6	49	25-118	12/03/07	Acceptable
Nitrobenzene-d5	48	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	59	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	61	22-148	12/03/07	Acceptable
Terphenyl-d14	62	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00022

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071395
Lab Code: K0710889-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	0.99	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071395
Lab Code: K0710889-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	0.99	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	0.99	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	0.99	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00024

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071395
Lab Code: K0710889-007

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	63	16-122	12/03/07	Acceptable
Phenol-d6	66	25-118	12/03/07	Acceptable
Nitrobenzene-d5	63	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	65	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	84	22-148	12/03/07	Acceptable
Terphenyl-d14	67	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071396
Lab Code: K0710889-008

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071396
Lab Code: K0710889-008

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	**1.2**		1.0	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/03/07	KWG0712819	

Comments:

00027

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071396
Lab Code: K0710889-008

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	16-122	12/03/07	Acceptable
Phenol-d6	75	25-118	12/03/07	Acceptable
Nitrobenzene-d5	74	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	73	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	74	22-148	12/03/07	Acceptable
Terphenyl-d14	73	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071397
Lab Code: K0710889-009

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Phenol	**0.74**		0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	0.99	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	**0.26**		0.20	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071397
Lab Code: K0710889-009

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	0.99	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	0.99	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	0.99	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	**2.6**		0.99	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071397
Lab Code: K0710889-009

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	75	16-122	12/04/07	Acceptable
Phenol-d6	82	25-118	12/04/07	Acceptable
Nitrobenzene-d5	82	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	73	26-114	12/04/07	Acceptable
2,4,6-Tribromophenol	83	22-148	12/04/07	Acceptable
Terphenyl-d14	62	28-144	12/04/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00031

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071398
Lab Code: K0710889-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Phenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Chlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzyl Alcohol	ND	U	5.1	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Methylphenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Hexachloroethane	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Methylphenol†	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Nitrobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Isophorone	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Nitrophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.1	1	11/23/07	12/03/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
Benzoic Acid	ND	U	5.1	1	11/23/07	12/03/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Naphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chloroaniline	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.51	1	11/23/07	12/03/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2-Nitroaniline	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Acenaphthylene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071398
Lab Code: K0710889-010

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
3-Nitroaniline	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.1	1	11/23/07	12/03/07	KWG0712819	
Dibenzofuran	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Nitrophenol	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Fluorene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Diethyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Nitroaniline	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Hexachlorobenzene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Pentachlorophenol	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
Phenanthrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Fluoranthene	**0.25**		0.21	1	11/23/07	12/03/07	KWG0712819	
Pyrene	**0.29**		0.21	1	11/23/07	12/03/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.1	1	11/23/07	12/03/07	KWG0712819	
Benz(a)anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Chrysene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	11/23/07	12/03/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.21	1	11/23/07	12/03/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071398
Lab Code: K0710889-010

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	12/03/07	Acceptable
Phenol-d6	64	25-118	12/03/07	Acceptable
Nitrobenzene-d5	63	24-131	12/03/07	Acceptable
2-Fluorobiphenyl	60	26-114	12/03/07	Acceptable
2,4,6-Tribromophenol	71	22-148	12/03/07	Acceptable
Terphenyl-d14	51	28-144	12/03/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071399
Lab Code: K0710889-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Phenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.1	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.1	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.1	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.51	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071399
Lab Code: K0710889-011

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**0.27**		0.21	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.1	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	**2.6**		0.21	1	11/23/07	12/04/07	KWG0712819	
Anthracene	**0.57**		0.21	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	**5.4**		0.21	1	11/23/07	12/04/07	KWG0712819	
Pyrene	**6.3**		0.21	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	**2.7**		0.21	1	11/23/07	12/04/07	KWG0712819	
Chrysene	**4.1**		0.21	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	**2.3**		1.1	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	**2.2**		0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	**2.5**		0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	**2.2**		0.21	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	**1.6**		0.21	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	**0.60**		0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	**1.4**		0.21	1	11/23/07	12/04/07	KWG0712819	

Comments:

00036

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071399
Lab Code: K0710889-011

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	12/04/07	Acceptable
Phenol-d6	65	25-118	12/04/07	Acceptable
Nitrobenzene-d5	66	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	66	26-114	12/04/07	Acceptable
2,4,6-Tribromophenol	74	22-148	12/04/07	Acceptable
Terphenyl-d14	64	28-144	12/04/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071400
Lab Code: K0710889-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071400
Lab Code: K0710889-012

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071400
Lab Code: K0710889-012

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	63	16-122	12/04/07	Acceptable
Phenol-d6	64	25-118	12/04/07	Acceptable
Nitrobenzene-d5	61	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	66	26-114	12/04/07	Acceptable
2,4,6-Tribromophenol	69	22-148	12/04/07	Acceptable
Terphenyl-d14	50	28-144	12/04/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071401
Lab Code: K0710889-013

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

00041

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071401
Lab Code: K0710889-013

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	**0.24**		0.20	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	**0.31**		0.20	1	11/23/07	12/04/07	KWG0712819	
Pyrene	**0.37**		0.20	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	**0.29**		0.20	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Chrysene	**0.20**		0.20	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	**1.6**		1.0	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071401
Lab Code: K0710889-013

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	60	16-122	12/04/07	Acceptable
Phenol-d6	62	25-118	12/04/07	Acceptable
Nitrobenzene-d5	59	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	63	26-114	12/04/07	Acceptable
2,4,6-Tribromophenol	76	22-148	12/04/07	Acceptable
Terphenyl-d14	70	28-144	12/04/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00043

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071402
Lab Code: K0710889-014

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Phenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.3	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.2	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.3	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.53	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071402
Lab Code: K0710889-014

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.2	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	**0.43**		0.21	1	11/23/07	12/04/07	KWG0712819	
Pyrene	**0.66**		0.21	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.1	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Chrysene	**0.42**		0.21	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.21	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071402
Lab Code: K0710889-014

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	71	16-122	12/04/07	Acceptable
Phenol-d6	72	25-118	12/04/07	Acceptable
Nitrobenzene-d5	64	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	22	26-114	12/04/07	Outside Control Limits
2,4,6-Tribromophenol	26	22-148	12/04/07	Acceptable
Terphenyl-d14	8	28-144	12/04/07	Outside Control Limits

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071403
Lab Code: K0710889-015

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071403
Lab Code: K0710889-015

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.0	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	**0.20**		0.20	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	**0.28**		0.20	1	11/23/07	12/04/07	KWG0712819	
Pyrene	**0.30**		0.20	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	**1.2**		1.0	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071403
Lab Code: K0710889-015

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	53	16-122	12/04/07	Acceptable
Phenol-d6	61	25-118	12/04/07	Acceptable
Nitrobenzene-d5	64	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	46	26-114	12/04/07	Acceptable
2,4,6-Tribromophenol	49	22-148	12/04/07	Acceptable
Terphenyl-d14	20	28-144	12/04/07	Outside Control Limits

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071404
Lab Code: K0710889-016

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Phenol	**0.60**		0.58	1	11/23/07	12/04/07	KWG0712819	
2-Chlorophenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Benzyl Alcohol	ND	U	5.8	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
2-Methylphenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
Hexachloroethane	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Methylphenol†	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
Nitrobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Isophorone	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
2-Nitrophenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.6	1	11/23/07	12/04/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
Benzoic Acid	ND	U	5.8	1	11/23/07	12/04/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Naphthalene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Chloroaniline	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	1.2	1	11/23/07	12/04/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.58	1	11/23/07	12/04/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
2-Nitroaniline	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Acenaphthylene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071404
Lab Code: K0710889-016

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
3-Nitroaniline	ND	U	1.2	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.6	1	11/23/07	12/04/07	KWG0712819	
Dibenzofuran	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Nitrophenol	ND	U	2.3	1	11/23/07	12/04/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Fluorene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Diethyl Phthalate	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Nitroaniline	ND	U	1.2	1	11/23/07	12/04/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.3	1	11/23/07	12/04/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Hexachlorobenzene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Pentachlorophenol	ND	U	1.2	1	11/23/07	12/04/07	KWG0712819	
Phenanthrene	**0.28**		0.23	1	11/23/07	12/04/07	KWG0712819	
Anthracene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Fluoranthene	**0.41**		0.23	1	11/23/07	12/04/07	KWG0712819	
Pyrene	**0.49**		0.23	1	11/23/07	12/04/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.3	1	11/23/07	12/04/07	KWG0712819	
Benz(a)anthracene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Chrysene	**0.39**		0.23	1	11/23/07	12/04/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	1.2	1	11/23/07	12/04/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.23	1	11/23/07	12/04/07	KWG0712819	

Comments:

00051

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: 11/16/2007
Date Received: 11/19/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 071404
Lab Code: K0710889-016

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	47	16-122	12/04/07	Acceptable
Phenol-d6	59	25-118	12/04/07	Acceptable
Nitrobenzene-d5	59	24-131	12/04/07	Acceptable
2-Fluorobiphenyl	17	26-114	12/04/07	Outside Control Limits
2,4,6-Tribromophenol	20	22-148	12/04/07	Outside Control Limits
Terphenyl-d14	8	28-144	12/04/07	Outside Control Limits

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0712819-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Phenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
2-Chlorophenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
1,3-Dichlorobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
1,4-Dichlorobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
1,2-Dichlorobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Benzyl Alcohol	ND	U	5.0	1	11/23/07	11/30/07	KWG0712819	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
2-Methylphenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
Hexachloroethane	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Methylphenol†	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
Nitrobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Isophorone	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
2-Nitrophenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
2,4-Dimethylphenol	ND	U	4.0	1	11/23/07	11/30/07	KWG0712819	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
2,4-Dichlorophenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
Benzoic Acid	ND	U	5.0	1	11/23/07	11/30/07	KWG0712819	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Naphthalene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Chloroaniline	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Hexachlorobutadiene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
2-Methylnaphthalene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Hexachlorocyclopentadiene	ND	U	0.99	1	11/23/07	11/30/07	KWG0712819	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/23/07	11/30/07	KWG0712819	
2-Chloronaphthalene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
2-Nitroaniline	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Acenaphthylene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Dimethyl Phthalate	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
2,6-Dinitrotoluene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0712819-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
3-Nitroaniline	ND	U	0.99	1	11/23/07	11/30/07	KWG0712819	
2,4-Dinitrophenol	ND	U	4.0	1	11/23/07	11/30/07	KWG0712819	
Dibenzofuran	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Nitrophenol	ND	U	2.0	1	11/23/07	11/30/07	KWG0712819	
2,4-Dinitrotoluene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Fluorene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Diethyl Phthalate	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Nitroaniline	ND	U	0.99	1	11/23/07	11/30/07	KWG0712819	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/23/07	11/30/07	KWG0712819	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Hexachlorobenzene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Pentachlorophenol	ND	U	0.99	1	11/23/07	11/30/07	KWG0712819	
Phenanthrene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Anthracene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Di-n-butyl Phthalate	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Fluoranthene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Pyrene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/23/07	11/30/07	KWG0712819	
Benz(a)anthracene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Chrysene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	11/23/07	11/30/07	KWG0712819	
Di-n-octyl Phthalate	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Benzo(b)fluoranthene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Benzo(k)fluoranthene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Benzo(a)pyrene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/23/07	11/30/07	KWG0712819	

Comments:

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0712819-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	36	16-122	11/30/07	Acceptable
Phenol-d6	37	25-118	11/30/07	Acceptable
Nitrobenzene-d5	35	24-131	11/30/07	Acceptable
2-Fluorobiphenyl	44	26-114	11/30/07	Acceptable
2,4,6-Tribromophenol	52	22-148	11/30/07	Acceptable
Terphenyl-d14	69	28-144	11/30/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0710889
Project:	Portland Harbor SW/Inline	**Date Received:**	11/19/2007
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Sixteen water samples were received for analysis at Columbia Analytical Services on 11/19/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Surrogate Exceptions:
The control criteria were exceeded for 2-Fluorobiphenyl and Terphenyl-d14 in FO-071402. A reanalysis was not performed because insufficient sample was available. No further corrective action was possible.

The control criteria were exceeded for Terphenyl-d14 in FO-071403. A reanalysis was not performed because insufficient sample was available. No further corrective action was possible.

The control criteria were exceeded for 2-Fluorobiphenyl, 2,4,6-Tribromophenol, and Terphenyl-d14 in FO-071404. A reanalysis was not performed because insufficient sample was available. No further corrective action was possible.

Lab Control Sample Exceptions:
The recovery of Hexachlorocyclopentadiene in Duplicate Laboratory Control Sample KWG0712819-3 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed are in the range expected for this procedure. No further corrective action was taken.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A MS and Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ Date 1/2/08

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4		Sur5		Sur6	
FO 071389	K0710889-001	61	61	58	62		76		62	
FO 071390	K0710889-002	65	68	68	70		71		73	
FO 071391	K0710889-003	66	74	73	79		71		69	
FO 071392	K0710889-004	59	66	65	70		69		61	
FO 071393	K0710889-005	57	63	60	58		73		65	
FO 071394	K0710889-006	48	49	48	59		61		62	
FO 071395	K0710889-007	63	66	63	65		84		67	
FO 071396	K0710889-008	66	75	74	73		74		73	
FO 071397	K0710889-009	75	82	82	73		83		62	
FO 071398	K0710889-010	59	64	63	60		71		51	
FO 071399	K0710889-011	59	65	66	66		74		64	
FO 071400	K0710889-012	63	64	61	66		69		50	
FO 071401	K0710889-013	60	62	59	63		76		70	
FO 071402	K0710889-014	71	72	64	22	*	26		8	*
FO 071403	K0710889-015	53	61	64	46		49		20	*
FO 071404	K0710889-016	47	59	59	17	*	20	*	8	*
Method Blank	KWG0712819-4	36	37	35	44		52		69	
Batch QC	K0710940-001	65	63	60	60		83		71	
Batch QCMS	KWG0712819-1	66	65	59	69		86		71	
Lab Control Sample	KWG0712819-2	52	54	49	57		71		69	
Duplicate Lab Control Sample	KWG0712819-3	45	51	47	56		76		75	

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Portland, City of	**Service Request:**	K0710889
Project:	Portland Harbor SW/Inline	**Date Extracted:**	11/23/2007
Sample Matrix:	Water	**Date Analyzed:**	11/30/2007

Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0710940-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C	**Extraction Lot:**	KWG0712819

Batch QCMS
KWG0712819-1

Analyte Name	Sample Result	Matrix Spike Result	Matrix Spike Expected	Matrix Spike %Rec	%Rec Limits
Phenol	ND	3.28	5.00	66	10-145
2-Chlorophenol	ND	3.27	5.00	65	27-115
1,4-Dichlorobenzene	ND	1.95	5.00	39	10-72
N-Nitrosodi-n-propylamine	ND	2.90	5.00	58	30-119
1,2,4-Trichlorobenzene	ND	2.16	5.00	43	15-83
4-Chloro-3-methylphenol	ND	4.42	5.00	88	12-141
Acenaphthene	ND	3.19	5.00	64	24-114
4-Nitrophenol	ND	4.10	5.00	82	43-140
2,4-Dinitrotoluene	ND	3.56	5.00	71	28-136
Pentachlorophenol	ND	4.52	5.00	90	30-148
Pyrene	ND	3.64	5.00	73	25-140

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Extracted: 11/23/2007
Date Analyzed: 11/30/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0712819

	Lab Control Sample KWG0712819-2 Lab Control Spike			Duplicate Lab Control Sample KWG0712819-3 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	2.51	5.00	50	2.33	5.00	47	30-125	8	30
Phenol	2.41	5.00	48	2.31	5.00	46	32-117	4	30
2-Chlorophenol	2.65	5.00	53	2.49	5.00	50	32-117	6	30
1,3-Dichlorobenzene	1.53	5.00	31	1.36	5.00	27	10-79	12	30
1,4-Dichlorobenzene	1.57	5.00	31	1.40	5.00	28	10-81	12	30
1,2-Dichlorobenzene	1.68	5.00	34	1.51	5.00	30	15-86	11	30
Benzyl Alcohol	2.23	5.00	45	2.18	5.00	44	33-119	2	30
Bis(2-chloroisopropyl) Ether	2.23	5.00	45	2.16	5.00	43	29-116	3	30
2-Methylphenol	2.11	5.00	42	2.08	5.00	42	29-115	1	30
Hexachloroethane	1.05	5.00	21	0.959	5.00	19	10-76	9	30
N-Nitrosodi-n-propylamine	2.22	5.00	44	2.32	5.00	46	35-119	4	30
4-Methylphenol	2.05	5.00	41	2.02	5.00	40	30-116	1	30
Nitrobenzene	2.16	5.00	43	2.06	5.00	41	34-122	5	30
Isophorone	2.58	5.00	52	2.80	5.00	56	33-121	8	30
2-Nitrophenol	2.78	5.00	56	2.73	5.00	55	33-120	2	30
2,4-Dimethylphenol	1.02	5.00	20	1.21	5.00	24	10-116	17	30
Bis(2-chloroethoxy)methane	2.55	5.00	51	2.71	5.00	54	34-119	6	30
2,4-Dichlorophenol	2.76	5.00	55	2.62	5.00	52	33-120	5	30
Benzoic Acid	9.24	15.0	62	11.2	15.0	74	10-118	19	30
1,2,4-Trichlorobenzene	1.77	5.00	35	1.62	5.00	32	14-88	9	30
Naphthalene	2.30	5.00	46	2.14	5.00	43	27-103	7	30
4-Chloroaniline	2.31	5.00	46	2.13	5.00	43	10-110	8	30
Hexachlorobutadiene	1.16	5.00	23	1.03	5.00	21	10-75	11	30
4-Chloro-3-methylphenol	3.11	5.00	62	2.98	5.00	60	37-120	4	30
2-Methylnaphthalene	2.47	5.00	49	2.14	5.00	43	27-99	14	30
Hexachlorocyclopentadiene	0.501	5.00	10	0.382	5.00	8 *	10-54	27	30
2,4,6-Trichlorophenol	3.00	5.00	60	3.14	5.00	63	34-118	5	30
2,4,5-Trichlorophenol	3.19	5.00	64	3.42	5.00	68	36-119	7	30
2-Chloronaphthalene	2.41	5.00	48	2.34	5.00	47	30-108	3	30
2-Nitroaniline	3.01	5.00	60	3.21	5.00	64	35-122	7	30
Acenaphthylene	3.09	5.00	62	3.25	5.00	65	39-116	5	30
Dimethyl Phthalate	3.17	5.00	63	3.47	5.00	69	43-116	9	30
2,6-Dinitrotoluene	3.13	5.00	63	3.39	5.00	68	42-120	8	30
Acenaphthene	2.71	5.00	54	2.94	5.00	59	36-108	8	30
3-Nitroaniline	2.92	5.00	58	3.26	5.00	65	24-115	11	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor SW/Inline
Sample Matrix: Water

Service Request: K0710889
Date Extracted: 11/23/2007
Date Analyzed: 11/30/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0712819

	Lab Control Sample KWG0712819-2 Lab Control Spike			Duplicate Lab Control Sample KWG0712819-3 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	2.73	5.00	55	3.12	5.00	62	10-121	13	30
Dibenzofuran	2.88	5.00	58	3.23	5.00	65	36-108	11	30
4-Nitrophenol	2.96	5.00	59	3.62	5.00	72	33-136	20	30
2,4-Dinitrotoluene	3.05	5.00	61	3.53	5.00	71	43-124	15	30
Fluorene	2.94	5.00	59	3.42	5.00	68	37-113	15	30
4-Chlorophenyl Phenyl Ether	2.89	5.00	58	3.33	5.00	67	36-112	14	30
Diethyl Phthalate	3.05	5.00	61	3.59	5.00	72	42-120	16	30
4-Nitroaniline	2.83	5.00	57	3.40	5.00	68	23-120	18	30
2-Methyl-4,6-dinitrophenol	2.59	5.00	52	3.17	5.00	63	24-123	20	30
N-Nitrosodiphenylamine	2.71	5.00	54	3.19	5.00	64	30-115	16	30
4-Bromophenyl Phenyl Ether	3.06	5.00	61	3.32	5.00	66	40-113	8	30
Hexachlorobenzene	2.79	5.00	56	3.03	5.00	61	40-114	8	30
Pentachlorophenol	3.09	5.00	62	3.32	5.00	66	24-123	7	30
Phenanthrene	2.94	5.00	59	3.20	5.00	64	42-113	8	30
Anthracene	2.82	5.00	56	3.08	5.00	62	40-113	9	30
Di-n-butyl Phthalate	3.14	5.00	63	3.39	5.00	68	46-119	7	30
Fluoranthene	3.00	5.00	60	3.19	5.00	64	44-116	6	30
Pyrene	3.14	5.00	63	3.42	5.00	68	42-121	9	30
Butyl Benzyl Phthalate	3.10	5.00	62	3.46	5.00	69	43-121	11	30
3,3'-Dichlorobenzidine	2.59	5.00	52	2.74	5.00	55	10-101	6	30
Benz(a)anthracene	3.02	5.00	60	3.29	5.00	66	43-121	9	30
Chrysene	3.03	5.00	61	3.32	5.00	66	45-119	9	30
Bis(2-ethylhexyl) Phthalate	3.11	5.00	62	3.36	5.00	67	34-136	8	30
Di-n-octyl Phthalate	3.03	5.00	61	3.47	5.00	69	39-123	13	30
Benzo(b)fluoranthene	2.85	5.00	57	3.27	5.00	65	42-119	14	30
Benzo(k)fluoranthene	2.94	5.00	59	3.31	5.00	66	43-120	12	30
Benzo(a)pyrene	2.80	5.00	56	3.11	5.00	62	39-116	10	30
Indeno(1,2,3-cd)pyrene	2.98	5.00	60	3.50	5.00	70	42-123	16	30
Dibenz(a,h)anthracene	3.06	5.00	61	3.36	5.00	67	38-130	10	30
Benzo(g,h,i)perylene	2.87	5.00	57	3.22	5.00	64	38-125	11	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF ~ COC # _____

PROJECT NAME: PORTLAND HARBOR SW/INLINE

PROJECT NUMBER:

PROJECT MANAGER: JENNIFER SHACKELFORD

COMPANY/ADDRESS: WPCL - CITY OF PORTLAND BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids	TOC (ASTM D4129M)	☐ Lipids	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Full List SVOCs Low Level EPA 8270 C	PAH + Phthalates EPA 8270C SIM	REMARKS
FO 071389	11/6/07	0545		STORM WATER	1																X		
FO 071390		0009			1																X		
FO 071391		0635			1																X		
FO 071392		0524			1																X		
FO 071393		0542			1																X		
FO 071394		0605			1																X		
FO 071395		0633			1																X		
FO 071396		0700			1																X		
FO 071397		0723			1																X		
FO 071398	↓	0745		↓	1																X		

0005?

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

THIS IS FOR LOW LEVEL ANALYSIS OF FULL 8270 LIST.

THANKS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 11/19/07 1320	Date/Time: 11-19-07 1:20	Date/Time: 11-9-07	Date/Time: 11/19/07 1430
Printed Name: Rona Klinch	Printed Name:	Printed Name:	Printed Name: Les Kennedy
Firm: City of Portland	Firm: CAS	Firm: CAS 1430	Firm: CAS

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CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: _____

PAGE 2 OF 2 COC # _____

PROJECT NAME: PORTLAND HARBOR SW/INLINE

PROJECT NUMBER:

PROJECT MANAGER: JENNIFER SIMECKLEDAR

COMPANY/ADDRESS: WPCL - CITY OF PORTLAND BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Full List SVOCs - only EPA 8270C	PAH + Phthalates EPA 8270C SIM			REMARKS
FC 071399	11/16/07	0820		Storm Water	1															X				
FC 071400	↓	0900			1															X				
FC 071401	↓	—			1															X				
FC071402	↓	1115			1															X				
FC071403	↓	1132			1															X				
FC071404	↓	1144		↓	1															X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

THIS IS FOR LOW LEVEL ANALYSIS OF FULL 8270 LIST.

THANKS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature: [signature]	Signature: [signature]
Printed Name: Rena Kluth	Printed Name: [illegible]	Printed Name: [illegible]	Printed Name: Les Kennedy
Date/Time: 11/19/07 1320	Date/Time: 11-19-07 1320	Date/Time: 11-19-07 1345	Date/Time: 11/19/07 1430
Firm: City of Portland	Firm: CAS	Firm: CAS	Firm: CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC RV

Client / Project: Portland Harbor Service Request K07 10889

Received: 11/19/07 Opened: 11/19/07 By: LL

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	-1.1	1.0		
Temperature Blank (°C):				
6. If applicable, list Chain of Custody Numbers:	—	—		

7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* cardboard
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

00059

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

January 07, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 11/16/07 16:45. The following list is a summary of the Work Orders contained in this report, generated on 01/07/08 12:10.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQK0657	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071389	PQK0657-01	Water	11/16/07 05:45	11/16/07 16:45
FO 071390	PQK0657-02	Water	11/16/07 06:09	11/16/07 16:45
FO 071391	PQK0657-03	Water	11/16/07 06:35	11/16/07 16:45
FO 071392	PQK0657-04	Water	11/16/07 05:24	11/16/07 16:45
FO 071393	PQK0657-05	Water	11/16/07 05:42	11/16/07 16:45
FO 071394	PQK0657-06	Water	11/16/07 06:05	11/16/07 16:45
FO 071395	PQK0657-07	Water	11/16/07 06:33	11/16/07 16:45
FO 071396	PQK0657-08	Water	11/16/07 07:00	11/16/07 16:45
FO 071397	PQK0657-09	Water	11/16/07 07:23	11/16/07 16:45
FO 071398	PQK0657-10	Water	11/16/07 07:45	11/16/07 16:45
FO 071399	PQK0657-11	Water	11/16/07 08:20	11/16/07 16:45
FO 071400	PQK0657-12	Water	11/16/07 09:00	11/16/07 16:45
FO 071401	PQK0657-13	Water	11/16/07 00:00	11/16/07 16:45

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-01 (FO 071389)		**Water**			**Sampled: 11/16/07 05:45**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110816	11/21/07 12:20	11/27/07 18:15	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0194**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0248**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0297**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0238**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0209**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0265**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0407**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0164**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**7.46**	*0.511*	0.971	"	"	"	"	12/04/07 05:32	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0396**	*0.0194*	0.0194	"	"	"	"	11/27/07 18:15	
Surrogate(s): Fluorene-d10			*81.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*81.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*63.0%*		*10 - 125 %*	"			"	
PQK0657-02 (FO 071390)		**Water**			**Sampled: 11/16/07 06:09**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110816	11/21/07 12:20	11/28/07 23:38	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0540**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0772**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0388**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0827**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0267**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0527**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.109**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.321**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0246**	*0.00971*	0.00971	"	"	"	"	"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-02 (FO 071390)		**Water**			**Sampled: 11/16/07 06:09**					
Naphthalene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110816	11/21/07 12:20	11/28/07 23:38	
Phenanthrene	"	**0.0377**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.518**	*0.511*	0.971	"	"	"	"	12/04/07 06:06	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.146**	*0.0194*	0.0194	"	"	"	"	11/28/07 23:38	
Surrogate(s): Fluorene-d10			*62.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*62.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*62.5%*		*10 - 125 %*	"			"	
PQK0657-03 (FO 071391)		**Water**			**Sampled: 11/16/07 06:35**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110816	11/21/07 12:20	11/27/07 15:37	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**3.50**	*0.511*	0.971	"	"	"	"	12/04/07 06:40	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	11/27/07 15:37	
Surrogate(s): Fluorene-d10			*89.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*82.7%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*64.1%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-04 (FO 071392)		**Water**			**Sampled: 11/16/07 05:24**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110816	11/21/07 12:20	11/29/07 00:10	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0126**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0310**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0283**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0230**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.887**	*0.511*	0.971	"	"	"	"	12/05/07 10:59	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0276**	*0.0194*	0.0194	"	"	"	"	11/29/07 00:10	
Surrogate(s): Fluorene-d10			*65.3%*		*25 - 125 %*	"			"	
Pyrene-d10			*67.0%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*47.7%*		*10 - 125 %*	"			"	
PQK0657-05 (FO 071393)		**Water**			**Sampled: 11/16/07 05:42**					
Acenaphthene	EPA 8270m	ND	*0.0388*	0.0388	ug/l	2x	7110884	11/23/07 11:00	12/12/07 14:46	**RL1**
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	1x	"	"	12/04/07 02:17	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0110**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0388*	0.0388	"	2x	"	"	12/12/07 14:46	**RL1**
Fluorene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	1x	"	"	12/04/07 02:17	
Naphthalene	"	ND	*0.0388*	0.0388	"	2x	"	"	12/12/07 14:46	**RL1**

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-05 (FO 071393)		**Water**			**Sampled: 11/16/07 05:42**					
Phenanthrene	EPA 8270m	ND	*0.0388*	0.0388	ug/l	2x	7110884	11/23/07 11:00	12/12/07 14:46	**RL1**
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	1x	"	"	12/05/07 12:09	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0301**	*0.0194*	0.0194	"	"	"	"	12/04/07 02:17	
Surrogate(s): Fluorene-d10			*75.6%*		*25 - 125 %*	*2x*			*12/12/07 14:46*	
Pyrene-d10			*83.5%*		*23 - 150 %*	*1x*			*12/04/07 02:17*	
Benzo (a) pyrene-d12			*70.9%*		*10 - 125 %*	"			"	
PQK0657-06 (FO 071394)		**Water**			**Sampled: 11/16/07 06:05**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 17:14	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	12/05/07 12:44	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	11/28/07 17:14	
Surrogate(s): Fluorene-d10			*89.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*83.5%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*83.7%*		*10 - 125 %*	"			"	

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-07 (FO 071395)		**Water**			**Sampled: 11/16/07 06:33**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 18:19	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	12/05/07 13:19	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	ND	*0.0291*	0.0291	"	"	"	"	11/28/07 18:19	**RL1**
Surrogate(s): Fluorene-d10			*81.1%*		*25 - 125 %*	"			"	
Pyrene-d10			*71.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*50.2%*		*10 - 125 %*	"			"	
PQK0657-08 (FO 071396)		**Water**			**Sampled: 11/16/07 07:00**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 22:03	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0347**	*0.0194*	0.0194	"	2x	"	"	12/12/07 14:15	
Benzo (a) pyrene	"	**0.0227**	*0.00971*	0.00971	"	1x	"	"	11/28/07 22:03	
Benzo (b) fluoranthene	"	**0.0321**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0273**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0270**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0699**	*0.0194*	0.0194	"	2x	"	"	12/12/07 14:15	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	1x	"	"	11/28/07 22:03	
Fluoranthene	"	**0.133**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0130**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-08 (FO 071396)		**Water**			**Sampled: 11/16/07 07:00**					
Phenanthrene	EPA 8270m	**0.0575**	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 22:03	
Bis(2-ethylhexyl)phthalate	"	**1.14**	*0.511*	0.971	"	"	"	"	12/05/07 13:54	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.102**	*0.0388*	0.0388	"	2x	"	"	12/12/07 14:15	
Surrogate(s): Fluorene-d10			*75.0%*		*25 - 125 %*	*1x*			*11/28/07 22:03*	
Pyrene-d10			*64.4%*		*23 - 150 %*	*2x*			*12/12/07 14:15*	
Benzo (a) pyrene-d12			*59.1%*		*10 - 125 %*	*1x*			*11/28/07 22:03*	
PQK0657-09 (FO 071397)		**Water**			**Sampled: 11/16/07 07:23**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 20:59	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0128**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0114**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0179**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0123**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0244**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0688**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0312**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0312**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.816**	*0.511*	0.971	"	"	"	"	12/05/07 14:28	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.94*	1.94	"	"	"	"	"	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0384**	*0.0194*	0.0194	"	"	"	"	11/28/07 20:59	
Surrogate(s): Fluorene-d10			*67.5%*		*25 - 125 %*	"			"	
Pyrene-d10			*49.9%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*39.4%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-10 (FO 071398)		**Water**			**Sampled: 11/16/07 07:45**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 21:31	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0219**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0432**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0349**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0305**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0258**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0377**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0609**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.169**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0185**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.107**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	12/05/07 15:02	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0972**	*0.0194*	0.0194	"	"	"	"	11/28/07 21:31	
Surrogate(s): Fluorene-d10			*49.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*42.0%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*33.4%*		*10 - 125 %*	"			"	
PQK0657-11 (FO 071399)		**Water**			**Sampled: 11/16/07 08:20**					
Acenaphthene	EPA 8270m	**0.192**	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	12/04/07 04:21	
Acenaphthylene	"	**0.0348**	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.423**	*0.0971*	0.0971	"	5x	"	"	12/04/07 17:09	
Benzo (a) anthracene	"	**1.88**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (a) pyrene	"	**1.54**	*0.00971*	0.00971	"	1x	"	"	12/04/07 04:21	
Benzo (b) fluoranthene	"	**1.60**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.967**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**1.64**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**2.63**	*0.0485*	0.0485	"	5x	"	"	12/04/07 17:09	
Dibenzo (a,h) anthracene	"	**0.359**	*0.00971*	0.00971	"	1x	"	"	12/04/07 04:21	
Fluoranthene	"	**4.21**	*0.0971*	0.0971	"	5x	"	"	12/04/07 17:09	
Fluorene	"	**0.147**	*0.0194*	0.0194	"	1x	"	"	12/04/07 04:21	
Indeno (1,2,3-cd) pyrene	"	**0.842**	*0.00971*	0.00971	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-11 (FO 071399)		**Water**			**Sampled: 11/16/07 08:20**					
Naphthalene	EPA 8270m	**0.126**	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	12/04/07 04:21	
Phenanthrene	"	**1.95**	*0.0971*	0.0971	"	5x	"	"	12/04/07 17:09	
Bis(2-ethylhexyl)phthalate	"	**8.73**	*0.511*	0.971	"	1x	"	"	12/05/07 15:36	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**4.40**	*0.0971*	0.0971	"	5x	"	"	12/04/07 17:09	
Surrogate(s): Fluorene-d10			*74.1%*		*25 - 125 %*	*1x*			*12/04/07 04:21*	
Pyrene-d10			*70.8%*		*23 - 150 %*	*5x*			*12/04/07 17:09*	
Benzo (a) pyrene-d12			*57.6%*		*10 - 125 %*	*1x*			*12/04/07 04:21*	
PQK0657-12 (FO 071400)		**Water**			**Sampled: 11/16/07 09:00**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7110884	11/23/07 11:00	11/28/07 22:35	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	12/05/07 16:10	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	11/28/07 22:35	
Surrogate(s): Fluorene-d10			*82.0%*		*25 - 125 %*	"			"	
Pyrene-d10			*71.1%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*41.9%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0657-13 (FO 071401)		**Water**			**Sampled: 11/16/07 00:00**					
Acenaphthene	EPA 8270m	ND	*0.0291*	0.0291	ug/l	1x	7110884	11/23/07 11:00	11/28/07 23:07	**RL1**
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.167**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0518**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0426**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0407**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0348**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0432**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0798**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0103**	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.206**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0232**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0206**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.179**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.588**	*0.511*	0.971	"	"	"	"	12/05/07 16:43	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.135**	*0.0194*	0.0194	"	"	"	"	11/28/07 23:07	
Surrogate(s): Fluorene-d10			*72.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*57.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*41.2%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110816 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7110816-BLK1)									**Extracted: 11/21/07 12:20**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	11/27/07 15:06	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	11/29/07 19:09	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	11/27/07 15:06	
Surrogate(s): Fluorene-d10		*Recovery: 92.5%*			*Limits: 25-125%*	"							*11/27/07 15:06*	
Pyrene-d10		*97.1%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*83.0%*			*10-125%*	"							"	
LCS (7110816-BS1)									**Extracted: 11/21/07 12:20**					
Acenaphthene	EPA 8270m	1.91	0.0400	0.0400	ug/l	2x	--	2.50	76.3%	(35-120)	--	--	11/27/07 13:31	
Acenaphthylene	"	2.03	0.0400	0.0400	"	"	--	"	81.3%	(34-116)	--	--	"	
Anthracene	"	2.06	0.0400	0.0400	"	"	--	"	82.5%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.84	0.0200	0.0200	"	"	--	"	73.4%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.85	0.0200	0.0200	"	"	--	"	73.8%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	1.93	0.0200	0.0200	"	"	--	"	77.3%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	1.81	0.0400	0.0400	"	"	--	"	72.2%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.92	0.0200	0.0200	"	"	--	"	76.7%	(18-145)	--	--	"	
Chrysene	"	1.82	0.0200	0.0200	"	"	--	"	73.0%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.19	0.0200	0.0200	"	"	--	"	87.8%	(20-141)	--	--	"	
Fluoranthene	"	2.25	0.0400	0.0400	"	"	--	"	89.9%	(31-125)	--	--	"	
Fluorene	"	1.84	0.0400	0.0400	"	"	--	"	73.7%	(27-124)	--	--	"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110816 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7110816-BS1)													**Extracted: 11/21/07 12:20**	
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.11	0.0200	0.0200	ug/l	2x	--	2.50	84.2%	(30-135)	--	--	11/27/07 13:31	
Naphthalene	"	1.85	0.0400	0.0400	"	"	--	"	73.8%	(30-113)	--	--	"	
Phenanthrene	"	1.85	0.0400	0.0400	"	"	--	"	73.9%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	2.98	1.05	2.00	"	"	--	4.00	74.4%	(20-150)	--	--	11/29/07 19:43	
Butyl benzyl phthalate	"	3.00	1.05	2.00	"	"	--	"	74.9%	"	--	--	"	
Di-n-butyl phthalate	"	2.88	1.05	2.00	"	"	--	"	71.9%	"	--	--	"	
Di-n-octyl phthalate	"	2.69	1.05	2.00	"	"	--	"	67.2%	"	--	--	"	
Diethyl phthalate	"	2.89	1.05	2.00	"	"	--	"	72.2%	"	--	--	"	
Dimethyl phthalate	"	2.85	1.05	2.00	"	"	--	"	71.2%	"	--	--	"	
Pyrene	"	1.73	0.0400	0.0400	"	"	--	2.50	69.1%	(21-141)	--	--	11/27/07 13:31	
Surrogate(s): Fluorene-d10		*Recovery: 76.9%*			*Limits: 25-125%*	"							*11/27/07 13:31*	
Pyrene-d10		*72.4%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*76.9%*			*10-125%*	"							"	
Matrix Spike (7110816-MS1)					**QC Source: PQK0656-14**								**Extracted: 11/21/07 12:20**	
Acenaphthene	EPA 8270m	1.39	0.194	0.194	ug/l	10x	ND	2.43	57.2%	(35-120)	--	--	11/27/07 14:02	
Acenaphthylene	"	1.55	0.194	0.194	"	"	ND	"	63.9%	(34-116)	--	--	"	
Anthracene	"	1.69	0.194	0.194	"	"	ND	"	69.5%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.25	0.0971	0.0971	"	"	ND	"	51.5%	(22-129)	--	--	"	
Benzo (a) pyrene	"	1.20	0.0971	0.0971	"	"	ND	"	49.5%	(4-112)	--	--	"	
Benzo (b) fluoranthene	"	1.35	0.0971	0.0971	"	"	ND	"	55.6%	(0-136)	--	--	"	
Benzo (ghi) perylene	"	1.09	0.194	0.194	"	"	ND	"	45.1%	(0-126)	--	--	"	
Benzo (k) fluoranthene	"	1.14	0.0971	0.0971	"	"	ND	"	46.8%	(0-145)	--	--	"	
Chrysene	"	1.23	0.0971	0.0971	"	"	ND	"	50.8%	(7-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.38	0.0971	0.0971	"	"	ND	"	56.8%	(0-141)	--	--	"	
Fluoranthene	"	1.55	0.194	0.194	"	"	ND	"	63.7%	(30-125)	--	--	"	
Fluorene	"	1.50	0.194	0.194	"	"	ND	"	61.8%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	1.30	0.0971	0.0971	"	"	ND	"	53.5%	(0-135)	--	--	"	
Naphthalene	"	1.50	0.194	0.194	"	"	ND	"	61.7%	(30-126)	--	--	"	
Phenanthrene	"	1.54	0.194	0.194	"	"	ND	"	63.5%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	2.71	1.02	1.94	"	2x	ND	3.88	69.9%	(10-150)	--	--	12/11/07 17:40	
Butyl benzyl phthalate	"	2.76	1.02	1.94	"	"	ND	"	71.1%	"	--	--	"	
Di-n-butyl phthalate	"	2.67	1.02	1.94	"	"	ND	"	68.8%	"	--	--	"	
Di-n-octyl phthalate	"	4.65	1.02	1.94	"	"	ND	"	120%	"	--	--	"	
Diethyl phthalate	"	2.82	1.02	1.94	"	"	ND	"	72.7%	"	--	--	"	
Dimethyl phthalate	"	2.72	1.02	1.94	"	"	ND	"	70.1%	"	--	--	"	
Pyrene	"	1.27	0.194	0.194	"	10x	ND	2.43	52.3%	(14-168)	--	--	11/27/07 14:02	
Surrogate(s): Fluorene-d10		*Recovery: 63.7%*			*Limits: 25-125%*	"							*11/27/07 14:02*	
Pyrene-d10		*53.2%*			*23-150%*	"							"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110816 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (7110816-MS1)					**QC Source: PQK0656-14**				**Extracted: 11/21/07 12:20**					
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 35.7%*			*Limits: 10-125%*	*10x*							*11/27/07 14:02*	
Matrix Spike Dup (7110816-MSD1)					**QC Source: PQK0656-14**				**Extracted: 11/21/07 12:20**					
Acenaphthene	EPA 8270m	1.51	0.194	0.194	ug/l	10x	ND	2.43	62.0%	(35-120)	8.12%	(45)	11/27/07 14:34	
Acenaphthylene	"	1.63	0.194	0.194	"	"	ND	"	67.1%	(34-116)	4.83%	"	"	
Anthracene	"	1.81	0.194	0.194	"	"	ND	"	74.4%	(24-119)	6.87%	"	"	
Benzo (a) anthracene	"	1.38	0.0971	0.0971	"	"	ND	"	56.9%	(22-129)	9.92%	"	"	
Benzo (a) pyrene	"	1.33	0.0971	0.0971	"	"	ND	"	54.8%	(4-112)	10.0%	"	"	
Benzo (b) fluoranthene	"	1.43	0.0971	0.0971	"	"	ND	"	59.1%	(0-136)	6.20%	"	"	
Benzo (ghi) perylene	"	1.23	0.194	0.194	"	"	ND	"	50.5%	(0-126)	11.3%	"	"	
Benzo (k) fluoranthene	"	1.32	0.0971	0.0971	"	"	ND	"	54.4%	(0-145)	15.2%	"	"	
Chrysene	"	1.36	0.0971	0.0971	"	"	ND	"	55.9%	(7-137)	9.39%	"	"	
Dibenzo (a,h) anthracene	"	1.53	0.0971	0.0971	"	"	ND	"	63.0%	(0-141)	10.4%	"	"	
Fluoranthene	"	1.67	0.194	0.194	"	"	ND	"	68.8%	(30-125)	7.74%	"	"	
Fluorene	"	1.50	0.194	0.194	"	"	ND	"	61.9%	(27-124)	0.110%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.44	0.0971	0.0971	"	"	ND	"	59.2%	(0-135)	10.1%	"	"	
Naphthalene	"	1.69	0.194	0.194	"	"	ND	"	69.6%	(30-126)	12.1%	"	"	
Phenanthrene	"	1.65	0.194	0.194	"	"	ND	"	67.9%	(34-126)	6.70%	"	"	
Bis(2-ethylhexyl)phthalate	"	159	12.8	24.3	"	25x	ND	3.88	4100%	(10-150)	193%	(50)	12/11/07 19:20	M7, A-01
Butyl benzyl phthalate	"	3.16	2.91	9.71	"	10x	ND	"	81.5%	"	13.6%	"	12/11/07 18:47	J
Di-n-butyl phthalate	"	2.76	1.02	1.94	"	2x	ND	"	71.0%	"	3.06%	"	12/11/07 18:13	
Di-n-octyl phthalate	"	4.75	1.02	1.94	"	"	ND	"	122%	"	2.22%	"	"	
Diethyl phthalate	"	2.83	1.02	1.94	"	"	ND	"	72.9%	"	0.408%	"	"	
Dimethyl phthalate	"	2.73	1.02	1.94	"	"	ND	"	70.4%	"	0.350%	"	"	
Pyrene	"	1.49	0.194	0.194	"	10x	ND	2.43	61.4%	(14-168)	16.1%	(45)	11/27/07 14:34	
Surrogate(s): Fluorene-d10		*Recovery: 63.9%*			*Limits: 25-125%*	*"*							*11/27/07 14:34*	
Pyrene-d10		*63.2%*			*23-150%*	*"*							*"*	
Benzo (a) pyrene-d12		*38.9%*			*10-125%*	*"*							*"*	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110884 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7110884-BLK1)									**Extracted: 11/23/07 11:00**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	11/28/07 16:42	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	11/29/07 20:18	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	11/28/07 16:42	
Surrogate(s): Fluorene-d10		*Recovery: 85.1%*			*Limits: 25-125%*	"							*11/28/07 16:42*	
Pyrene-d10		*86.4%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*83.0%*			*10-125%*	"							"	
LCS (7110884-BS1)									**Extracted: 11/23/07 11:00**					
Acenaphthene	EPA 8270m	1.88	0.0400	0.0400	ug/l	2x	--	2.50	75.3%	(35-120)	--	--	11/28/07 15:06	
Acenaphthylene	"	1.85	0.0400	0.0400	"	"	--	"	74.2%	(34-116)	--	--	"	
Anthracene	"	1.82	0.0400	0.0400	"	"	--	"	72.7%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.85	0.0200	0.0200	"	"	--	"	74.0%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.76	0.0200	0.0200	"	"	--	"	70.5%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	1.79	0.0200	0.0200	"	"	--	"	71.7%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	1.58	0.0400	0.0400	"	"	--	"	63.1%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.85	0.0200	0.0200	"	"	--	"	74.2%	(18-145)	--	--	"	
Chrysene	"	1.83	0.0200	0.0200	"	"	--	"	73.4%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.01	0.0200	0.0200	"	"	--	"	80.5%	(20-141)	--	--	"	
Fluoranthene	"	2.01	0.0400	0.0400	"	"	--	"	80.4%	(31-125)	--	--	"	
Fluorene	"	1.85	0.0400	0.0400	"	"	--	"	74.0%	(27-124)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110884 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7110884-BS1)													**Extracted: 11/23/07 11:00**	
Indeno (1,2,3-cd) pyrene	EPA 8270m	1.91	0.0200	0.0200	ug/l	2x	--	2.50	76.3%	(30-135)	--	--	11/28/07 15:06	
Naphthalene	"	1.78	0.0400	0.0400	"	"	--	"	71.4%	(30-113)	--	--	"	
Phenanthrene	"	1.68	0.0400	0.0400	"	"	--	"	67.0%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	2.86	1.05	2.00	"	"	--	4.00	71.5%	(20-150)	--	--	11/29/07 20:51	
Butyl benzyl phthalate	"	2.85	1.05	2.00	"	"	--	"	71.3%	"	--	--	"	
Di-n-butyl phthalate	"	2.86	1.05	2.00	"	"	--	"	71.5%	"	--	--	"	
Di-n-octyl phthalate	"	2.59	1.05	2.00	"	"	--	"	64.7%	"	--	--	"	
Diethyl phthalate	"	2.81	1.05	2.00	"	"	--	"	70.3%	"	--	--	"	
Dimethyl phthalate	"	2.78	1.05	2.00	"	"	--	"	69.5%	"	--	--	"	
Pyrene	"	1.42	0.0400	0.0400	"	"	--	2.50	57.0%	(21-141)	--	--	11/28/07 15:06	
Surrogate(s): Fluorene-d10		*Recovery: 74.7%*		*Limits: 25-125%*	"								*11/28/07 15:06*	
Pyrene-d10		*62.8%*		*23-150%*	"								"	
Benzo (a) pyrene-d12		*71.9%*		*10-125%*	"								"	
Matrix Spike (7110884-MS1)							**QC Source: PQK0656-21**						**Extracted: 11/23/07 11:00**	
Acenaphthene	EPA 8270m	1.22	0.194	0.194	ug/l	10x	ND	2.43	50.2%	(35-120)	--	--	11/28/07 15:38	
Acenaphthylene	"	1.29	0.194	0.194	"	"	ND	"	53.1%	(34-116)	--	--	"	
Anthracene	"	1.36	0.194	0.194	"	"	ND	"	56.1%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.40	0.0971	0.0971	"	"	ND	"	57.5%	(22-129)	--	--	"	
Benzo (a) pyrene	"	1.33	0.0971	0.0971	"	"	ND	"	54.9%	(4-112)	--	--	"	
Benzo (b) fluoranthene	"	1.34	0.0971	0.0971	"	"	0.0142	"	54.7%	(0-136)	--	--	"	
Benzo (ghi) perylene	"	1.13	0.194	0.194	"	"	0.0247	"	45.5%	(0-126)	--	--	"	
Benzo (k) fluoranthene	"	1.38	0.0971	0.0971	"	"	ND	"	57.1%	(0-145)	--	--	"	
Chrysene	"	1.36	0.0971	0.0971	"	"	ND	"	56.0%	(7-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.40	0.0971	0.0971	"	"	ND	"	57.8%	(0-141)	--	--	"	
Fluoranthene	"	1.68	0.194	0.194	"	"	0.0605	"	66.8%	(30-125)	--	--	"	
Fluorene	"	1.20	0.194	0.194	"	"	ND	"	49.3%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	1.32	0.0971	0.0971	"	"	ND	"	54.4%	(0-135)	--	--	"	
Naphthalene	"	1.26	0.194	0.194	"	"	ND	"	51.9%	(30-126)	--	--	"	
Phenanthrene	"	1.36	0.194	0.194	"	"	0.0448	"	54.1%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	4.08	1.02	1.94	"	2x	1.92	3.88	55.6%	(10-150)	--	--	12/06/07 20:22	
Butyl benzyl phthalate	"	3.00	1.02	1.94	"	"	ND	"	77.2%	"	--	--	"	
Di-n-butyl phthalate	"	2.94	1.02	1.94	"	"	ND	"	75.6%	"	--	--	"	
Di-n-octyl phthalate	"	3.57	1.02	1.94	"	"	ND	"	92.0%	"	--	--	"	
Diethyl phthalate	"	2.87	1.02	1.94	"	"	ND	"	73.9%	"	--	--	"	
Dimethyl phthalate	"	2.65	1.02	1.94	"	"	ND	"	68.3%	"	--	--	"	
Pyrene	"	1.05	0.194	0.194	"	10x	ND	2.43	43.4%	(14-168)	--	--	11/28/07 15:38	
Surrogate(s): Fluorene-d10		*Recovery: 47.2%*		*Limits: 25-125%*	"								*11/28/07 15:38*	
Pyrene-d10		*38.0%*		*23-150%*	"								"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7110884 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (7110884-MS1)					**QC Source: PQK0656-21**				**Extracted: 11/23/07 11:00**					
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 33.3%*			*Limits: 10-125%*	*10x*							*11/28/07 15:38*	
Matrix Spike Dup (7110884-MSD1)					**QC Source: PQK0656-21**				**Extracted: 11/23/07 11:00**					
Acenaphthene	EPA 8270m	1.21	0.194	0.194	ug/l	10x	ND	2.43	49.8%	(35-120)	0.744%	(45)	11/28/07 16:10	
Acenaphthylene	"	1.27	0.194	0.194	"	"	ND	"	52.4%	(34-116)	1.42%	"	"	
Anthracene	"	1.28	0.194	0.194	"	"	ND	"	52.7%	(24-119)	6.11%	"	"	
Benzo (a) anthracene	"	1.09	0.0971	0.0971	"	"	ND	"	44.8%	(22-129)	25.0%	"	"	
Benzo (a) pyrene	"	0.960	0.0971	0.0971	"	"	ND	"	39.6%	(4-112)	32.6%	"	"	
Benzo (b) fluoranthene	"	1.00	0.0971	0.0971	"	"	0.0142	"	40.7%	(0-136)	29.3%	"	"	
Benzo (ghi) perylene	"	0.741	0.194	0.194	"	"	0.0247	"	29.5%	(0-126)	42.6%	"	"	
Benzo (k) fluoranthene	"	0.964	0.0971	0.0971	"	"	ND	"	39.7%	(0-145)	35.8%	"	"	
Chrysene	"	1.07	0.0971	0.0971	"	"	ND	"	44.3%	(7-137)	23.3%	"	"	
Dibenzo (a,h) anthracene	"	0.935	0.0971	0.0971	"	"	ND	"	38.5%	(0-141)	40.0%	"	"	
Fluoranthene	"	1.47	0.194	0.194	"	"	0.0605	"	58.1%	(30-125)	14.0%	"	"	
Fluorene	"	1.19	0.194	0.194	"	"	ND	"	49.0%	(27-124)	0.618%	"	"	
Indeno (1,2,3-cd) pyrene	"	0.881	0.0971	0.0971	"	"	ND	"	36.3%	(0-135)	39.8%	"	"	
Naphthalene	"	1.24	0.194	0.194	"	"	ND	"	51.1%	(30-126)	1.43%	"	"	
Phenanthrene	"	1.30	0.194	0.194	"	"	0.0448	"	51.7%	(34-126)	4.67%	"	"	
Bis(2-ethylhexyl)phthalate	"	4.93	1.02	1.94	"	2x	1.92	3.88	77.5%	(10-150)	32.9%	(50)	12/06/07 20:56	
Butyl benzyl phthalate	"	2.77	1.02	1.94	"	"	ND	"	71.3%	"	7.88%	"	"	
Di-n-butyl phthalate	"	2.67	1.02	1.94	"	"	ND	"	68.7%	"	9.57%	"	"	
Di-n-octyl phthalate	"	3.41	1.02	1.94	"	"	ND	"	87.8%	"	4.62%	"	"	
Diethyl phthalate	"	2.71	1.02	1.94	"	"	ND	"	69.7%	"	5.85%	"	"	
Dimethyl phthalate	"	2.55	1.02	1.94	"	"	ND	"	65.7%	"	3.89%	"	"	
Pyrene	"	0.989	0.194	0.194	"	10x	ND	2.43	40.7%	(14-168)	6.30%	(45)	11/28/07 16:10	
Surrogate(s): Fluorene-d10		*Recovery: 49.2%*			*Limits: 25-125%*	*"*							*11/28/07 16:10*	
Pyrene-d10		*41.2%*			*23-150%*	*"*							*"*	
Benzo (a) pyrene-d12		*32.1%*			*10-125%*	*"*							*"*	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/07/08 12:10

Notes and Definitions

Report Specific Notes:

A-01	-	Possible extraction contamination. Review of the associated batch QC indicates the recovery for this analyte does not represent an out of control condition for the batch.
J	-	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M7	-	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
RL1	-	Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQK0657

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
PROJECT NAME: Portland Harbor Storm Water
PROJECT NUMBER: 54.18
SAMPLED BY:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [X] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PAH + PHTHALATES EPA 8270-SIM (*)	PCB'S (*) 209 CONGENERS	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO 071389	11/16/07 0545	X	X	W	2		
2	FO 071390	0605	X	X	W	2		
3	FO 071391	0635	X	X	W	2		
4	FO 071392	0524	X	X	W	2		
5	FO 071393	0542	X	X	W	2		
6	FO 071394	0605	X	X	W	2		
7	FO 071395	0633	X	X	W	2		
8	FO 071396	0700	X	X	W	2		
9	FO 071397	0723	X	X	W	2		
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

RELEASED BY: [signature] DATE: 11/16/07
PRINT NAME: Renee Channon FIRM: City of Portland TIME: 1600
RECEIVED BY: [signature] DATE: 11-16-07
PRINT NAME: [signature] FIRM: TAP TIME: 1645
RELEASED BY: [signature] DATE: 11/16/07
PRINT NAME: [signature] FIRM: TAP TIME: 16:45
RECEIVED BY: [signature] DATE: 11-16-07
PRINT NAME: Jamie Ireland FIRM: TAP TIME: 1645

ADDITIONAL REMARKS: (*) PAH + PHTHALATES AS PER WIC PROJECT - SAME MRL'S
(*) (*) PCB CONGENERS TO PACE ANALYTICAL PLEASE

TEMP: 5.9

COC REV 09/2004 PAGE 1 OF 2

3.3
3.5
3.4
3.0
2.2
2.1
2.9

TestAmerica
ANALYTICAL TESTING CORPORATION

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11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQK0657

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor Sediments
PROJECT NUMBER:
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [10] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE / REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	PAH+PHTHALATES (*)	PCB CONGENERS (*)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FOC71399	11/10/07	0820	X	X	W	2		
2	FOC71400	↓	0900	X	X	W	2		
3	FOC71401	↓	-	X	X	W	2		
4									
5									
6									
7									
8									
9									
10									

RELEASED BY:		RECEIVED BY:					
PRINT NAME: Renee Chauvin	FIRM: City of Portland	DATE: 11/16/07 TIME: 1600	PRINT NAME:	FIRM: TAP	DATE: 11-16-07 TIME: 1640
RELEASED BY:		RECEIVED BY:			
PRINT NAME:	FIRM: TAP	DATE: 11-16-07 TIME: 1645	PRINT NAME: Jamie Ireland	FIRM: TAP	DATE: 11/16/07 TIME: 16:45

ADDITIONAL REMARKS: (*) PAH + PHTHALATES AS FOR LWG PROJECT - SAME ANALYTES.
(*)(*) PCB CONGENERS TO PACE ANALYTICAL PC1258

TEMP:

COC REV 09 2004

PAGE 2 OF 2

TestAmerica Sample Receipt Checklist

Received by: *(section A)* Date: 11/16/07 Time: 16:45 Initials: JI

Unpacked by: *(section B)* Date: 11/16/07 Initials: JI

Logged-in by: Date: 11/16/07 Initials: JI

Work Order No. PQK0657

Client: City of Portland

Project: Portland Harbor

Cooler ID(s):

Temperature out of range:

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 5.9, 3.3, 3.5, 3.4, 3.0, 2.2, 2.1, 2.9 °C plastic glass NA *(oil/air samples, ESI client)*

Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

8 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other:_____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:

Intact? (Y) N

Containers Match COC? (Y) N none given

IDs Match COC? (Y) N

For Analyses Requested:

Correct Type & Preservation? (Y) N

Adequate Volume? (Y) N

Within Hold Time? (Y) N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N (NA)

TB on COC? not provided Y N (NA)

Metals:

HNO3 Preserved? Y N (NA)

Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX UPS DHL Goldstreak Other: _____

Project Managers:

Comments:_____

*PM Reviewed:*_____ *(Initial/Date)*

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DETERMINATION OF PCB CONGENERS

Prepared for:
Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

ACCREDITED IN ACCORDANCE WITH nelac

This report contains 108 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: PQK0657

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES

DATE: December 20, 2007

ISSUED TO: Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

REPORT NO: 07-1063590

INTRODUCTION

This report presents the results from the analyses performed on thirteen samples submitted by a representative of Test America. The samples were analyzed for the presence or absence of polychlorobiphenyl (PCB) congeners using USEPA Method 1668A.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
PQK0657-01	Water	11/20/07	1063590001
PQK0657-02	Water	11/20/07	1063590002
PQK0657-03	Water	11/20/07	1063590003
PQK0657-04	Water	11/20/07	1063590004
PQK0657-05	Water	11/20/07	1063590005
PQK0657-06	Water	11/20/07	1063590006
PQK0657-07	Water	11/20/07	1063590007
PQK0657-08	Water	11/20/07	1063590008
PQK0657-09	Water	11/20/07	1063590009
PQK0657-10	Water	11/20/07	1063590010
PQK0657-11	Water	11/20/07	1063590011
PQK0657-12	Water	11/20/07	1063590012
PQK0657-13	Water	11/20/07	1063590013

RESULTS

The results from the analyses are included in the following:

Appendix A - Documentation
Appendix B - Sample Analysis Results

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

REPORT OF CHEMICAL ANALYSES

PROJECT: **PCB CONGENER ANALYSES** **DATE:** December 20, 2007

 REPORT NO: 07-1063590

DISCUSSION

The recoveries of the isotopically labeled PCB internal standards in the sample extracts ranged from 4-151%. With two exceptions, flagged "P" on the results tables, the labeled standard recoveries obtained for the samples were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. Six internal standard recoveries for the method blank were below the target range for this method. With the one exception noted above, the sample recoveries were within the target range. None of the affected analytes were present within the reporting range for this project. The results show that the sample preparation procedures did not significantly impact the results of the sample analyses.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The results show that spiked native compounds were recovered at 90-115%, with relative percent differences of 0.0-17.0%. These results indicate high degrees of accuracy and precision for these determinations.

REMARKS

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

REPORT OF LABORATORY ANALYSIS

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APPENDIX A

REPORT OF LABORATORY ANALYSIS
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1063590

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQK0657

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PQK0657-01	**Water**		Sampled: **11/16/07 05:45**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 05:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-02	**Water**		Sampled: **11/16/07 06:09**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 06:09	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-03	**Water**		Sampled: **11/16/07 06:35**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 06:35	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-04	**Water**		Sampled: **11/16/07 05:24**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 05:24	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-05	**Water**		Sampled: **11/16/07 05:42**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 05:42	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-06	**Water**		Sampled: **11/16/07 06:05**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 06:05	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

T=0.9°C
0.9°C

Released By	Date/Time	Received By	Date/Time
[signature]	11-19	[signature]	11/20/07 0925

1063590

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQK0657

Analysis	Units	Due	Expires	Comments
Sample ID: PQK0657-07	**Water**		Sampled: **11/16/07 06:33**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 06:33	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-08	**Water**		Sampled: **11/16/07 07:00**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 07:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-09	**Water**		Sampled: **11/16/07 07:23**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 07:23	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-10	**Water**		Sampled: **11/16/07 07:45**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 07:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-11	**Water**		Sampled: **11/16/07 08:20**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 08:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-12	**Water**		Sampled: **11/16/07 09:00**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 09:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQK0657-13	**Water**		Sampled: **11/16/07 00:00**	
1668 Coplanar PCBs - SUB	ug/l	11/30/07	05/14/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

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APPENDIX B

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID	BLANK-14979		
Filename	P71217B_10		
Injected By	SMT	Matrix	Water
Total Amount Extracted	1050 mL	Extracted	12/06/2007
ICAL Date	12/17/2007	Analyzed	12/17/2007 22:09
CCal Filename(s)	P71217B_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.063	1.04	2.0	0.00411	0	IP
13C-4-MoCB	3	8.711	3.19	2.0	0.0229	1	P
13C-2,2'-DiCB	4	8.999	1.54	2.0	0.0263	1	P
13C-4,4'-DiCB	15	16.787	1.61	2.0	0.339	17	P
13C-2,2',6-TrCB	19	13.121	1.09	2.0	0.111	6	P
13C-3,4,4'-TrCB	37	25.213	1.07	2.0	1.17	58	
13C-2,2',6,6'-TeCB	54	17.046	0.79	2.0	0.294	15	P
13C-3,4,4',5-TeCB	81	32.775	0.79	2.0	1.62	81	
13C-3,3',4,4'-TeCB	77	33.379	0.79	2.0	1.61	81	
13C-2,2',4,6,6'-PeCB	104	23.704	1.62	2.0	0.863	43	
13C-2,3,3',4,4'-PeCB	105	37.136	1.62	2.0	1.70	85	
13C-2,3,4,4',5-PeCB	114	36.448	1.62	2.0	1.65	83	
13C-2,3',4,4',5-PeCB	118	35.911	1.62	2.0	1.74	87	
13C-2,3',4,4',5'-PeCB	123	35.542	1.58	2.0	1.70	85	
13C-3,3',4,4',5-PeCB	126	40.489	1.58	2.0	1.73	87	
13C-2,2',4,4',6,6'-HxCB	155	30.193	1.28	2.0	1.16	58	
13C-HxCB (156/157)	156/157	43.642	1.27	4.0	3.36	84	
13C-2,3',4,4',5,5'-HxCB	167	42.451	1.27	2.0	1.69	85	
13C-3,3',4,4',5,5'-HxCB	169	47.113	1.33	2.0	1.50	75	
13C-2,2',3,4',5,6,6'-HpCB	188	36.414	1.06	2.0	1.71	86	
13C-2,3,3',4,4',5,5'-HpCB	189	49.712	1.04	2.0	1.85	92	
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.116	0.91	2.0	1.74	87	
13C-2,3,3',4,4',5,5',6-OcCB	205	52.384	0.90	2.0	1.76	88	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	54.152	0.78	2.0	1.69	85	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.130	0.79	2.0	1.71	86	
13C--DeCB	209	55.768	0.72	2.0	1.61	80	
Cleanup Standards							
13C-2,4,4'-TrCB	28	20.501	1.07	2.0	0.787	39	
13C-2,3,3',5,5'-PeCB	111	33.463	1.59	2.0	1.54	77	
13C-2,2',3,3',5,5',6-HpCB	178	39.701	1.03	2.0	1.54	77	
Recovery Standards							
13C-2,5-DiCB	9	11.695	1.61	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	22.681	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	30.478	1.63	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	39.198	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.867	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.477
2		---	---	ND	---	0.477
3		---	---	ND	---	0.477
4		---	---	ND	---	0.477
5		---	---	ND	---	0.477
6		---	---	ND	---	0.477
7		---	---	ND	---	0.477
8		---	---	ND	---	0.477
9		---	---	ND	---	0.477
10		---	---	ND	---	0.477
11		---	---	ND	---	0.572
12	12/13	---	---	ND	---	0.477
13	12/13	---	---	ND	---	0.477
14		---	---	ND	---	0.477
15		---	---	ND	---	0.477
16		---	---	ND	---	0.477
17		---	---	ND	---	0.477
18	18/30	---	---	ND	---	0.477
19		---	---	ND	---	0.477
20	20/28	---	---	ND	---	0.572
21	21/33	---	---	ND	---	0.477
22		---	---	ND	---	0.477
23		---	---	ND	---	0.477
24		---	---	ND	---	0.477
25		---	---	ND	---	0.477
26	26/29	---	---	ND	---	0.477
27		---	---	ND	---	0.477
28	20/28	---	---	ND	---	0.572
29	26/29	---	---	ND	---	0.477
30	18/30	---	---	ND	---	0.477
31		---	---	ND	---	0.477
32		---	---	ND	---	0.477
33	21/33	---	---	ND	---	0.477
34		---	---	ND	---	0.477
35		---	---	ND	---	0.477
36		---	---	ND	---	0.477
37		---	---	ND	---	0.477
38		---	---	ND	---	0.477
39		---	---	ND	---	0.477
40	40/41/71	---	---	ND	---	0.477
41	40/41/71	---	---	ND	---	0.477
42		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
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Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.477
44	44/47/65	---	---	ND	---	0.572
45	45/51	---	---	ND	---	0.477
46		---	---	ND	---	0.477
47	44/47/65	---	---	ND	---	0.572
48		---	---	ND	---	0.477
49	49/69	---	---	ND	---	0.477
50	50/53	---	---	ND	---	0.477
51	45/51	---	---	ND	---	0.477
52		---	---	ND	---	0.477
53	50/53	---	---	ND	---	0.477
54		---	---	ND	---	0.477
55		---	---	ND	---	0.477
56		---	---	ND	---	0.477
57		---	---	ND	---	0.477
58		---	---	ND	---	0.477
59	59/62/75	---	---	ND	---	0.477
60		---	---	ND	---	0.477
61	61/70/74/76	---	---	ND	---	0.477
62	59/62/75	---	---	ND	---	0.477
63		---	---	ND	---	0.477
64		---	---	ND	---	0.477
65	44/47/65	---	---	ND	---	0.572
66		---	---	ND	---	0.477
67		---	---	ND	---	0.477
68		---	---	ND	---	0.477
69	49/69	---	---	ND	---	0.477
70	61/70/74/76	---	---	ND	---	0.477
71	40/41/71	---	---	ND	---	0.477
72		---	---	ND	---	0.477
73		---	---	ND	---	0.477
74	61/70/74/76	---	---	ND	---	0.477
75	59/62/75	---	---	ND	---	0.477
76	61/70/74/76	---	---	ND	---	0.477
77		---	---	ND	---	0.477
78		---	---	ND	---	0.477
79		---	---	ND	---	0.477
80		---	---	ND	---	0.477
81		---	---	ND	---	0.477
82		---	---	ND	---	0.477
83		---	---	ND	---	0.477
84		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
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I = Interference

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.572
86	86/87/97/108/119/125	---	---	ND	---	0.954
87	86/87/97/108/119/125	---	---	ND	---	0.954
88	88/91	---	---	ND	---	0.477
89		---	---	ND	---	0.477
90	90/101/113	---	---	ND	---	0.477
91	88/91	---	---	ND	---	0.477
92		---	---	ND	---	0.477
93	93/98/100/102	---	---	ND	---	0.716
94		---	---	ND	---	0.477
95		---	---	ND	---	0.477
96		---	---	ND	---	0.477
97	86/87/97/108/119/125	---	---	ND	---	0.954
98	93/98/100/102	---	---	ND	---	0.716
99		---	---	ND	---	0.477
100	93/98/100/102	---	---	ND	---	0.716
101	90/101/113	---	---	ND	---	0.477
102	93/98/100/102	---	---	ND	---	0.716
103		---	---	ND	---	0.477
104		---	---	ND	---	0.477
105		---	---	ND	---	0.477
106		---	---	ND	---	0.477
107	107/124	---	---	ND	---	0.477
108	86/87/97/108/119/125	---	---	ND	---	0.954
109		---	---	ND	---	0.477
110	110/115	---	---	ND	---	0.477
111		---	---	ND	---	0.477
112		---	---	ND	---	0.477
113	90/101/113	---	---	ND	---	0.477
114		---	---	ND	---	0.477
115	110/115	---	---	ND	---	0.477
116	85/116/117	---	---	ND	---	0.572
117	85/116/117	---	---	ND	---	0.572
118		---	---	ND	---	0.477
119	86/87/97/108/119/125	---	---	ND	---	0.954
120		---	---	ND	---	0.477
121		---	---	ND	---	0.477
122		---	---	ND	---	0.477
123		---	---	ND	---	0.477
124	107/124	---	---	ND	---	0.477
125	86/87/97/108/119/125	---	---	ND	---	0.954
126		---	---	ND	---	0.477

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Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.477
128	128/166	---	---	ND	---	0.954
129	129/138/163	---	---	ND	---	0.477
130		---	---	ND	---	0.477
131		---	---	ND	---	0.477
132		---	---	ND	---	0.477
133		---	---	ND	---	0.477
134	134/143	---	---	ND	---	0.477
135	135/151	---	---	ND	---	0.487
136		---	---	ND	---	0.477
137		---	---	ND	---	0.477
138	129/138/163	---	---	ND	---	0.477
139	139/140	---	---	ND	---	0.477
140	139/140	---	---	ND	---	0.477
141		---	---	ND	---	0.477
142		---	---	ND	---	0.477
143	134/143	---	---	ND	---	0.477
144		---	---	ND	---	0.477
145		---	---	ND	---	0.477
146		---	---	ND	---	0.477
147	147/149	---	---	ND	---	0.477
148		---	---	ND	---	0.477
149	147/149	---	---	ND	---	0.477
150		---	---	ND	---	0.477
151	135/151	---	---	ND	---	0.487
152		---	---	ND	---	0.477
153	153/168	---	---	ND	---	0.572
154		---	---	ND	---	0.477
155		---	---	ND	---	0.477
156	156/157	---	---	ND	---	0.477
157	156/157	---	---	ND	---	0.477
158		---	---	ND	---	0.477
159		---	---	ND	---	0.477
160		---	---	ND	---	0.477
161		---	---	ND	---	0.477
162		---	---	ND	---	0.477
163	129/138/163	---	---	ND	---	0.477
164		---	---	ND	---	0.477
165		---	---	ND	---	0.477
166	128/166	---	---	ND	---	0.954
167		---	---	ND	---	0.477
168	153/168	---	---	ND	---	0.572

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.477
170		---	---	ND	---	0.477
171	171/173	---	---	ND	---	0.477
172		---	---	ND	---	0.477
173	171/173	---	---	ND	---	0.477
174		---	---	ND	---	0.477
175		---	---	ND	---	0.477
176		---	---	ND	---	0.477
177		---	---	ND	---	0.477
178		---	---	ND	---	0.477
179		---	---	ND	---	0.477
180	180/193	---	---	ND	---	0.477
181		---	---	ND	---	0.477
182		---	---	ND	---	0.477
183	183/185	---	---	ND	---	0.477
184		---	---	ND	---	0.477
185	183/185	---	---	ND	---	0.477
186		---	---	ND	---	0.477
187		---	---	ND	---	0.477
188		---	---	ND	---	0.477
189		---	---	ND	---	0.477
190		---	---	ND	---	0.477
191		---	---	ND	---	0.477
192		---	---	ND	---	0.477
193	180/193	---	---	ND	---	0.477
194		---	---	ND	---	0.477
195		---	---	ND	---	0.477
196		---	---	ND	---	0.668
197	197/200	---	---	ND	---	2.39
198	198/199	---	---	ND	---	0.477
199	198/199	---	---	ND	---	0.477
200	197/200	---	---	ND	---	2.39
201		---	---	ND	---	0.477
202		---	---	ND	---	0.477
203		---	---	ND	---	0.477
204		---	---	ND	---	0.477
205		---	---	ND	---	0.477
206		---	---	ND	---	0.477
207		---	---	ND	---	0.477
208		---	---	ND	---	0.477
209		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1063590

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-14979
Filename P71217B_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-01		
Lab Sample ID	1063590001		
Filename	P71219A_11		
Injected By	SMT		
Total Amount Extracted	952 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/19/2007 23:08

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.551	3.21	2.0	0.804	40
13C-4-MoCB	3	7.936	3.30	2.0	1.03	52
13C-2,2'-DiCB	4	8.211	1.60	2.0	1.42	71
13C-4,4'-DiCB	15	15.772	1.58	2.0	1.36	68
13C-2,2',6-TrCB	19	12.202	1.03	2.0	1.56	78
13C-3,4,4'-TrCB	37	24.104	1.06	2.0	1.43	72
13C-2,2',6,6'-TeCB	54	16.038	0.79	2.0	1.43	72
13C-3,4,4',5-TeCB	81	31.617	0.77	2.0	1.67	83
13C-3,3',4,4'-TeCB	77	32.220	0.77	2.0	1.62	81
13C-2,2',4,6,6'-PeCB	104	22.645	1.63	2.0	1.77	88
13C-2,3,3',4,4'-PeCB	105	35.960	1.52	2.0	1.53	77
13C-2,3,4,4',5-PeCB	114	35.272	1.53	2.0	1.44	72
13C-2,3',4,4',5-PeCB	118	34.753	1.60	2.0	1.58	79
13C-2,3',4,4',5'-PeCB	123	34.400	1.56	2.0	1.57	78
13C-3,3',4,4',5-PeCB	126	39.280	1.61	2.0	1.45	72
13C-2,2',4,4',6,6'-HxCB	155	29.085	1.28	2.0	1.95	97
13C-HxCB (156/157)	156/157	42.450	1.24	4.0	2.85	71
13C-2,3',4,4',5,5'-HxCB	167	41.276	1.25	2.0	1.47	74
13C-3,3',4,4',5,5'-HxCB	169	45.887	1.28	2.0	1.19	59
13C-2,2',3,4',5,6,6'-HpCB	188	35.272	1.05	2.0	2.78	139
13C-2,3,3',4,4',5,5'-HpCB	189	48.512	1.00	2.0	1.57	79
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.974	0.90	2.0	2.61	131
13C-2,3,3',4,4',5,5',6-OcCB	205	51.185	0.88	2.0	1.93	96
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.952	0.77	2.0	2.16	108
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.952	0.80	2.0	2.29	115
13C--DeCB	209	54.591	0.70	2.0	2.29	115
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.443	1.07	2.0	1.38	69
13C-2,3,3',5,5'-PeCB	111	32.338	1.57	2.0	1.93	96
13C-2,2',3,3',5,5',6-HpCB	178	38.559	1.06	2.0	2.08	104
Recovery Standards						
13C-2,5-DiCB	9	10.812	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.606	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.370	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.039	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.689	0.92	2.0	NA	NA

Conc = Concentration
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RT = Retention Time
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ng's = Nanograms

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-01
Lab Sample ID 1063590001
Filename P71219A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.525
2		---	---	ND	---	0.525
3		---	---	ND	---	0.525
4		---	---	ND	---	0.525
5		---	---	ND	---	0.525
6		---	---	ND	---	0.525
7		---	---	ND	---	0.525
8		---	---	ND	---	0.525
9		---	---	ND	---	0.525
10		---	---	ND	---	0.525
11		---	---	ND	---	0.630
12	12/13	---	---	ND	---	0.525
13	12/13	---	---	ND	---	0.525
14		---	---	ND	---	0.525
15		---	---	ND	---	0.525
16		---	---	ND	---	0.525
17		---	---	ND	---	0.525
18	18/30	---	---	ND	---	0.525
19		---	---	ND	---	0.525
20	20/28	---	---	ND	---	0.630
21	21/33	---	---	ND	---	0.525
22		---	---	ND	---	0.525
23		---	---	ND	---	0.525
24		---	---	ND	---	0.525
25		---	---	ND	---	0.525
26	26/29	---	---	ND	---	0.525
27		---	---	ND	---	0.525
28	20/28	---	---	ND	---	0.630
29	26/29	---	---	ND	---	0.525
30	18/30	---	---	ND	---	0.525
31		---	---	ND	---	0.525
32		---	---	ND	---	0.525
33	21/33	---	---	ND	---	0.525
34		---	---	ND	---	0.525
35		---	---	ND	---	0.525
36		---	---	ND	---	0.525
37		---	---	ND	---	0.525
38		---	---	ND	---	0.525
39		---	---	ND	---	0.525
40	40/41/71	---	---	ND	---	0.525
41	40/41/71	---	---	ND	---	0.525
42		---	---	ND	---	0.525

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-01
Lab Sample ID 1063590001
Filename P71219A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.525
44	44/47/65	---	---	ND	---	0.630
45	45/51	---	---	ND	---	0.525
46		---	---	ND	---	0.525
47	44/47/65	---	---	ND	---	0.630
48		---	---	ND	---	0.525
49	49/69	---	---	ND	---	0.525
50	50/53	---	---	ND	---	0.525
51	45/51	---	---	ND	---	0.525
52		---	---	ND	---	0.525
53	50/53	---	---	ND	---	0.525
54		---	---	ND	---	0.525
55		---	---	ND	---	0.525
56		---	---	ND	---	0.525
57		---	---	ND	---	0.525
58		---	---	ND	---	0.525
59	59/62/75	---	---	ND	---	0.525
60		---	---	ND	---	0.525
61	61/70/74/76	---	---	ND	---	0.525
62	59/62/75	---	---	ND	---	0.525
63		---	---	ND	---	0.525
64		---	---	ND	---	0.525
65	44/47/65	---	---	ND	---	0.630
66		---	---	ND	---	0.525
67		---	---	ND	---	0.525
68		---	---	ND	---	0.525
69	49/69	---	---	ND	---	0.525
70	61/70/74/76	---	---	ND	---	0.525
71	40/41/71	---	---	ND	---	0.525
72		---	---	ND	---	0.525
73		---	---	ND	---	0.525
74	61/70/74/76	---	---	ND	---	0.525
75	59/62/75	---	---	ND	---	0.525
76	61/70/74/76	---	---	ND	---	0.525
77		---	---	ND	---	0.525
78		---	---	ND	---	0.525
79		---	---	ND	---	0.525
80		---	---	ND	---	0.525
81		---	---	ND	---	0.525
82		---	---	ND	---	0.525
83		---	---	ND	---	0.525
84		---	---	ND	---	0.525

Conc = Concentration
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Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-01
Lab Sample ID 1063590001
Filename P71219A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.630
86	86/87/97/108/119/125	---	---	ND	---	1.05
87	86/87/97/108/119/125	---	---	ND	---	1.05
88	88/91	---	---	ND	---	0.525
89		---	---	ND	---	0.525
90	90/101/113	---	---	ND	---	0.525
91	88/91	---	---	ND	---	0.525
92		---	---	ND	---	0.525
93	93/98/100/102	---	---	ND	---	0.788
94		---	---	ND	---	0.525
95		---	---	ND	---	0.525
96		---	---	ND	---	0.525
97	86/87/97/108/119/125	---	---	ND	---	1.05
98	93/98/100/102	---	---	ND	---	0.788
99		---	---	ND	---	0.525
100	93/98/100/102	---	---	ND	---	0.788
101	90/101/113	---	---	ND	---	0.525
102	93/98/100/102	---	---	ND	---	0.788
103		---	---	ND	---	0.525
104		---	---	ND	---	0.525
105		---	---	ND	---	0.525
106		---	---	ND	---	0.525
107	107/124	---	---	ND	---	0.525
108	86/87/97/108/119/125	---	---	ND	---	1.05
109		---	---	ND	---	0.525
110	110/115	31.499	1.57	0.658	---	0.525
111		---	---	ND	---	0.525
112		---	---	ND	---	0.525
113	90/101/113	---	---	ND	---	0.525
114		---	---	ND	---	0.525
115	110/115	31.499	1.57	(0.658)	---	0.525
116	85/116/117	---	---	ND	---	0.630
117	85/116/117	---	---	ND	---	0.630
118		---	---	ND	---	0.525
119	86/87/97/108/119/125	---	---	ND	---	1.05
120		---	---	ND	---	0.525
121		---	---	ND	---	0.525
122		---	---	ND	---	0.525
123		---	---	ND	---	0.525
124	107/124	---	---	ND	---	0.525
125	86/87/97/108/119/125	---	---	ND	---	1.05
126		---	---	ND	---	0.525

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-01
Lab Sample ID 1063590001
Filename P71219A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.525
128	128/166	---	---	ND	---	1.05
129	129/138/163	38.073	1.26	1.81	---	0.525
130		---	---	ND	---	0.525
131		---	---	ND	---	0.525
132		34.803	1.23	0.603	---	0.525
133		---	---	ND	---	0.525
134	134/143	---	---	ND	---	0.525
135	135/151	32.522	1.25	0.572	---	0.536
136		---	---	ND	---	0.525
137		---	---	ND	---	0.525
138	129/138/163	38.073	1.26	(1.81)	---	0.525
139	139/140	---	---	ND	---	0.525
140	139/140	---	---	ND	---	0.525
141		---	---	ND	---	0.525
142		---	---	ND	---	0.525
143	134/143	---	---	ND	---	0.525
144		---	---	ND	---	0.525
145		---	---	ND	---	0.525
146		---	---	ND	---	0.525
147	147/149	33.512	1.23	1.43	---	0.525
148		---	---	ND	---	0.525
149	147/149	33.512	1.23	(1.43)	---	0.525
150		---	---	ND	---	0.525
151	135/151	32.522	1.25	(0.572)	---	0.536
152		---	---	ND	---	0.525
153	153/168	36.798	1.22	1.45	---	0.630
154		---	---	ND	---	0.525
155		---	---	ND	---	0.525
156	156/157	---	---	ND	---	0.525
157	156/157	---	---	ND	---	0.525
158		---	---	ND	---	0.525
159		---	---	ND	---	0.525
160		---	---	ND	---	0.525
161		---	---	ND	---	0.525
162		---	---	ND	---	0.525
163	129/138/163	38.073	1.26	(1.81)	---	0.525
164		---	---	ND	---	0.525
165		---	---	ND	---	0.525
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.525
168	153/168	36.798	1.22	(1.45)	---	0.630

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-01
Lab Sample ID 1063590001
Filename P71219A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.525
170		45.233	1.04	0.697	---	0.525
171	171/173	---	---	ND	---	0.525
172		---	---	ND	---	0.525
173	171/173	---	---	ND	---	0.525
174		40.404	1.04	0.644	---	0.525
175		---	---	ND	---	0.525
176		---	---	ND	---	0.525
177		---	---	ND	---	0.525
178		---	---	ND	---	0.525
179		---	---	ND	---	0.525
180	180/193	43.959	1.08	1.45	---	0.525
181		---	---	ND	---	0.525
182		---	---	ND	---	0.525
183	183/185	---	---	ND	---	0.525
184		---	---	ND	---	0.525
185	183/185	---	---	ND	---	0.525
186		---	---	ND	---	0.525
187		39.532	1.09	0.681	---	0.525
188		---	---	ND	---	0.525
189		---	---	ND	---	0.525
190		---	---	ND	---	0.525
191		---	---	ND	---	0.525
192		---	---	ND	---	0.525
193	180/193	43.959	1.08	(1.45)	---	0.525
194		---	---	ND	---	0.525
195		---	---	ND	---	0.525
196		---	---	ND	---	0.735
197	197/200	---	---	ND	---	2.63
198	198/199	---	---	ND	---	0.525
199	198/199	---	---	ND	---	0.525
200	197/200	---	---	ND	---	2.63
201		---	---	ND	---	0.525
202		---	---	ND	---	0.525
203		---	---	ND	---	0.525
204		---	---	ND	---	0.525
205		---	---	ND	---	0.525
206		---	---	ND	---	0.525
207		---	---	ND	---	0.525
208		---	---	ND	---	0.525
209		---	---	ND	---	0.525

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1063590

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-01
Lab Sample ID	1063590001
Filename	P71219A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	0.658
Total Hexachloro Biphenyls	5.86
Total Heptachloro Biphenyls	3.48
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	10.00

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-02		
Lab Sample ID	1063590002		
Filename	P71219A_12		
Injected By	SMT		
Total Amount Extracted	988 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 00:12

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.539	3.22	2.0	1.04	52
13C-4-MoCB	3	7.924	3.09	2.0	1.20	60
13C-2,2'-DiCB	4	8.199	1.62	2.0	1.70	85
13C-4,4'-DiCB	15	15.773	1.56	2.0	1.43	72
13C-2,2',6-TrCB	19	12.202	1.06	2.0	1.73	87
13C-3,4,4'-TrCB	37	24.121	1.06	2.0	1.40	70
13C-2,2',6,6'-TeCB	54	16.038	0.79	2.0	1.62	81
13C-3,4,4',5-TeCB	81	31.617	0.79	2.0	1.86	93
13C-3,3',4,4'-TeCB	77	32.221	0.78	2.0	1.78	89
13C-2,2',4,6,6'-PeCB	104	22.662	1.62	2.0	1.67	83
13C-2,3,3',4,4'-PeCB	105	35.960	1.55	2.0	1.55	77
13C-2,3,4,4',5-PeCB	114	35.289	1.61	2.0	1.48	74
13C-2,3',4,4',5-PeCB	118	34.753	1.59	2.0	1.62	81
13C-2,3',4,4',5'-PeCB	123	34.401	1.59	2.0	1.59	79
13C-3,3',4,4',5-PeCB	126	39.297	1.61	2.0	1.49	74
13C-2,2',4,4',6,6'-HxCB	155	29.102	1.29	2.0	1.86	93
13C-HxCB (156/157)	156/157	42.466	1.24	4.0	2.88	72
13C-2,3',4,4',5,5'-HxCB	167	41.293	1.27	2.0	1.49	74
13C-3,3',4,4',5,5'-HxCB	169	45.904	1.26	2.0	1.27	63
13C-2,2',3,4',5,6,6'-HpCB	188	35.289	1.07	2.0	2.68	134
13C-2,3,3',4,4',5,5'-HpCB	189	48.513	1.02	2.0	1.64	82
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.974	0.91	2.0	2.53	127
13C-2,3,3',4,4',5,5',6-OcCB	205	51.185	0.89	2.0	1.93	97
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.974	0.79	2.0	2.15	108
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.974	0.79	2.0	2.28	114
13C--DeCB	209	54.591	0.70	2.0	2.28	114
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.459	1.06	2.0	1.66	83
13C-2,3,3',5,5'-PeCB	111	32.338	1.58	2.0	2.00	100
13C-2,2',3,3',5,5',6-HpCB	178	38.559	1.04	2.0	2.17	109
Recovery Standards						
13C-2,5-DiCB	9	10.800	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.656	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.370	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.056	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.689	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-02
Lab Sample ID 1063590002
Filename P71219A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.506
2		---	---	ND	---	0.506
3		---	---	ND	---	0.506
4		---	---	ND	---	0.506
5		---	---	ND	---	0.506
6		---	---	ND	---	0.506
7		---	---	ND	---	0.506
8		---	---	ND	---	0.506
9		---	---	ND	---	0.506
10		---	---	ND	---	0.506
11		---	---	ND	---	0.607
12	12/13	---	---	ND	---	0.506
13	12/13	---	---	ND	---	0.506
14		---	---	ND	---	0.506
15		---	---	ND	---	0.506
16		---	---	ND	---	0.506
17		---	---	ND	---	0.506
18	18/30	---	---	ND	---	0.506
19		---	---	ND	---	0.506
20	20/28	---	---	ND	---	0.607
21	21/33	---	---	ND	---	0.506
22		---	---	ND	---	0.506
23		---	---	ND	---	0.506
24		---	---	ND	---	0.506
25		---	---	ND	---	0.506
26	26/29	---	---	ND	---	0.506
27		---	---	ND	---	0.506
28	20/28	---	---	ND	---	0.607
29	26/29	---	---	ND	---	0.506
30	18/30	---	---	ND	---	0.506
31		---	---	ND	---	0.506
32		---	---	ND	---	0.506
33	21/33	---	---	ND	---	0.506
34		---	---	ND	---	0.506
35		---	---	ND	---	0.506
36		---	---	ND	---	0.506
37		---	---	ND	---	0.506
38		---	---	ND	---	0.506
39		---	---	ND	---	0.506
40	40/41/71	---	---	ND	---	0.506
41	40/41/71	---	---	ND	---	0.506
42		---	---	ND	---	0.506

Conc = Concentration
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Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-02
Lab Sample ID 1063590002
Filename P71219A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.506
44	44/47/65	---	---	ND	---	0.607
45	45/51	---	---	ND	---	0.506
46		---	---	ND	---	0.506
47	44/47/65	---	---	ND	---	0.607
48		---	---	ND	---	0.506
49	49/69	---	---	ND	---	0.506
50	50/53	---	---	ND	---	0.506
51	45/51	---	---	ND	---	0.506
52		---	---	ND	---	0.506
53	50/53	---	---	ND	---	0.506
54		---	---	ND	---	0.506
55		---	---	ND	---	0.506
56		---	---	ND	---	0.506
57		---	---	ND	---	0.506
58		---	---	ND	---	0.506
59	59/62/75	---	---	ND	---	0.506
60		---	---	ND	---	0.506
61	61/70/74/76	---	---	ND	---	0.506
62	59/62/75	---	---	ND	---	0.506
63		---	---	ND	---	0.506
64		---	---	ND	---	0.506
65	44/47/65	---	---	ND	---	0.607
66		---	---	ND	---	0.506
67		---	---	ND	---	0.506
68		---	---	ND	---	0.506
69	49/69	---	---	ND	---	0.506
70	61/70/74/76	---	---	ND	---	0.506
71	40/41/71	---	---	ND	---	0.506
72		---	---	ND	---	0.506
73		---	---	ND	---	0.506
74	61/70/74/76	---	---	ND	---	0.506
75	59/62/75	---	---	ND	---	0.506
76	61/70/74/76	---	---	ND	---	0.506
77		---	---	ND	---	0.506
78		---	---	ND	---	0.506
79		---	---	ND	---	0.506
80		---	---	ND	---	0.506
81		---	---	ND	---	0.506
82		---	---	ND	---	0.506
83		---	---	ND	---	0.506
84		---	---	ND	---	0.506

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-02
Lab Sample ID 1063590002
Filename P71219A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.607
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.506
89		---	---	ND	---	0.506
90	90/101/113	---	---	ND	---	0.506
91	88/91	---	---	ND	---	0.506
92		---	---	ND	---	0.506
93	93/98/100/102	---	---	ND	---	0.759
94		---	---	ND	---	0.506
95		---	---	ND	---	0.506
96		---	---	ND	---	0.506
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.759
99		---	---	ND	---	0.506
100	93/98/100/102	---	---	ND	---	0.759
101	90/101/113	---	---	ND	---	0.506
102	93/98/100/102	---	---	ND	---	0.759
103		---	---	ND	---	0.506
104		---	---	ND	---	0.506
105		---	---	ND	---	0.506
106		---	---	ND	---	0.506
107	107/124	---	---	ND	---	0.506
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.506
110	110/115	---	---	ND	---	0.506
111		---	---	ND	---	0.506
112		---	---	ND	---	0.506
113	90/101/113	---	---	ND	---	0.506
114		---	---	ND	---	0.506
115	110/115	---	---	ND	---	0.506
116	85/116/117	---	---	ND	---	0.607
117	85/116/117	---	---	ND	---	0.607
118		---	---	ND	---	0.506
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.506
121		---	---	ND	---	0.506
122		---	---	ND	---	0.506
123		---	---	ND	---	0.506
124	107/124	---	---	ND	---	0.506
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-02
Lab Sample ID 1063590002
Filename P71219A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.506
128	128/166	---	---	ND	---	1.01
129	129/138/163	---	---	ND	---	0.506
130		---	---	ND	---	0.506
131		---	---	ND	---	0.506
132		---	---	ND	---	0.506
133		---	---	ND	---	0.506
134	134/143	---	---	ND	---	0.506
135	135/151	---	---	ND	---	0.516
136		---	---	ND	---	0.506
137		---	---	ND	---	0.506
138	129/138/163	---	---	ND	---	0.506
139	139/140	---	---	ND	---	0.506
140	139/140	---	---	ND	---	0.506
141		---	---	ND	---	0.506
142		---	---	ND	---	0.506
143	134/143	---	---	ND	---	0.506
144		---	---	ND	---	0.506
145		---	---	ND	---	0.506
146		---	---	ND	---	0.506
147	147/149	---	---	ND	---	0.506
148		---	---	ND	---	0.506
149	147/149	---	---	ND	---	0.506
150		---	---	ND	---	0.506
151	135/151	---	---	ND	---	0.516
152		---	---	ND	---	0.506
153	153/168	---	---	ND	---	0.607
154		---	---	ND	---	0.506
155		---	---	ND	---	0.506
156	156/157	---	---	ND	---	0.506
157	156/157	---	---	ND	---	0.506
158		---	---	ND	---	0.506
159		---	---	ND	---	0.506
160		---	---	ND	---	0.506
161		---	---	ND	---	0.506
162		---	---	ND	---	0.506
163	129/138/163	---	---	ND	---	0.506
164		---	---	ND	---	0.506
165		---	---	ND	---	0.506
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.506
168	153/168	---	---	ND	---	0.607

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-02
Lab Sample ID 1063590002
Filename P71219A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.506
170		---	---	ND	---	0.506
171	171/173	---	---	ND	---	0.506
172		---	---	ND	---	0.506
173	171/173	---	---	ND	---	0.506
174		---	---	ND	---	0.506
175		---	---	ND	---	0.506
176		---	---	ND	---	0.506
177		---	---	ND	---	0.506
178		---	---	ND	---	0.506
179		---	---	ND	---	0.506
180	180/193	---	---	ND	---	0.506
181		---	---	ND	---	0.506
182		---	---	ND	---	0.506
183	183/185	---	---	ND	---	0.506
184		---	---	ND	---	0.506
185	183/185	---	---	ND	---	0.506
186		---	---	ND	---	0.506
187		---	---	ND	---	0.506
188		---	---	ND	---	0.506
189		---	---	ND	---	0.506
190		---	---	ND	---	0.506
191		---	---	ND	---	0.506
192		---	---	ND	---	0.506
193	180/193	---	---	ND	---	0.506
194		---	---	ND	---	0.506
195		---	---	ND	---	0.506
196		---	---	ND	---	0.709
197	197/200	---	---	ND	---	2.53
198	198/199	---	---	ND	---	0.506
199	198/199	---	---	ND	---	0.506
200	197/200	---	---	ND	---	2.53
201		---	---	ND	---	0.506
202		---	---	ND	---	0.506
203		---	---	ND	---	0.506
204		---	---	ND	---	0.506
205		---	---	ND	---	0.506
206		---	---	ND	---	0.506
207		---	---	ND	---	0.506
208		---	---	ND	---	0.506
209		---	---	ND	---	0.506

Conc = Concentration
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-02
Lab Sample ID	1063590002
Filename	P71219A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-03		
Lab Sample ID	1063590003		
Filename	P71219A_13		
Injected By	SMT		
Total Amount Extracted	967 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 01:16

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	5.539	2.86	2.0	0.0702	4	P
13C-4-MoCB	3	7.936	2.98	2.0	0.501	25	
13C-2,2'-DiCB	4	8.200	1.55	2.0	0.745	37	
13C-4,4'-DiCB	15	15.785	1.57	2.0	2.28	114	
13C-2,2',6-TrCB	19	12.214	1.10	2.0	2.03	101	
13C-3,4,4'-TrCB	37	24.105	1.09	2.0	1.43	71	
13C-2,2',6,6'-TeCB	54	16.055	0.75	2.0	1.23	61	
13C-3,4,4',5-TeCB	81	31.634	0.79	2.0	1.71	86	
13C-3,3',4,4'-TeCB	77	32.238	0.78	2.0	1.67	84	
13C-2,2',4,6,6'-PeCB	104	22.646	1.63	2.0	1.69	85	
13C-2,3,3',4,4'-PeCB	105	35.977	1.62	2.0	1.59	80	
13C-2,3,4,4',5-PeCB	114	35.290	1.59	2.0	1.48	74	
13C-2,3',4,4',5-PeCB	118	34.770	1.60	2.0	1.63	81	
13C-2,3',4,4',5'-PeCB	123	34.418	1.55	2.0	1.61	81	
13C-3,3',4,4',5-PeCB	126	39.298	1.55	2.0	1.54	77	
13C-2,2',4,4',6,6'-HxCB	155	29.102	1.27	2.0	1.77	89	
13C-HxCB (156/157)	156/157	42.467	1.24	4.0	2.93	73	
13C-2,3',4,4',5,5'-HxCB	167	41.293	1.25	2.0	1.48	74	
13C-3,3',4,4',5,5'-HxCB	169	45.905	1.24	2.0	1.27	63	
13C-2,2',3,4',5,6,6'-HpCB	188	35.290	1.06	2.0	2.52	126	
13C-2,3,3',4,4',5,5'-HpCB	189	48.513	1.03	2.0	1.60	80	
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.975	0.90	2.0	2.48	124	
13C-2,3,3',4,4',5,5',6-OcCB	205	51.186	0.91	2.0	1.97	99	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.975	0.80	2.0	2.19	110	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.974	0.81	2.0	2.28	114	
13C--DeCB	209	54.591	0.72	2.0	2.35	117	
Cleanup Standards							
13C-2,4,4'-TrCB	28	19.460	1.03	2.0	1.37	68	
13C-2,3,3',5,5'-PeCB	111	32.355	1.59	2.0	2.00	100	
13C-2,2',3,3',5,5',6-HpCB	178	38.560	1.04	2.0	2.11	106	
Recovery Standards							
13C-2,5-DiCB	9	10.812	1.57	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	21.623	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	29.370	1.62	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	38.057	1.26	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.690	0.90	2.0	NA	NA	

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Report No.....1063590

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-03
Lab Sample ID 1063590003
Filename P71219A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.517
2		---	---	ND	---	0.517
3		---	---	ND	---	0.517
4		---	---	ND	---	0.517
5		---	---	ND	---	0.517
6		---	---	ND	---	0.517
7		---	---	ND	---	0.517
8		---	---	ND	---	0.517
9		---	---	ND	---	0.517
10		---	---	ND	---	0.517
11		---	---	ND	---	0.621
12	12/13	---	---	ND	---	0.517
13	12/13	---	---	ND	---	0.517
14		---	---	ND	---	0.517
15		---	---	ND	---	0.517
16		---	---	ND	---	0.517
17		---	---	ND	---	0.517
18	18/30	---	---	ND	---	0.517
19		---	---	ND	---	0.517
20	20/28	---	---	ND	---	0.621
21	21/33	---	---	ND	---	0.517
22		---	---	ND	---	0.517
23		---	---	ND	---	0.517
24		---	---	ND	---	0.517
25		---	---	ND	---	0.517
26	26/29	---	---	ND	---	0.517
27		---	---	ND	---	0.517
28	20/28	---	---	ND	---	0.621
29	26/29	---	---	ND	---	0.517
30	18/30	---	---	ND	---	0.517
31		---	---	ND	---	0.517
32		---	---	ND	---	0.517
33	21/33	---	---	ND	---	0.517
34		---	---	ND	---	0.517
35		---	---	ND	---	0.517
36		---	---	ND	---	0.517
37		---	---	ND	---	0.517
38		---	---	ND	---	0.517
39		---	---	ND	---	0.517
40	40/41/71	---	---	ND	---	0.517
41	40/41/71	---	---	ND	---	0.517
42		---	---	ND	---	0.517

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-03
Lab Sample ID	1063590003
Filename	P71219A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.517
44	44/47/65	---	---	ND	---	0.621
45	45/51	---	---	ND	---	0.517
46		---	---	ND	---	0.517
47	44/47/65	---	---	ND	---	0.621
48		---	---	ND	---	0.517
49	49/69	---	---	ND	---	0.517
50	50/53	---	---	ND	---	0.517
51	45/51	---	---	ND	---	0.517
52		---	---	ND	---	0.517
53	50/53	---	---	ND	---	0.517
54		---	---	ND	---	0.517
55		---	---	ND	---	0.517
56		---	---	ND	---	0.517
57		---	---	ND	---	0.517
58		---	---	ND	---	0.517
59	59/62/75	---	---	ND	---	0.517
60		---	---	ND	---	0.517
61	61/70/74/76	---	---	ND	---	0.517
62	59/62/75	---	---	ND	---	0.517
63		---	---	ND	---	0.517
64		---	---	ND	---	0.517
65	44/47/65	---	---	ND	---	0.621
66		---	---	ND	---	0.517
67		---	---	ND	---	0.517
68		---	---	ND	---	0.517
69	49/69	---	---	ND	---	0.517
70	61/70/74/76	---	---	ND	---	0.517
71	40/41/71	---	---	ND	---	0.517
72		---	---	ND	---	0.517
73		---	---	ND	---	0.517
74	61/70/74/76	---	---	ND	---	0.517
75	59/62/75	---	---	ND	---	0.517
76	61/70/74/76	---	---	ND	---	0.517
77		---	---	ND	---	0.517
78		---	---	ND	---	0.517
79		---	---	ND	---	0.517
80		---	---	ND	---	0.517
81		---	---	ND	---	0.517
82		---	---	ND	---	0.517
83		---	---	ND	---	0.517
84		---	---	ND	---	0.517

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-03
Lab Sample ID 1063590003
Filename P71219A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.621
86	86/87/97/108/119/125	---	---	ND	---	1.03
87	86/87/97/108/119/125	---	---	ND	---	1.03
88	88/91	---	---	ND	---	0.517
89		---	---	ND	---	0.517
90	90/101/113	---	---	ND	---	0.517
91	88/91	---	---	ND	---	0.517
92		---	---	ND	---	0.517
93	93/98/100/102	---	---	ND	---	0.776
94		---	---	ND	---	0.517
95		---	---	ND	---	0.517
96		---	---	ND	---	0.517
97	86/87/97/108/119/125	---	---	ND	---	1.03
98	93/98/100/102	---	---	ND	---	0.776
99		---	---	ND	---	0.517
100	93/98/100/102	---	---	ND	---	0.776
101	90/101/113	---	---	ND	---	0.517
102	93/98/100/102	---	---	ND	---	0.776
103		---	---	ND	---	0.517
104		---	---	ND	---	0.517
105		---	---	ND	---	0.517
106		---	---	ND	---	0.517
107	107/124	---	---	ND	---	0.517
108	86/87/97/108/119/125	---	---	ND	---	1.03
109		---	---	ND	---	0.517
110	110/115	---	---	ND	---	0.517
111		---	---	ND	---	0.517
112		---	---	ND	---	0.517
113	90/101/113	---	---	ND	---	0.517
114		---	---	ND	---	0.517
115	110/115	---	---	ND	---	0.517
116	85/116/117	---	---	ND	---	0.621
117	85/116/117	---	---	ND	---	0.621
118		---	---	ND	---	0.517
119	86/87/97/108/119/125	---	---	ND	---	1.03
120		---	---	ND	---	0.517
121		---	---	ND	---	0.517
122		---	---	ND	---	0.517
123		---	---	ND	---	0.517
124	107/124	---	---	ND	---	0.517
125	86/87/97/108/119/125	---	---	ND	---	1.03
126		---	---	ND	---	0.517

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-03
Lab Sample ID	1063590003
Filename	P71219A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.517
128	128/166	---	---	ND	---	1.03
129	129/138/163	38.090	1.25	1.33	---	0.517
130		---	---	ND	---	0.517
131		---	---	ND	---	0.517
132		---	---	ND	---	0.517
133		---	---	ND	---	0.517
134	134/143	---	---	ND	---	0.517
135	135/151	---	---	ND	---	0.528
136		---	---	ND	---	0.517
137		---	---	ND	---	0.517
138	129/138/163	38.090	1.25	(1.33)	---	0.517
139	139/140	---	---	ND	---	0.517
140	139/140	---	---	ND	---	0.517
141		---	---	ND	---	0.517
142		---	---	ND	---	0.517
143	134/143	---	---	ND	---	0.517
144		---	---	ND	---	0.517
145		---	---	ND	---	0.517
146		---	---	ND	---	0.517
147	147/149	33.529	1.22	0.919	---	0.517
148		---	---	ND	---	0.517
149	147/149	33.529	1.22	(0.919)	---	0.517
150		---	---	ND	---	0.517
151	135/151	---	---	ND	---	0.528
152		---	---	ND	---	0.517
153	153/168	36.816	1.24	1.43	---	0.621
154		---	---	ND	---	0.517
155		---	---	ND	---	0.517
156	156/157	---	---	ND	---	0.517
157	156/157	---	---	ND	---	0.517
158		---	---	ND	---	0.517
159		---	---	ND	---	0.517
160		---	---	ND	---	0.517
161		---	---	ND	---	0.517
162		---	---	ND	---	0.517
163	129/138/163	38.090	1.25	(1.33)	---	0.517
164		---	---	ND	---	0.517
165		---	---	ND	---	0.517
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.517
168	153/168	36.816	1.24	(1.43)	---	0.621

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-03
Lab Sample ID 1063590003
Filename P71219A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.517
170		45.234	1.05	0.520	---	0.517
171	171/173	---	---	ND	---	0.517
172		---	---	ND	---	0.517
173	171/173	---	---	ND	---	0.517
174		---	---	ND	---	0.517
175		---	---	ND	---	0.517
176		---	---	ND	---	0.517
177		---	---	ND	---	0.517
178		---	---	ND	---	0.517
179		---	---	ND	---	0.517
180	180/193	43.959	1.01	1.15	---	0.517
181		---	---	ND	---	0.517
182		---	---	ND	---	0.517
183	183/185	---	---	ND	---	0.517
184		---	---	ND	---	0.517
185	183/185	---	---	ND	---	0.517
186		---	---	ND	---	0.517
187		---	---	ND	---	0.517
188		---	---	ND	---	0.517
189		---	---	ND	---	0.517
190		---	---	ND	---	0.517
191		---	---	ND	---	0.517
192		---	---	ND	---	0.517
193	180/193	43.959	1.01	(1.15)	---	0.517
194		---	---	ND	---	0.517
195		---	---	ND	---	0.517
196		---	---	ND	---	0.724
197	197/200	---	---	ND	---	2.59
198	198/199	---	---	ND	---	0.517
199	198/199	---	---	ND	---	0.517
200	197/200	---	---	ND	---	2.59
201		---	---	ND	---	0.517
202		---	---	ND	---	0.517
203		---	---	ND	---	0.517
204		---	---	ND	---	0.517
205		---	---	ND	---	0.517
206		---	---	ND	---	0.517
207		---	---	ND	---	0.517
208		---	---	ND	---	0.517
209		---	---	ND	---	0.517

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-03
Lab Sample ID	1063590003
Filename	P71219A_13

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	3.68
Total Heptachloro Biphenyls	1.67
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	5.35

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-04		
Lab Sample ID	1063590004		
Filename	P71219A_14		
Injected By	SMT		
Total Amount Extracted	948 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 02:19

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.539	3.05	2.0	1.27	63
13C-4-MoCB	3	7.936	3.25	2.0	1.30	65
13C-2,2'-DiCB	4	8.211	1.54	2.0	1.86	93
13C-4,4'-DiCB	15	15.784	1.57	2.0	1.48	74
13C-2,2',6-TrCB	19	12.202	1.05	2.0	1.86	93
13C-3,4,4'-TrCB	37	24.121	1.05	2.0	1.49	75
13C-2,2',6,6'-TeCB	54	16.055	0.80	2.0	1.56	78
13C-3,4,4',5-TeCB	81	31.634	0.77	2.0	1.61	80
13C-3,3',4,4'-TeCB	77	32.237	0.78	2.0	1.57	79
13C-2,2',4,6,6'-PeCB	104	22.662	1.61	2.0	1.94	97
13C-2,3,3',4,4'-PeCB	105	35.994	1.58	2.0	1.55	77
13C-2,3,4,4',5-PeCB	114	35.306	1.58	2.0	1.47	73
13C-2,3',4,4',5-PeCB	118	34.769	1.54	2.0	1.62	81
13C-2,3',4,4',5'-PeCB	123	34.434	1.55	2.0	1.58	79
13C-3,3',4,4',5-PeCB	126	39.314	1.52	2.0	1.42	71
13C-2,2',4,4',6,6'-HxCB	155	29.118	1.27	2.0	2.06	103
13C-HxCB (156/157)	156/157	42.483	1.28	4.0	2.87	72
13C-2,3',4,4',5,5'-HxCB	167	41.310	1.27	2.0	1.48	74
13C-3,3',4,4',5,5'-HxCB	169	45.938	1.25	2.0	1.19	60
13C-2,2',3,4',5,6,6'-HpCB	188	35.306	1.05	2.0	2.83	141
13C-2,3,3',4,4',5,5'-HpCB	189	48.556	1.06	2.0	1.65	83
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.991	0.90	2.0	2.55	127
13C-2,3,3',4,4',5,5',6-OcCB	205	51.228	0.91	2.0	1.82	91
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.996	0.77	2.0	2.01	101
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.995	0.79	2.0	2.23	111
13C--DeCB	209	54.634	0.70	2.0	2.15	108
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.459	1.02	2.0	1.52	76
13C-2,3,3',5,5'-PeCB	111	32.372	1.61	2.0	1.92	96
13C-2,2',3,3',5,5',6-HpCB	178	38.576	1.02	2.0	2.06	103
Recovery Standards						
13C-2,5-DiCB	9	10.812	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.622	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.387	1.65	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.073	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.733	0.91	2.0	NA	NA

Conc = Concentration
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I = Interference
ng's = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-04
Lab Sample ID	1063590004
Filename	P71219A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.527
2		---	---	ND	---	0.527
3		---	---	ND	---	0.527
4		---	---	ND	---	0.527
5		---	---	ND	---	0.527
6		---	---	ND	---	0.527
7		---	---	ND	---	0.527
8		---	---	ND	---	0.527
9		---	---	ND	---	0.527
10		---	---	ND	---	0.527
11		---	---	ND	---	0.633
12	12/13	---	---	ND	---	0.527
13	12/13	---	---	ND	---	0.527
14		---	---	ND	---	0.527
15		---	---	ND	---	0.527
16		---	---	ND	---	0.527
17		---	---	ND	---	0.527
18	18/30	---	---	ND	---	0.527
19		---	---	ND	---	0.527
20	20/28	---	---	ND	---	0.633
21	21/33	---	---	ND	---	0.527
22		---	---	ND	---	0.527
23		---	---	ND	---	0.527
24		---	---	ND	---	0.527
25		---	---	ND	---	0.527
26	26/29	---	---	ND	---	0.527
27		---	---	ND	---	0.527
28	20/28	---	---	ND	---	0.633
29	26/29	---	---	ND	---	0.527
30	18/30	---	---	ND	---	0.527
31		---	---	ND	---	0.527
32		---	---	ND	---	0.527
33	21/33	---	---	ND	---	0.527
34		---	---	ND	---	0.527
35		---	---	ND	---	0.527
36		---	---	ND	---	0.527
37		---	---	ND	---	0.527
38		---	---	ND	---	0.527
39		---	---	ND	---	0.527
40	40/41/71	---	---	ND	---	0.527
41	40/41/71	---	---	ND	---	0.527
42		---	---	ND	---	0.527

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-04
Lab Sample ID	1063590004
Filename	P71219A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.527
44	44/47/65	---	---	ND	---	0.633
45	45/51	---	---	ND	---	0.527
46		---	---	ND	---	0.527
47	44/47/65	---	---	ND	---	0.633
48		---	---	ND	---	0.527
49	49/69	---	---	ND	---	0.527
50	50/53	---	---	ND	---	0.527
51	45/51	---	---	ND	---	0.527
52		---	---	ND	---	0.527
53	50/53	---	---	ND	---	0.527
54		---	---	ND	---	0.527
55		---	---	ND	---	0.527
56		---	---	ND	---	0.527
57		---	---	ND	---	0.527
58		---	---	ND	---	0.527
59	59/62/75	---	---	ND	---	0.527
60		---	---	ND	---	0.527
61	61/70/74/76	---	---	ND	---	0.527
62	59/62/75	---	---	ND	---	0.527
63		---	---	ND	---	0.527
64		---	---	ND	---	0.527
65	44/47/65	---	---	ND	---	0.633
66		---	---	ND	---	0.527
67		---	---	ND	---	0.527
68		---	---	ND	---	0.527
69	49/69	---	---	ND	---	0.527
70	61/70/74/76	---	---	ND	---	0.527
71	40/41/71	---	---	ND	---	0.527
72		---	---	ND	---	0.527
73		---	---	ND	---	0.527
74	61/70/74/76	---	---	ND	---	0.527
75	59/62/75	---	---	ND	---	0.527
76	61/70/74/76	---	---	ND	---	0.527
77		---	---	ND	---	0.527
78		---	---	ND	---	0.527
79		---	---	ND	---	0.527
80		---	---	ND	---	0.527
81		---	---	ND	---	0.527
82		---	---	ND	---	0.527
83		---	---	ND	---	0.527
84		---	---	ND	---	0.527

Conc = Concentration
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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-04
Lab Sample ID 1063590004
Filename P71219A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.633
86	86/87/97/108/119/125	---	---	ND	---	1.05
87	86/87/97/108/119/125	---	---	ND	---	1.05
88	88/91	---	---	ND	---	0.527
89		---	---	ND	---	0.527
90	90/101/113	---	---	ND	---	0.527
91	88/91	---	---	ND	---	0.527
92		---	---	ND	---	0.527
93	93/98/100/102	---	---	ND	---	0.791
94		---	---	ND	---	0.527
95		---	---	ND	---	0.527
96		---	---	ND	---	0.527
97	86/87/97/108/119/125	---	---	ND	---	1.05
98	93/98/100/102	---	---	ND	---	0.791
99		---	---	ND	---	0.527
100	93/98/100/102	---	---	ND	---	0.791
101	90/101/113	---	---	ND	---	0.527
102	93/98/100/102	---	---	ND	---	0.791
103		---	---	ND	---	0.527
104		---	---	ND	---	0.527
105		---	---	ND	---	0.527
106		---	---	ND	---	0.527
107	107/124	---	---	ND	---	0.527
108	86/87/97/108/119/125	---	---	ND	---	1.05
109		---	---	ND	---	0.527
110	110/115	---	---	ND	---	0.527
111		---	---	ND	---	0.527
112		---	---	ND	---	0.527
113	90/101/113	---	---	ND	---	0.527
114		---	---	ND	---	0.527
115	110/115	---	---	ND	---	0.527
116	85/116/117	---	---	ND	---	0.633
117	85/116/117	---	---	ND	---	0.633
118		---	---	ND	---	0.527
119	86/87/97/108/119/125	---	---	ND	---	1.05
120		---	---	ND	---	0.527
121		---	---	ND	---	0.527
122		---	---	ND	---	0.527
123		---	---	ND	---	0.527
124	107/124	---	---	ND	---	0.527
125	86/87/97/108/119/125	---	---	ND	---	1.05
126		---	---	ND	---	0.527

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-04
Lab Sample ID 1063590004
Filename P71219A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.527
128	128/166	---	---	ND	---	1.05
129	129/138/163	---	---	ND	---	0.527
130		---	---	ND	---	0.527
131		---	---	ND	---	0.527
132		---	---	ND	---	0.527
133		---	---	ND	---	0.527
134	134/143	---	---	ND	---	0.527
135	135/151	---	---	ND	---	0.538
136		---	---	ND	---	0.527
137		---	---	ND	---	0.527
138	129/138/163	---	---	ND	---	0.527
139	139/140	---	---	ND	---	0.527
140	139/140	---	---	ND	---	0.527
141		---	---	ND	---	0.527
142		---	---	ND	---	0.527
143	134/143	---	---	ND	---	0.527
144		---	---	ND	---	0.527
145		---	---	ND	---	0.527
146		---	---	ND	---	0.527
147	147/149	---	---	ND	---	0.527
148		---	---	ND	---	0.527
149	147/149	---	---	ND	---	0.527
150		---	---	ND	---	0.527
151	135/151	---	---	ND	---	0.538
152		---	---	ND	---	0.527
153	153/168	---	---	ND	---	0.633
154		---	---	ND	---	0.527
155		---	---	ND	---	0.527
156	156/157	---	---	ND	---	0.527
157	156/157	---	---	ND	---	0.527
158		---	---	ND	---	0.527
159		---	---	ND	---	0.527
160		---	---	ND	---	0.527
161		---	---	ND	---	0.527
162		---	---	ND	---	0.527
163	129/138/163	---	---	ND	---	0.527
164		---	---	ND	---	0.527
165		---	---	ND	---	0.527
166	128/166	---	---	ND	---	1.05
167		---	---	ND	---	0.527
168	153/168	---	---	ND	---	0.633

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-04
Lab Sample ID 1063590004
Filename P71219A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.527
170		---	---	ND	---	0.527
171	171/173	---	---	ND	---	0.527
172		---	---	ND	---	0.527
173	171/173	---	---	ND	---	0.527
174		---	---	ND	---	0.527
175		---	---	ND	---	0.527
176		---	---	ND	---	0.527
177		---	---	ND	---	0.527
178		---	---	ND	---	0.527
179		---	---	ND	---	0.527
180	180/193	---	---	ND	---	0.527
181		---	---	ND	---	0.527
182		---	---	ND	---	0.527
183	183/185	---	---	ND	---	0.527
184		---	---	ND	---	0.527
185	183/185	---	---	ND	---	0.527
186		---	---	ND	---	0.527
187		---	---	ND	---	0.527
188		---	---	ND	---	0.527
189		---	---	ND	---	0.527
190		---	---	ND	---	0.527
191		---	---	ND	---	0.527
192		---	---	ND	---	0.527
193	180/193	---	---	ND	---	0.527
194		---	---	ND	---	0.527
195		---	---	ND	---	0.527
196		---	---	ND	---	0.738
197	197/200	---	---	ND	---	2.64
198	198/199	---	---	ND	---	0.527
199	198/199	---	---	ND	---	0.527
200	197/200	---	---	ND	---	2.64
201		---	---	ND	---	0.527
202		---	---	ND	---	0.527
203		---	---	ND	---	0.527
204		---	---	ND	---	0.527
205		---	---	ND	---	0.527
206		---	---	ND	---	0.527
207		---	---	ND	---	0.527
208		---	---	ND	---	0.527
209		---	---	ND	---	0.527

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-04
Lab Sample ID	1063590004
Filename	P71219A_14

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-05		
Lab Sample ID	1063590005		
Filename	P71219A_15		
Injected By	SMT		
Total Amount Extracted	930 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 03:23

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.527	2.90	2.0	0.531	27
13C-4-MoCB	3	7.924	3.32	2.0	1.04	52
13C-2,2'-DiCB	4	8.199	1.60	2.0	1.48	74
13C-4,4'-DiCB	15	15.773	1.57	2.0	1.76	88
13C-2,2',6-TrCB	19	12.202	1.02	2.0	1.96	98
13C-3,4,4'-TrCB	37	24.104	1.01	2.0	1.43	72
13C-2,2',6,6'-TeCB	54	16.055	0.80	2.0	1.48	74
13C-3,4,4',5-TeCB	81	31.634	0.78	2.0	1.63	82
13C-3,3',4,4'-TeCB	77	32.237	0.78	2.0	1.57	79
13C-2,2',4,6,6'-PeCB	104	22.646	1.62	2.0	1.81	90
13C-2,3,3',4,4'-PeCB	105	35.977	1.59	2.0	1.48	74
13C-2,3,4,4',5-PeCB	114	35.306	1.59	2.0	1.44	72
13C-2,3',4,4',5-PeCB	118	34.769	1.59	2.0	1.54	77
13C-2,3',4,4',5'-PeCB	123	34.417	1.57	2.0	1.55	78
13C-3,3',4,4',5-PeCB	126	39.314	1.57	2.0	1.45	72
13C-2,2',4,4',6,6'-HxCB	155	29.102	1.29	2.0	1.92	96
13C-HxCB (156/157)	156/157	42.466	1.25	4.0	2.77	69
13C-2,3',4,4',5,5'-HxCB	167	41.293	1.24	2.0	1.40	70
13C-3,3',4,4',5,5'-HxCB	169	45.904	1.29	2.0	1.18	59
13C-2,2',3,4',5,6,6'-HpCB	188	35.289	1.06	2.0	2.68	134
13C-2,3,3',4,4',5,5'-HpCB	189	48.534	1.04	2.0	1.59	80
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.991	0.90	2.0	2.51	126
13C-2,3,3',4,4',5,5',6-OcCB	205	51.185	0.91	2.0	1.86	93
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.974	0.78	2.0	2.09	105
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.974	0.80	2.0	2.16	108
13C--DeCB	209	54.612	0.71	2.0	2.17	109
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.460	1.03	2.0	1.41	70
13C-2,3,3',5,5'-PeCB	111	32.355	1.61	2.0	1.88	94
13C-2,2',3,3',5,5',6-HpCB	178	38.576	1.05	2.0	1.98	99
Recovery Standards						
13C-2,5-DiCB	9	10.812	1.55	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.623	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.370	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.056	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.711	0.89	2.0	NA	NA

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-05
Lab Sample ID 1063590005
Filename P71219A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.538
2		---	---	ND	---	0.538
3		---	---	ND	---	0.538
4		---	---	ND	---	0.538
5		---	---	ND	---	0.538
6		---	---	ND	---	0.538
7		---	---	ND	---	0.538
8		---	---	ND	---	0.538
9		---	---	ND	---	0.538
10		---	---	ND	---	0.538
11		---	---	ND	---	0.645
12	12/13	---	---	ND	---	0.538
13	12/13	---	---	ND	---	0.538
14		---	---	ND	---	0.538
15		---	---	ND	---	0.538
16		---	---	ND	---	0.538
17		---	---	ND	---	0.538
18	18/30	---	---	ND	---	0.538
19		---	---	ND	---	0.538
20	20/28	---	---	ND	---	0.645
21	21/33	---	---	ND	---	0.538
22		---	---	ND	---	0.538
23		---	---	ND	---	0.538
24		---	---	ND	---	0.538
25		---	---	ND	---	0.538
26	26/29	---	---	ND	---	0.538
27		---	---	ND	---	0.538
28	20/28	---	---	ND	---	0.645
29	26/29	---	---	ND	---	0.538
30	18/30	---	---	ND	---	0.538
31		---	---	ND	---	0.538
32		---	---	ND	---	0.538
33	21/33	---	---	ND	---	0.538
34		---	---	ND	---	0.538
35		---	---	ND	---	0.538
36		---	---	ND	---	0.538
37		---	---	ND	---	0.538
38		---	---	ND	---	0.538
39		---	---	ND	---	0.538
40	40/41/71	---	---	ND	---	0.538
41	40/41/71	---	---	ND	---	0.538
42		---	---	ND	---	0.538

Conc = Concentration
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Report No.....1063590

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-05
Lab Sample ID	1063590005
Filename	P71219A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.538
44	44/47/65	---	---	ND	---	0.645
45	45/51	---	---	ND	---	0.538
46		---	---	ND	---	0.538
47	44/47/65	---	---	ND	---	0.645
48		---	---	ND	---	0.538
49	49/69	---	---	ND	---	0.538
50	50/53	---	---	ND	---	0.538
51	45/51	---	---	ND	---	0.538
52		---	---	ND	---	0.538
53	50/53	---	---	ND	---	0.538
54		---	---	ND	---	0.538
55		---	---	ND	---	0.538
56		---	---	ND	---	0.538
57		---	---	ND	---	0.538
58		---	---	ND	---	0.538
59	59/62/75	---	---	ND	---	0.538
60		---	---	ND	---	0.538
61	61/70/74/76	---	---	ND	---	0.538
62	59/62/75	---	---	ND	---	0.538
63		---	---	ND	---	0.538
64		---	---	ND	---	0.538
65	44/47/65	---	---	ND	---	0.645
66		---	---	ND	---	0.538
67		---	---	ND	---	0.538
68		---	---	ND	---	0.538
69	49/69	---	---	ND	---	0.538
70	61/70/74/76	---	---	ND	---	0.538
71	40/41/71	---	---	ND	---	0.538
72		---	---	ND	---	0.538
73		---	---	ND	---	0.538
74	61/70/74/76	---	---	ND	---	0.538
75	59/62/75	---	---	ND	---	0.538
76	61/70/74/76	---	---	ND	---	0.538
77		---	---	ND	---	0.538
78		---	---	ND	---	0.538
79		---	---	ND	---	0.538
80		---	---	ND	---	0.538
81		---	---	ND	---	0.538
82		---	---	ND	---	0.538
83		---	---	ND	---	0.538
84		---	---	ND	---	0.538

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-05
Lab Sample ID 1063590005
Filename P71219A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.645
86	86/87/97/108/119/125	---	---	ND	---	1.08
87	86/87/97/108/119/125	---	---	ND	---	1.08
88	88/91	---	---	ND	---	0.538
89		---	---	ND	---	0.538
90	90/101/113	---	---	ND	---	0.538
91	88/91	---	---	ND	---	0.538
92		---	---	ND	---	0.538
93	93/98/100/102	---	---	ND	---	0.806
94		---	---	ND	---	0.538
95		---	---	ND	---	0.538
96		---	---	ND	---	0.538
97	86/87/97/108/119/125	---	---	ND	---	1.08
98	93/98/100/102	---	---	ND	---	0.806
99		---	---	ND	---	0.538
100	93/98/100/102	---	---	ND	---	0.806
101	90/101/113	---	---	ND	---	0.538
102	93/98/100/102	---	---	ND	---	0.806
103		---	---	ND	---	0.538
104		---	---	ND	---	0.538
105		---	---	ND	---	0.538
106		---	---	ND	---	0.538
107	107/124	---	---	ND	---	0.538
108	86/87/97/108/119/125	---	---	ND	---	1.08
109		---	---	ND	---	0.538
110	110/115	---	---	ND	---	0.538
111		---	---	ND	---	0.538
112		---	---	ND	---	0.538
113	90/101/113	---	---	ND	---	0.538
114		---	---	ND	---	0.538
115	110/115	---	---	ND	---	0.538
116	85/116/117	---	---	ND	---	0.645
117	85/116/117	---	---	ND	---	0.645
118		---	---	ND	---	0.538
119	86/87/97/108/119/125	---	---	ND	---	1.08
120		---	---	ND	---	0.538
121		---	---	ND	---	0.538
122		---	---	ND	---	0.538
123		---	---	ND	---	0.538
124	107/124	---	---	ND	---	0.538
125	86/87/97/108/119/125	---	---	ND	---	1.08
126		---	---	ND	---	0.538

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-05
Lab Sample ID 1063590005
Filename P71219A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.538
128	128/166	---	---	ND	---	1.08
129	129/138/163	---	---	ND	---	0.538
130		---	---	ND	---	0.538
131		---	---	ND	---	0.538
132		---	---	ND	---	0.538
133		---	---	ND	---	0.538
134	134/143	---	---	ND	---	0.538
135	135/151	---	---	ND	---	0.548
136		---	---	ND	---	0.538
137		---	---	ND	---	0.538
138	129/138/163	---	---	ND	---	0.538
139	139/140	---	---	ND	---	0.538
140	139/140	---	---	ND	---	0.538
141		---	---	ND	---	0.538
142		---	---	ND	---	0.538
143	134/143	---	---	ND	---	0.538
144		---	---	ND	---	0.538
145		---	---	ND	---	0.538
146		---	---	ND	---	0.538
147	147/149	---	---	ND	---	0.538
148		---	---	ND	---	0.538
149	147/149	---	---	ND	---	0.538
150		---	---	ND	---	0.538
151	135/151	---	---	ND	---	0.548
152		---	---	ND	---	0.538
153	153/168	---	---	ND	---	0.645
154		---	---	ND	---	0.538
155		---	---	ND	---	0.538
156	156/157	---	---	ND	---	0.538
157	156/157	---	---	ND	---	0.538
158		---	---	ND	---	0.538
159		---	---	ND	---	0.538
160		---	---	ND	---	0.538
161		---	---	ND	---	0.538
162		---	---	ND	---	0.538
163	129/138/163	---	---	ND	---	0.538
164		---	---	ND	---	0.538
165		---	---	ND	---	0.538
166	128/166	---	---	ND	---	1.08
167		---	---	ND	---	0.538
168	153/168	---	---	ND	---	0.645

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-05
Lab Sample ID 1063590005
Filename P71219A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.538
170		---	---	ND	---	0.538
171	171/173	---	---	ND	---	0.538
172		---	---	ND	---	0.538
173	171/173	---	---	ND	---	0.538
174		---	---	ND	---	0.538
175		---	---	ND	---	0.538
176		---	---	ND	---	0.538
177		---	---	ND	---	0.538
178		---	---	ND	---	0.538
179		---	---	ND	---	0.538
180	180/193	---	---	ND	---	0.538
181		---	---	ND	---	0.538
182		---	---	ND	---	0.538
183	183/185	---	---	ND	---	0.538
184		---	---	ND	---	0.538
185	183/185	---	---	ND	---	0.538
186		---	---	ND	---	0.538
187		---	---	ND	---	0.538
188		---	---	ND	---	0.538
189		---	---	ND	---	0.538
190		---	---	ND	---	0.538
191		---	---	ND	---	0.538
192		---	---	ND	---	0.538
193	180/193	---	---	ND	---	0.538
194		---	---	ND	---	0.538
195		---	---	ND	---	0.538
196		---	---	ND	---	0.753
197	197/200	---	---	ND	---	2.69
198	198/199	---	---	ND	---	0.538
199	198/199	---	---	ND	---	0.538
200	197/200	---	---	ND	---	2.69
201		---	---	ND	---	0.538
202		---	---	ND	---	0.538
203		---	---	ND	---	0.538
204		---	---	ND	---	0.538
205		---	---	ND	---	0.538
206		---	---	ND	---	0.538
207		---	---	ND	---	0.538
208		---	---	ND	---	0.538
209		---	---	ND	---	0.538

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-05
Lab Sample ID	1063590005
Filename	P71219A_15

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-06		
Lab Sample ID	1063590006		
Filename	P71219A_16		
Injected By	SMT		
Total Amount Extracted	961 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 04:27

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.539	3.14	2.0	1.50	75
13C-4-MoCB	3	7.936	3.15	2.0	1.45	72
13C-2,2'-DiCB	4	8.211	1.60	2.0	2.00	100
13C-4,4'-DiCB	15	15.785	1.58	2.0	1.44	72
13C-2,2',6-TrCB	19	12.214	1.05	2.0	1.85	93
13C-3,4,4'-TrCB	37	24.121	1.05	2.0	1.41	70
13C-2,2',6,6'-TeCB	54	16.055	0.80	2.0	1.56	78
13C-3,4,4',5-TeCB	81	31.634	0.77	2.0	1.64	82
13C-3,3',4,4'-TeCB	77	32.237	0.77	2.0	1.61	80
13C-2,2',4,6,6'-PeCB	104	22.662	1.59	2.0	1.73	87
13C-2,3,3',4,4'-PeCB	105	35.977	1.56	2.0	1.55	77
13C-2,3,4,4',5-PeCB	114	35.306	1.58	2.0	1.44	72
13C-2,3',4,4',5-PeCB	118	34.769	1.57	2.0	1.56	78
13C-2,3',4,4',5'-PeCB	123	34.417	1.61	2.0	1.52	76
13C-3,3',4,4',5-PeCB	126	39.314	1.57	2.0	1.50	75
13C-2,2',4,4',6,6'-HxCB	155	29.118	1.28	2.0	1.77	89
13C-HxCB (156/157)	156/157	42.467	1.27	4.0	2.96	74
13C-2,3',4,4',5,5'-HxCB	167	41.310	1.25	2.0	1.48	74
13C-3,3',4,4',5,5'-HxCB	169	45.904	1.28	2.0	1.32	66
13C-2,2',3,4',5,6,6'-HpCB	188	35.289	1.07	2.0	2.38	119
13C-2,3,3',4,4',5,5'-HpCB	189	48.534	1.04	2.0	1.60	80
13C-2,2',3,3',5,5',6,6'-OcCB	202	40.991	0.89	2.0	2.35	117
13C-2,3,3',4,4',5,5',6-OcCB	205	51.186	0.91	2.0	1.92	96
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.975	0.80	2.0	2.22	111
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.974	0.79	2.0	2.22	111
13C--DeCB	209	54.613	0.69	2.0	2.31	116
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.459	1.04	2.0	1.32	66
13C-2,3,3',5,5'-PeCB	111	32.355	1.61	2.0	1.84	92
13C-2,2',3,3',5,5',6-HpCB	178	38.576	1.06	2.0	1.99	99
Recovery Standards						
13C-2,5-DiCB	9	10.824	1.55	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.639	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.387	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.073	1.31	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.690	0.88	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-06
Lab Sample ID 1063590006
Filename P71219A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.521
2		---	---	ND	---	0.521
3		---	---	ND	---	0.521
4		---	---	ND	---	0.521
5		---	---	ND	---	0.521
6		---	---	ND	---	0.521
7		---	---	ND	---	0.521
8		---	---	ND	---	0.521
9		---	---	ND	---	0.521
10		---	---	ND	---	0.521
11		---	---	ND	---	0.625
12	12/13	---	---	ND	---	0.521
13	12/13	---	---	ND	---	0.521
14		---	---	ND	---	0.521
15		---	---	ND	---	0.521
16		---	---	ND	---	0.521
17		---	---	ND	---	0.521
18	18/30	---	---	ND	---	0.521
19		---	---	ND	---	0.521
20	20/28	---	---	ND	---	0.625
21	21/33	---	---	ND	---	0.521
22		---	---	ND	---	0.521
23		---	---	ND	---	0.521
24		---	---	ND	---	0.521
25		---	---	ND	---	0.521
26	26/29	---	---	ND	---	0.521
27		---	---	ND	---	0.521
28	20/28	---	---	ND	---	0.625
29	26/29	---	---	ND	---	0.521
30	18/30	---	---	ND	---	0.521
31		---	---	ND	---	0.521
32		---	---	ND	---	0.521
33	21/33	---	---	ND	---	0.521
34		---	---	ND	---	0.521
35		---	---	ND	---	0.521
36		---	---	ND	---	0.521
37		---	---	ND	---	0.521
38		---	---	ND	---	0.521
39		---	---	ND	---	0.521
40	40/41/71	---	---	ND	---	0.521
41	40/41/71	---	---	ND	---	0.521
42		---	---	ND	---	0.521

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I = Interference
ng's = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-06
Lab Sample ID 1063590006
Filename P71219A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.521
44	44/47/65	---	---	ND	---	0.625
45	45/51	---	---	ND	---	0.521
46		---	---	ND	---	0.521
47	44/47/65	---	---	ND	---	0.625
48		---	---	ND	---	0.521
49	49/69	---	---	ND	---	0.521
50	50/53	---	---	ND	---	0.521
51	45/51	---	---	ND	---	0.521
52		---	---	ND	---	0.521
53	50/53	---	---	ND	---	0.521
54		---	---	ND	---	0.521
55		---	---	ND	---	0.521
56		---	---	ND	---	0.521
57		---	---	ND	---	0.521
58		---	---	ND	---	0.521
59	59/62/75	---	---	ND	---	0.521
60		---	---	ND	---	0.521
61	61/70/74/76	---	---	ND	---	0.521
62	59/62/75	---	---	ND	---	0.521
63		---	---	ND	---	0.521
64		---	---	ND	---	0.521
65	44/47/65	---	---	ND	---	0.625
66		---	---	ND	---	0.521
67		---	---	ND	---	0.521
68		---	---	ND	---	0.521
69	49/69	---	---	ND	---	0.521
70	61/70/74/76	---	---	ND	---	0.521
71	40/41/71	---	---	ND	---	0.521
72		---	---	ND	---	0.521
73		---	---	ND	---	0.521
74	61/70/74/76	---	---	ND	---	0.521
75	59/62/75	---	---	ND	---	0.521
76	61/70/74/76	---	---	ND	---	0.521
77		---	---	ND	---	0.521
78		---	---	ND	---	0.521
79		---	---	ND	---	0.521
80		---	---	ND	---	0.521
81		---	---	ND	---	0.521
82		---	---	ND	---	0.521
83		---	---	ND	---	0.521
84		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-06
Lab Sample ID 1063590006
Filename P71219A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.625
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.521
89		---	---	ND	---	0.521
90	90/101/113	---	---	ND	---	0.521
91	88/91	---	---	ND	---	0.521
92		---	---	ND	---	0.521
93	93/98/100/102	---	---	ND	---	0.781
94		---	---	ND	---	0.521
95		---	---	ND	---	0.521
96		---	---	ND	---	0.521
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.781
99		---	---	ND	---	0.521
100	93/98/100/102	---	---	ND	---	0.781
101	90/101/113	---	---	ND	---	0.521
102	93/98/100/102	---	---	ND	---	0.781
103		---	---	ND	---	0.521
104		---	---	ND	---	0.521
105		---	---	ND	---	0.521
106		---	---	ND	---	0.521
107	107/124	---	---	ND	---	0.521
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.521
110	110/115	---	---	ND	---	0.521
111		---	---	ND	---	0.521
112		---	---	ND	---	0.521
113	90/101/113	---	---	ND	---	0.521
114		---	---	ND	---	0.521
115	110/115	---	---	ND	---	0.521
116	85/116/117	---	---	ND	---	0.625
117	85/116/117	---	---	ND	---	0.625
118		---	---	ND	---	0.521
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.521
121		---	---	ND	---	0.521
122		---	---	ND	---	0.521
123		---	---	ND	---	0.521
124	107/124	---	---	ND	---	0.521
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.521

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-06
Lab Sample ID	1063590006
Filename	P71219A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.521
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.521
130		---	---	ND	---	0.521
131		---	---	ND	---	0.521
132		---	---	ND	---	0.521
133		---	---	ND	---	0.521
134	134/143	---	---	ND	---	0.521
135	135/151	---	---	ND	---	0.531
136		---	---	ND	---	0.521
137		---	---	ND	---	0.521
138	129/138/163	---	---	ND	---	0.521
139	139/140	---	---	ND	---	0.521
140	139/140	---	---	ND	---	0.521
141		---	---	ND	---	0.521
142		---	---	ND	---	0.521
143	134/143	---	---	ND	---	0.521
144		---	---	ND	---	0.521
145		---	---	ND	---	0.521
146		---	---	ND	---	0.521
147	147/149	---	---	ND	---	0.521
148		---	---	ND	---	0.521
149	147/149	---	---	ND	---	0.521
150		---	---	ND	---	0.521
151	135/151	---	---	ND	---	0.531
152		---	---	ND	---	0.521
153	153/168	---	---	ND	---	0.625
154		---	---	ND	---	0.521
155		---	---	ND	---	0.521
156	156/157	---	---	ND	---	0.521
157	156/157	---	---	ND	---	0.521
158		---	---	ND	---	0.521
159		---	---	ND	---	0.521
160		---	---	ND	---	0.521
161		---	---	ND	---	0.521
162		---	---	ND	---	0.521
163	129/138/163	---	---	ND	---	0.521
164		---	---	ND	---	0.521
165		---	---	ND	---	0.521
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.521
168	153/168	---	---	ND	---	0.625

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-06
Lab Sample ID 1063590006
Filename P71219A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.521
170		---	---	ND	---	0.521
171	171/173	---	---	ND	---	0.521
172		---	---	ND	---	0.521
173	171/173	---	---	ND	---	0.521
174		---	---	ND	---	0.521
175		---	---	ND	---	0.521
176		---	---	ND	---	0.521
177		---	---	ND	---	0.521
178		---	---	ND	---	0.521
179		---	---	ND	---	0.521
180	180/193	---	---	ND	---	0.521
181		---	---	ND	---	0.521
182		---	---	ND	---	0.521
183	183/185	---	---	ND	---	0.521
184		---	---	ND	---	0.521
185	183/185	---	---	ND	---	0.521
186		---	---	ND	---	0.521
187		---	---	ND	---	0.521
188		---	---	ND	---	0.521
189		---	---	ND	---	0.521
190		---	---	ND	---	0.521
191		---	---	ND	---	0.521
192		---	---	ND	---	0.521
193	180/193	---	---	ND	---	0.521
194		---	---	ND	---	0.521
195		---	---	ND	---	0.521
196		---	---	ND	---	0.729
197	197/200	---	---	ND	---	2.60
198	198/199	---	---	ND	---	0.521
199	198/199	---	---	ND	---	0.521
200	197/200	---	---	ND	---	2.60
201		---	---	ND	---	0.521
202		---	---	ND	---	0.521
203		---	---	ND	---	0.521
204		---	---	ND	---	0.521
205		---	---	ND	---	0.521
206		---	---	ND	---	0.521
207		---	---	ND	---	0.521
208		---	---	ND	---	0.521
209		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-06
Lab Sample ID	1063590006
Filename	P71219A_16

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-07		
Lab Sample ID	1063590007		
Filename	P71219A_17		
Injected By	SMT		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 05:30

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.563	2.93	2.0	1.43	71
13C-4-MoCB	3	7.960	3.09	2.0	1.44	72
13C-2,2'-DiCB	4	8.235	1.61	2.0	2.03	102
13C-4,4'-DiCB	15	15.796	1.56	2.0	1.56	78
13C-2,2',6-TrCB	19	12.225	1.08	2.0	1.99	99
13C-3,4,4'-TrCB	37	24.137	1.05	2.0	1.52	76
13C-2,2',6,6'-TeCB	54	16.072	0.78	2.0	1.62	81
13C-3,4,4',5-TeCB	81	31.650	0.76	2.0	1.63	82
13C-3,3',4,4'-TeCB	77	32.253	0.77	2.0	1.62	81
13C-2,2',4,6,6'-PeCB	104	22.662	1.62	2.0	1.87	94
13C-2,3,3',4,4'-PeCB	105	35.993	1.57	2.0	1.50	75
13C-2,3,4,4',5-PeCB	114	35.322	1.53	2.0	1.41	71
13C-2,3',4,4',5-PeCB	118	34.785	1.60	2.0	1.58	79
13C-2,3',4,4',5'-PeCB	123	34.433	1.61	2.0	1.53	77
13C-3,3',4,4',5-PeCB	126	39.330	1.55	2.0	1.45	73
13C-2,2',4,4',6,6'-HxCB	155	29.118	1.27	2.0	1.91	95
13C-HxCB (156/157)	156/157	42.500	1.21	4.0	2.84	71
13C-2,3',4,4',5,5'-HxCB	167	41.326	1.22	2.0	1.44	72
13C-3,3',4,4',5,5'-HxCB	169	45.937	1.27	2.0	1.23	62
13C-2,2',3,4',5,6,6'-HpCB	188	35.322	1.05	2.0	2.53	126
13C-2,3,3',4,4',5,5'-HpCB	189	48.555	1.02	2.0	1.57	79
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.007	0.92	2.0	2.40	120
13C-2,3,3',4,4',5,5',6-OcCB	205	51.228	0.89	2.0	1.84	92
13C-2,2',3,3',4,4',5,5',6-NoCB	206	52.995	0.78	2.0	2.04	102
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.995	0.80	2.0	2.13	106
13C--DeCB	209	54.633	0.70	2.0	2.17	108
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.476	1.05	2.0	1.50	75
13C-2,3,3',5,5'-PeCB	111	32.371	1.58	2.0	1.93	97
13C-2,2',3,3',5,5',6-HpCB	178	38.592	1.03	2.0	2.02	101
Recovery Standards						
13C-2,5-DiCB	9	10.835	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.639	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.403	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.089	1.24	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.732	0.90	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-07
Lab Sample ID 1063590007
Filename P71219A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.493
2		---	---	ND	---	0.493
3		---	---	ND	---	0.493
4		---	---	ND	---	0.493
5		---	---	ND	---	0.493
6		---	---	ND	---	0.493
7		---	---	ND	---	0.493
8		---	---	ND	---	0.493
9		---	---	ND	---	0.493
10		---	---	ND	---	0.493
11		---	---	ND	---	0.591
12	12/13	---	---	ND	---	0.493
13	12/13	---	---	ND	---	0.493
14		---	---	ND	---	0.493
15		---	---	ND	---	0.493
16		---	---	ND	---	0.493
17		---	---	ND	---	0.493
18	18/30	---	---	ND	---	0.493
19		---	---	ND	---	0.493
20	20/28	---	---	ND	---	0.591
21	21/33	---	---	ND	---	0.493
22		---	---	ND	---	0.493
23		---	---	ND	---	0.493
24		---	---	ND	---	0.493
25		---	---	ND	---	0.493
26	26/29	---	---	ND	---	0.493
27		---	---	ND	---	0.493
28	20/28	---	---	ND	---	0.591
29	26/29	---	---	ND	---	0.493
30	18/30	---	---	ND	---	0.493
31		---	---	ND	---	0.493
32		---	---	ND	---	0.493
33	21/33	---	---	ND	---	0.493
34		---	---	ND	---	0.493
35		---	---	ND	---	0.493
36		---	---	ND	---	0.493
37		---	---	ND	---	0.493
38		---	---	ND	---	0.493
39		---	---	ND	---	0.493
40	40/41/71	---	---	ND	---	0.493
41	40/41/71	---	---	ND	---	0.493
42		---	---	ND	---	0.493

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Sample Analysis Results

Client Sample ID PQK0657-07
Lab Sample ID 1063590007
Filename P71219A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.493
44	44/47/65	---	---	ND	---	0.591
45	45/51	---	---	ND	---	0.493
46		---	---	ND	---	0.493
47	44/47/65	---	---	ND	---	0.591
48		---	---	ND	---	0.493
49	49/69	---	---	ND	---	0.493
50	50/53	---	---	ND	---	0.493
51	45/51	---	---	ND	---	0.493
52		---	---	ND	---	0.493
53	50/53	---	---	ND	---	0.493
54		---	---	ND	---	0.493
55		---	---	ND	---	0.493
56		---	---	ND	---	0.493
57		---	---	ND	---	0.493
58		---	---	ND	---	0.493
59	59/62/75	---	---	ND	---	0.493
60		---	---	ND	---	0.493
61	61/70/74/76	---	---	ND	---	0.493
62	59/62/75	---	---	ND	---	0.493
63		---	---	ND	---	0.493
64		---	---	ND	---	0.493
65	44/47/65	---	---	ND	---	0.591
66		---	---	ND	---	0.493
67		---	---	ND	---	0.493
68		---	---	ND	---	0.493
69	49/69	---	---	ND	---	0.493
70	61/70/74/76	---	---	ND	---	0.493
71	40/41/71	---	---	ND	---	0.493
72		---	---	ND	---	0.493
73		---	---	ND	---	0.493
74	61/70/74/76	---	---	ND	---	0.493
75	59/62/75	---	---	ND	---	0.493
76	61/70/74/76	---	---	ND	---	0.493
77		---	---	ND	---	0.493
78		---	---	ND	---	0.493
79		---	---	ND	---	0.493
80		---	---	ND	---	0.493
81		---	---	ND	---	0.493
82		---	---	ND	---	0.493
83		---	---	ND	---	0.493
84		---	---	ND	---	0.493

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
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ng's = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-07
Lab Sample ID 1063590007
Filename P71219A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.591
86	86/87/97/108/119/125	---	---	ND	---	0.986
87	86/87/97/108/119/125	---	---	ND	---	0.986
88	88/91	---	---	ND	---	0.493
89		---	---	ND	---	0.493
90	90/101/113	---	---	ND	---	0.493
91	88/91	---	---	ND	---	0.493
92		---	---	ND	---	0.493
93	93/98/100/102	---	---	ND	---	0.739
94		---	---	ND	---	0.493
95		---	---	ND	---	0.493
96		---	---	ND	---	0.493
97	86/87/97/108/119/125	---	---	ND	---	0.986
98	93/98/100/102	---	---	ND	---	0.739
99		---	---	ND	---	0.493
100	93/98/100/102	---	---	ND	---	0.739
101	90/101/113	---	---	ND	---	0.493
102	93/98/100/102	---	---	ND	---	0.739
103		---	---	ND	---	0.493
104		---	---	ND	---	0.493
105		---	---	ND	---	0.493
106		---	---	ND	---	0.493
107	107/124	---	---	ND	---	0.493
108	86/87/97/108/119/125	---	---	ND	---	0.986
109		---	---	ND	---	0.493
110	110/115	---	---	ND	---	0.493
111		---	---	ND	---	0.493
112		---	---	ND	---	0.493
113	90/101/113	---	---	ND	---	0.493
114		---	---	ND	---	0.493
115	110/115	---	---	ND	---	0.493
116	85/116/117	---	---	ND	---	0.591
117	85/116/117	---	---	ND	---	0.591
118		---	---	ND	---	0.493
119	86/87/97/108/119/125	---	---	ND	---	0.986
120		---	---	ND	---	0.493
121		---	---	ND	---	0.493
122		---	---	ND	---	0.493
123		---	---	ND	---	0.493
124	107/124	---	---	ND	---	0.493
125	86/87/97/108/119/125	---	---	ND	---	0.986
126		---	---	ND	---	0.493

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-07
Lab Sample ID	1063590007
Filename	P71219A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.493
128	128/166	---	---	ND	---	0.986
129	129/138/163	---	---	ND	---	0.493
130		---	---	ND	---	0.493
131		---	---	ND	---	0.493
132		---	---	ND	---	0.493
133		---	---	ND	---	0.493
134	134/143	---	---	ND	---	0.493
135	135/151	---	---	ND	---	0.503
136		---	---	ND	---	0.493
137		---	---	ND	---	0.493
138	129/138/163	---	---	ND	---	0.493
139	139/140	---	---	ND	---	0.493
140	139/140	---	---	ND	---	0.493
141		---	---	ND	---	0.493
142		---	---	ND	---	0.493
143	134/143	---	---	ND	---	0.493
144		---	---	ND	---	0.493
145		---	---	ND	---	0.493
146		---	---	ND	---	0.493
147	147/149	---	---	ND	---	0.493
148		---	---	ND	---	0.493
149	147/149	---	---	ND	---	0.493
150		---	---	ND	---	0.493
151	135/151	---	---	ND	---	0.503
152		---	---	ND	---	0.493
153	153/168	---	---	ND	---	0.591
154		---	---	ND	---	0.493
155		---	---	ND	---	0.493
156	156/157	---	---	ND	---	0.493
157	156/157	---	---	ND	---	0.493
158		---	---	ND	---	0.493
159		---	---	ND	---	0.493
160		---	---	ND	---	0.493
161		---	---	ND	---	0.493
162		---	---	ND	---	0.493
163	129/138/163	---	---	ND	---	0.493
164		---	---	ND	---	0.493
165		---	---	ND	---	0.493
166	128/166	---	---	ND	---	0.986
167		---	---	ND	---	0.493
168	153/168	---	---	ND	---	0.591

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
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Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-07
Lab Sample ID 1063590007
Filename P71219A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.493
170		---	---	ND	---	0.493
171	171/173	---	---	ND	---	0.493
172		---	---	ND	---	0.493
173	171/173	---	---	ND	---	0.493
174		---	---	ND	---	0.493
175		---	---	ND	---	0.493
176		---	---	ND	---	0.493
177		---	---	ND	---	0.493
178		---	---	ND	---	0.493
179		---	---	ND	---	0.493
180	180/193	---	---	ND	---	0.493
181		---	---	ND	---	0.493
182		---	---	ND	---	0.493
183	183/185	---	---	ND	---	0.493
184		---	---	ND	---	0.493
185	183/185	---	---	ND	---	0.493
186		---	---	ND	---	0.493
187		---	---	ND	---	0.493
188		---	---	ND	---	0.493
189		---	---	ND	---	0.493
190		---	---	ND	---	0.493
191		---	---	ND	---	0.493
192		---	---	ND	---	0.493
193	180/193	---	---	ND	---	0.493
194		---	---	ND	---	0.493
195		---	---	ND	---	0.493
196		---	---	ND	---	0.690
197	197/200	---	---	ND	---	2.46
198	198/199	---	---	ND	---	0.493
199	198/199	---	---	ND	---	0.493
200	197/200	---	---	ND	---	2.46
201		---	---	ND	---	0.493
202		---	---	ND	---	0.493
203		---	---	ND	---	0.493
204		---	---	ND	---	0.493
205		---	---	ND	---	0.493
206		---	---	ND	---	0.493
207		---	---	ND	---	0.493
208		---	---	ND	---	0.493
209		---	---	ND	---	0.493

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-07
Lab Sample ID	1063590007
Filename	P71219A_17

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-08		
Lab Sample ID	1063590008		
Filename	P71219A_18		
Injected By	SMT		
Total Amount Extracted	993 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/19/2007	Received	11/20/2007
CCal Filename(s)	P71219A_08	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 06:34

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.563	2.90	2.0	0.904	45
13C-4-MoCB	3	7.960	3.24	2.0	1.28	64
13C-2,2'-DiCB	4	8.223	1.60	2.0	1.74	87
13C-4,4'-DiCB	15	15.796	1.54	2.0	1.73	87
13C-2,2',6-TrCB	19	12.226	1.08	2.0	1.97	98
13C-3,4,4'-TrCB	37	24.121	1.05	2.0	1.55	77
13C-2,2',6,6'-TeCB	54	16.072	0.80	2.0	1.58	79
13C-3,4,4',5-TeCB	81	31.651	0.78	2.0	1.77	88
13C-3,3',4,4'-TeCB	77	32.254	0.77	2.0	1.72	86
13C-2,2',4,6,6'-PeCB	104	22.662	1.59	2.0	1.93	96
13C-2,3,3',4,4'-PeCB	105	35.994	1.54	2.0	1.59	80
13C-2,3,4,4',5-PeCB	114	35.323	1.65	2.0	1.52	76
13C-2,3',4,4',5-PeCB	118	34.786	1.58	2.0	1.65	83
13C-2,3',4,4',5'-PeCB	123	34.434	1.56	2.0	1.63	81
13C-3,3',4,4',5-PeCB	126	39.331	1.55	2.0	1.52	76
13C-2,2',4,4',6,6'-HxCB	155	29.118	1.28	2.0	2.06	103
13C-HxCB (156/157)	156/157	42.500	1.28	4.0	2.96	74
13C-2,3',4,4',5,5'-HxCB	167	41.326	1.22	2.0	1.51	76
13C-3,3',4,4',5,5'-HxCB	169	45.938	1.27	2.0	1.27	63
13C-2,2',3,4',5,6,6'-HpCB	188	35.323	1.04	2.0	2.90	145
13C-2,3,3',4,4',5,5'-HpCB	189	48.556	1.09	2.0	1.63	82
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.008	0.91	2.0	2.65	132
13C-2,3,3',4,4',5,5',6-OcCB	205	51.229	0.88	2.0	1.97	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.018	0.79	2.0	2.15	107
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	47.996	0.78	2.0	2.27	113
13C--DeCB	209	54.634	0.70	2.0	2.26	113
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.476	1.04	2.0	1.48	74
13C-2,3,3',5,5'-PeCB	111	32.372	1.57	2.0	1.94	97
13C-2,2',3,3',5,5',6-HpCB	178	38.593	1.06	2.0	2.01	100
Recovery Standards						
13C-2,5-DiCB	9	10.836	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.639	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.403	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.090	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.733	0.90	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-08
Lab Sample ID 1063590008
Filename P71219A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.504
2		---	---	ND	---	0.504
3		---	---	ND	---	0.504
4		---	---	ND	---	0.504
5		---	---	ND	---	0.504
6		---	---	ND	---	0.504
7		---	---	ND	---	0.504
8		---	---	ND	---	0.504
9		---	---	ND	---	0.504
10		---	---	ND	---	0.504
11		---	---	ND	---	0.604
12	12/13	---	---	ND	---	0.504
13	12/13	---	---	ND	---	0.504
14		---	---	ND	---	0.504
15		---	---	ND	---	0.504
16		---	---	ND	---	0.504
17		---	---	ND	---	0.504
18	18/30	---	---	ND	---	0.504
19		---	---	ND	---	0.504
20	20/28	---	---	ND	---	0.604
21	21/33	---	---	ND	---	0.504
22		---	---	ND	---	0.504
23		---	---	ND	---	0.504
24		---	---	ND	---	0.504
25		---	---	ND	---	0.504
26	26/29	---	---	ND	---	0.504
27		---	---	ND	---	0.504
28	20/28	---	---	ND	---	0.604
29	26/29	---	---	ND	---	0.504
30	18/30	---	---	ND	---	0.504
31		---	---	ND	---	0.504
32		---	---	ND	---	0.504
33	21/33	---	---	ND	---	0.504
34		---	---	ND	---	0.504
35		---	---	ND	---	0.504
36		---	---	ND	---	0.504
37		---	---	ND	---	0.504
38		---	---	ND	---	0.504
39		---	---	ND	---	0.504
40	40/41/71	---	---	ND	---	0.504
41	40/41/71	---	---	ND	---	0.504
42		---	---	ND	---	0.504

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-08
Lab Sample ID	1063590008
Filename	P71219A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.504
44	44/47/65	---	---	ND	---	0.604
45	45/51	---	---	ND	---	0.504
46		---	---	ND	---	0.504
47	44/47/65	---	---	ND	---	0.604
48		---	---	ND	---	0.504
49	49/69	---	---	ND	---	0.504
50	50/53	---	---	ND	---	0.504
51	45/51	---	---	ND	---	0.504
52		---	---	ND	---	0.504
53	50/53	---	---	ND	---	0.504
54		---	---	ND	---	0.504
55		---	---	ND	---	0.504
56		---	---	ND	---	0.504
57		---	---	ND	---	0.504
58		---	---	ND	---	0.504
59	59/62/75	---	---	ND	---	0.504
60		---	---	ND	---	0.504
61	61/70/74/76	---	---	ND	---	0.504
62	59/62/75	---	---	ND	---	0.504
63		---	---	ND	---	0.504
64		---	---	ND	---	0.504
65	44/47/65	---	---	ND	---	0.604
66		---	---	ND	---	0.504
67		---	---	ND	---	0.504
68		---	---	ND	---	0.504
69	49/69	---	---	ND	---	0.504
70	61/70/74/76	---	---	ND	---	0.504
71	40/41/71	---	---	ND	---	0.504
72		---	---	ND	---	0.504
73		---	---	ND	---	0.504
74	61/70/74/76	---	---	ND	---	0.504
75	59/62/75	---	---	ND	---	0.504
76	61/70/74/76	---	---	ND	---	0.504
77		---	---	ND	---	0.504
78		---	---	ND	---	0.504
79		---	---	ND	---	0.504
80		---	---	ND	---	0.504
81		---	---	ND	---	0.504
82		---	---	ND	---	0.504
83		---	---	ND	---	0.504
84		---	---	ND	---	0.504

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-08
Lab Sample ID	1063590008
Filename	P71219A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.604
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.504
89		---	---	ND	---	0.504
90	90/101/113	---	---	ND	---	0.504
91	88/91	---	---	ND	---	0.504
92		---	---	ND	---	0.504
93	93/98/100/102	---	---	ND	---	0.756
94		---	---	ND	---	0.504
95		---	---	ND	---	0.504
96		---	---	ND	---	0.504
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.756
99		---	---	ND	---	0.504
100	93/98/100/102	---	---	ND	---	0.756
101	90/101/113	---	---	ND	---	0.504
102	93/98/100/102	---	---	ND	---	0.756
103		---	---	ND	---	0.504
104		---	---	ND	---	0.504
105		---	---	ND	---	0.504
106		---	---	ND	---	0.504
107	107/124	---	---	ND	---	0.504
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.504
110	110/115	---	---	ND	---	0.504
111		---	---	ND	---	0.504
112		---	---	ND	---	0.504
113	90/101/113	---	---	ND	---	0.504
114		---	---	ND	---	0.504
115	110/115	---	---	ND	---	0.504
116	85/116/117	---	---	ND	---	0.604
117	85/116/117	---	---	ND	---	0.604
118		---	---	ND	---	0.504
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.504
121		---	---	ND	---	0.504
122		---	---	ND	---	0.504
123		---	---	ND	---	0.504
124	107/124	---	---	ND	---	0.504
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.504

Conc = Concentration
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Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-08
Lab Sample ID 1063590008
Filename P71219A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.504
128	128/166	---	---	ND	---	1.01
129	129/138/163	38.124	1.20	0.683	---	0.504
130		---	---	ND	---	0.504
131		---	---	ND	---	0.504
132		---	---	ND	---	0.504
133		---	---	ND	---	0.504
134	134/143	---	---	ND	---	0.504
135	135/151	---	---	ND	---	0.514
136		---	---	ND	---	0.504
137		---	---	ND	---	0.504
138	129/138/163	38.124	1.20	(0.683)	---	0.504
139	139/140	---	---	ND	---	0.504
140	139/140	---	---	ND	---	0.504
141		---	---	ND	---	0.504
142		---	---	ND	---	0.504
143	134/143	---	---	ND	---	0.504
144		---	---	ND	---	0.504
145		---	---	ND	---	0.504
146		---	---	ND	---	0.504
147	147/149	---	---	ND	---	0.504
148		---	---	ND	---	0.504
149	147/149	---	---	ND	---	0.504
150		---	---	ND	---	0.504
151	135/151	---	---	ND	---	0.514
152		---	---	ND	---	0.504
153	153/168	---	---	ND	---	0.604
154		---	---	ND	---	0.504
155		---	---	ND	---	0.504
156	156/157	---	---	ND	---	0.504
157	156/157	---	---	ND	---	0.504
158		---	---	ND	---	0.504
159		---	---	ND	---	0.504
160		---	---	ND	---	0.504
161		---	---	ND	---	0.504
162		---	---	ND	---	0.504
163	129/138/163	38.124	1.20	(0.683)	---	0.504
164		---	---	ND	---	0.504
165		---	---	ND	---	0.504
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.504
168	153/168	---	---	ND	---	0.604

Conc = Concentration
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-08
Lab Sample ID	1063590008
Filename	P71219A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.504
170		---	---	ND	---	0.504
171	171/173	---	---	ND	---	0.504
172		---	---	ND	---	0.504
173	171/173	---	---	ND	---	0.504
174		---	---	ND	---	0.504
175		---	---	ND	---	0.504
176		---	---	ND	---	0.504
177		---	---	ND	---	0.504
178		---	---	ND	---	0.504
179		---	---	ND	---	0.504
180	180/193	44.009	1.09	0.589	---	0.504
181		---	---	ND	---	0.504
182		---	---	ND	---	0.504
183	183/185	---	---	ND	---	0.504
184		---	---	ND	---	0.504
185	183/185	---	---	ND	---	0.504
186		---	---	ND	---	0.504
187		---	---	ND	---	0.504
188		---	---	ND	---	0.504
189		---	---	ND	---	0.504
190		---	---	ND	---	0.504
191		---	---	ND	---	0.504
192		---	---	ND	---	0.504
193	180/193	44.009	1.09	(0.589)	---	0.504
194		---	---	ND	---	0.504
195		---	---	ND	---	0.504
196		---	---	ND	---	0.705
197	197/200	---	---	ND	---	2.52
198	198/199	---	---	ND	---	0.504
199	198/199	---	---	ND	---	0.504
200	197/200	---	---	ND	---	2.52
201		---	---	ND	---	0.504
202		---	---	ND	---	0.504
203		---	---	ND	---	0.504
204		---	---	ND	---	0.504
205		---	---	ND	---	0.504
206		---	---	ND	---	0.504
207		---	---	ND	---	0.504
208		---	---	ND	---	0.504
209		---	---	ND	---	0.504

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-08
Lab Sample ID	1063590008
Filename	P71219A_18

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	0.683
Total Heptachloro Biphenyls	0.589
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	1.27

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-09		
Lab Sample ID	1063590009		
Filename	P71220A_04		
Injected By	SMT		
Total Amount Extracted	848 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/20/2007	Received	11/20/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 11:11

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.551	3.18	2.0	1.08	54
13C-4-MoCB	3	7.959	3.29	2.0	1.27	64
13C-2,2'-DiCB	4	8.235	1.58	2.0	1.74	87
13C-4,4'-DiCB	15	15.808	1.54	2.0	1.49	74
13C-2,2',6-TrCB	19	12.237	1.06	2.0	1.84	92
13C-3,4,4'-TrCB	37	24.171	1.04	2.0	1.65	82
13C-2,2',6,6'-TeCB	54	16.088	0.80	2.0	1.68	84
13C-3,4,4',5-TeCB	81	31.717	0.78	2.0	1.72	86
13C-3,3',4,4'-TeCB	77	32.321	0.80	2.0	1.66	83
13C-2,2',4,6,6'-PeCB	104	22.712	1.61	2.0	2.04	102
13C-2,3,3',4,4'-PeCB	105	36.094	1.62	2.0	1.55	77
13C-2,3,4,4',5-PeCB	114	35.423	1.58	2.0	1.53	76
13C-2,3',4,4',5-PeCB	118	34.886	1.59	2.0	1.63	82
13C-2,3',4,4',5'-PeCB	123	34.534	1.57	2.0	1.60	80
13C-3,3',4,4',5-PeCB	126	39.431	1.58	2.0	1.45	73
13C-2,2',4,4',6,6'-HxCB	155	29.185	1.29	2.0	2.27	114
13C-HxCB (156/157)	156/157	42.617	1.26	4.0	3.21	80
13C-2,3',4,4',5,5'-HxCB	167	41.443	1.31	2.0	1.60	80
13C-3,3',4,4',5,5'-HxCB	169	46.089	1.28	2.0	1.41	70
13C-2,2',3,4',5,6,6'-HpCB	188	35.406	1.05	2.0	2.82	141
13C-2,3,3',4,4',5,5'-HpCB	189	48.707	1.05	2.0	1.74	87
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.108	0.90	2.0	2.55	128
13C-2,3,3',4,4',5,5',6-OcCB	205	51.401	0.89	2.0	1.99	99
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.169	0.79	2.0	2.16	108
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.125	0.80	2.0	2.32	116
13C--DeCB	209	54.785	0.71	2.0	2.27	114
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.509	1.04	2.0	1.58	79
13C-2,3,3',5,5'-PeCB	111	32.455	1.58	2.0	1.88	94
13C-2,2',3,3',5,5',6-HpCB	178	38.693	1.06	2.0	2.14	107
Recovery Standards						
13C-2,5-DiCB	9	10.847	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.672	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.453	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.173	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.884	0.88	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-09
Lab Sample ID 1063590009
Filename P71220A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.589
2		---	---	ND	---	0.589
3		---	---	ND	---	0.589
4		---	---	ND	---	0.589
5		---	---	ND	---	0.589
6		---	---	ND	---	0.589
7		---	---	ND	---	0.589
8		---	---	ND	---	0.589
9		---	---	ND	---	0.589
10		---	---	ND	---	0.589
11		---	---	ND	---	0.707
12	12/13	---	---	ND	---	0.589
13	12/13	---	---	ND	---	0.589
14		---	---	ND	---	0.589
15		---	---	ND	---	0.589
16		---	---	ND	---	0.589
17		---	---	ND	---	0.589
18	18/30	---	---	ND	---	0.589
19		---	---	ND	---	0.589
20	20/28	---	---	ND	---	0.707
21	21/33	---	---	ND	---	0.589
22		---	---	ND	---	0.589
23		---	---	ND	---	0.589
24		---	---	ND	---	0.589
25		---	---	ND	---	0.589
26	26/29	---	---	ND	---	0.589
27		---	---	ND	---	0.589
28	20/28	---	---	ND	---	0.707
29	26/29	---	---	ND	---	0.589
30	18/30	---	---	ND	---	0.589
31		---	---	ND	---	0.589
32		---	---	ND	---	0.589
33	21/33	---	---	ND	---	0.589
34		---	---	ND	---	0.589
35		---	---	ND	---	0.589
36		---	---	ND	---	0.589
37		---	---	ND	---	0.589
38		---	---	ND	---	0.589
39		---	---	ND	---	0.589
40	40/41/71	---	---	ND	---	0.589
41	40/41/71	---	---	ND	---	0.589
42		---	---	ND	---	0.589

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-09
Lab Sample ID	1063590009
Filename	P71220A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.589
44	44/47/65	---	---	ND	---	0.707
45	45/51	---	---	ND	---	0.589
46		---	---	ND	---	0.589
47	44/47/65	---	---	ND	---	0.707
48		---	---	ND	---	0.589
49	49/69	---	---	ND	---	0.589
50	50/53	---	---	ND	---	0.589
51	45/51	---	---	ND	---	0.589
52		---	---	ND	---	0.589
53	50/53	---	---	ND	---	0.589
54		---	---	ND	---	0.589
55		---	---	ND	---	0.589
56		---	---	ND	---	0.589
57		---	---	ND	---	0.589
58		---	---	ND	---	0.589
59	59/62/75	---	---	ND	---	0.589
60		---	---	ND	---	0.589
61	61/70/74/76	---	---	ND	---	0.589
62	59/62/75	---	---	ND	---	0.589
63		---	---	ND	---	0.589
64		---	---	ND	---	0.589
65	44/47/65	---	---	ND	---	0.707
66		---	---	ND	---	0.589
67		---	---	ND	---	0.589
68		---	---	ND	---	0.589
69	49/69	---	---	ND	---	0.589
70	61/70/74/76	---	---	ND	---	0.589
71	40/41/71	---	---	ND	---	0.589
72		---	---	ND	---	0.589
73		---	---	ND	---	0.589
74	61/70/74/76	---	---	ND	---	0.589
75	59/62/75	---	---	ND	---	0.589
76	61/70/74/76	---	---	ND	---	0.589
77		---	---	ND	---	0.589
78		---	---	ND	---	0.589
79		---	---	ND	---	0.589
80		---	---	ND	---	0.589
81		---	---	ND	---	0.589
82		---	---	ND	---	0.589
83		---	---	ND	---	0.589
84		27.324	1.57	1.34	---	0.589

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-09
Lab Sample ID	1063590009
Filename	P71220A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.707
86	86/87/97/108/119/125	---	---	ND	---	1.18
87	86/87/97/108/119/125	---	---	ND	---	1.18
88	88/91	27.106	1.57	1.25	---	0.589
89		---	---	ND	---	0.589
90	90/101/113	29.487	1.62	0.678	---	0.589
91	88/91	27.106	1.57	(1.25)	---	0.589
92		---	---	ND	---	0.589
93	93/98/100/102	---	---	ND	---	0.884
94		---	---	ND	---	0.589
95		26.150	1.56	6.27	---	0.589
96		---	---	ND	---	0.589
97	86/87/97/108/119/125	---	---	ND	---	1.18
98	93/98/100/102	---	---	ND	---	0.884
99		---	---	ND	---	0.589
100	93/98/100/102	---	---	ND	---	0.884
101	90/101/113	29.487	1.62	(0.678)	---	0.589
102	93/98/100/102	---	---	ND	---	0.884
103		---	---	ND	---	0.589
104		---	---	ND	---	0.589
105		---	---	ND	---	0.589
106		---	---	ND	---	0.589
107	107/124	---	---	ND	---	0.589
108	86/87/97/108/119/125	---	---	ND	---	1.18
109		---	---	ND	---	0.589
110	110/115	31.600	1.57	3.33	---	0.589
111		---	---	ND	---	0.589
112		---	---	ND	---	0.589
113	90/101/113	29.487	1.62	(0.678)	---	0.589
114		---	---	ND	---	0.589
115	110/115	31.600	1.57	(3.33)	---	0.589
116	85/116/117	---	---	ND	---	0.707
117	85/116/117	---	---	ND	---	0.707
118		---	---	ND	---	0.589
119	86/87/97/108/119/125	---	---	ND	---	1.18
120		---	---	ND	---	0.589
121		---	---	ND	---	0.589
122		---	---	ND	---	0.589
123		---	---	ND	---	0.589
124	107/124	---	---	ND	---	0.589
125	86/87/97/108/119/125	---	---	ND	---	1.18
126		---	---	ND	---	0.589

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-09
Lab Sample ID	1063590009
Filename	P71220A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.589
128	128/166	39.498	1.24	2.63	---	1.18
129	129/138/163	38.207	1.24	7.68	---	0.589
130		37.536	1.27	1.26	---	0.589
131		---	---	ND	---	0.589
132		34.937	1.24	6.49	---	0.589
133		---	---	ND	---	0.589
134	134/143	33.813	1.14	0.725	---	0.589
135	135/151	32.623	1.27	4.09	---	0.601
136		29.906	1.26	1.78	---	0.589
137		37.771	1.37	1.03	---	0.589
138	129/138/163	38.207	1.24	(7.68)	---	0.589
139	139/140	---	---	ND	---	0.589
140	139/140	---	---	ND	---	0.589
141		37.117	1.25	1.13	---	0.589
142		---	---	ND	---	0.589
143	134/143	33.813	1.14	(0.725)	---	0.589
144		---	---	ND	---	0.589
145		---	---	ND	---	0.589
146		36.278	1.24	1.58	---	0.589
147	147/149	33.612	1.22	10.7	---	0.589
148		---	---	ND	---	0.589
149	147/149	33.612	1.22	(10.7)	---	0.589
150		---	---	ND	---	0.589
151	135/151	32.623	1.27	(4.09)	---	0.601
152		---	---	ND	---	0.589
153	153/168	36.932	1.23	4.94	---	0.707
154		---	---	ND	---	0.589
155		---	---	ND	---	0.589
156	156/157	---	---	ND	---	0.589
157	156/157	---	---	ND	---	0.589
158		38.626	1.23	0.843	---	0.589
159		---	---	ND	---	0.589
160		---	---	ND	---	0.589
161		---	---	ND	---	0.589
162		---	---	ND	---	0.589
163	129/138/163	38.207	1.24	(7.68)	---	0.589
164		37.905	1.14	1.04	---	0.589
165		---	---	ND	---	0.589
166	128/166	39.498	1.24	(2.63)	---	1.18
167		---	---	ND	---	0.589
168	153/168	36.932	1.23	(4.94)	---	0.707

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Report No.....1063590

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-09
Lab Sample ID	1063590009
Filename	P71220A_04

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.589
170		45.401	1.04	1.67	---	0.589
171	171/173	---	---	ND	---	0.589
172		---	---	ND	---	0.589
173	171/173	---	---	ND	---	0.589
174		40.538	1.03	1.31	---	0.589
175		---	---	ND	---	0.589
176		---	---	ND	---	0.589
177		40.991	1.00	0.827	---	0.589
178		---	---	ND	---	0.589
179		---	---	ND	---	0.589
180	180/193	44.127	1.03	2.52	---	0.589
181		---	---	ND	---	0.589
182		---	---	ND	---	0.589
183	183/185	40.337	1.01	1.03	---	0.589
184		---	---	ND	---	0.589
185	183/185	40.337	1.01	(1.03)	---	0.589
186		---	---	ND	---	0.589
187		39.683	1.05	1.25	---	0.589
188		---	---	ND	---	0.589
189		---	---	ND	---	0.589
190		---	---	ND	---	0.589
191		---	---	ND	---	0.589
192		---	---	ND	---	0.589
193	180/193	44.127	1.03	(2.52)	---	0.589
194		---	---	ND	---	0.589
195		---	---	ND	---	0.589
196		---	---	ND	---	0.825
197	197/200	---	---	ND	---	2.95
198	198/199	---	---	ND	---	0.589
199	198/199	---	---	ND	---	0.589
200	197/200	---	---	ND	---	2.95
201		---	---	ND	---	0.589
202		---	---	ND	---	0.589
203		---	---	ND	---	0.589
204		---	---	ND	---	0.589
205		---	---	ND	---	0.589
206		---	---	ND	---	0.589
207		---	---	ND	---	0.589
208		---	---	ND	---	0.589
209		---	---	ND	---	0.589

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-09
Lab Sample ID 1063590009
Filename P71220A_04

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	12.9
Total Hexachloro Biphenyls	45.9
Total Heptachloro Biphenyls	8.61
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	67.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-10		
Lab Sample ID	1063590010		
Filename	P71220A_05		
Injected By	SMT		
Total Amount Extracted	982 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/20/2007	Received	11/20/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 12:15

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.575	3.06	2.0	1.27	63
13C-4-MoCB	3	7.971	3.09	2.0	1.36	68
13C-2,2'-DiCB	4	8.247	1.56	2.0	1.79	89
13C-4,4'-DiCB	15	15.831	1.54	2.0	1.37	68
13C-2,2',6-TrCB	19	12.260	1.05	2.0	1.80	90
13C-3,4,4'-TrCB	37	24.186	1.02	2.0	1.48	74
13C-2,2',6,6'-TeCB	54	16.104	0.80	2.0	1.63	81
13C-3,4,4',5-TeCB	81	31.714	0.77	2.0	1.58	79
13C-3,3',4,4'-TeCB	77	32.318	0.79	2.0	1.54	77
13C-2,2',4,6,6'-PeCB	104	22.711	1.60	2.0	1.84	92
13C-2,3,3',4,4'-PeCB	105	36.073	1.55	2.0	1.46	73
13C-2,3,4,4',5-PeCB	114	35.386	1.55	2.0	1.36	68
13C-2,3',4,4',5-PeCB	118	34.866	1.60	2.0	1.51	76
13C-2,3',4,4',5'-PeCB	123	34.514	1.53	2.0	1.49	75
13C-3,3',4,4',5-PeCB	126	39.427	1.58	2.0	1.39	69
13C-2,2',4,4',6,6'-HxCB	155	29.182	1.28	2.0	1.98	99
13C-HxCB (156/157)	156/157	42.596	1.24	4.0	2.67	67
13C-2,3',4,4',5,5'-HxCB	167	41.422	1.28	2.0	1.36	68
13C-3,3',4,4',5,5'-HxCB	169	46.050	1.25	2.0	1.23	61
13C-2,2',3,4',5,6,6'-HpCB	188	35.386	1.05	2.0	2.74	137
13C-2,3,3',4,4',5,5'-HpCB	189	48.680	1.03	2.0	1.65	82
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.087	0.90	2.0	2.34	117
13C-2,3,3',4,4',5,5',6-OcCB	205	51.352	0.89	2.0	1.79	90
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.120	0.78	2.0	2.03	102
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.098	0.80	2.0	2.10	105
13C--DeCB	209	54.736	0.70	2.0	2.12	106
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.525	1.05	2.0	1.53	76
13C-2,3,3',5,5'-PeCB	111	32.452	1.59	2.0	1.80	90
13C-2,2',3,3',5,5',6-HpCB	178	38.672	1.06	2.0	1.97	99
Recovery Standards						
13C-2,5-DiCB	9	10.858	1.55	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.688	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.467	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.169	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.857	0.90	2.0	NA	NA

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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-10
Lab Sample ID	1063590010
Filename	P71220A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.509
2		---	---	ND	---	0.509
3		---	---	ND	---	0.509
4		---	---	ND	---	0.509
5		---	---	ND	---	0.509
6		---	---	ND	---	0.509
7		---	---	ND	---	0.509
8		---	---	ND	---	0.509
9		---	---	ND	---	0.509
10		---	---	ND	---	0.509
11		---	---	ND	---	0.611
12	12/13	---	---	ND	---	0.509
13	12/13	---	---	ND	---	0.509
14		---	---	ND	---	0.509
15		---	---	ND	---	0.509
16		---	---	ND	---	0.509
17		---	---	ND	---	0.509
18	18/30	---	---	ND	---	0.509
19		---	---	ND	---	0.509
20	20/28	---	---	ND	---	0.611
21	21/33	---	---	ND	---	0.509
22		---	---	ND	---	0.509
23		---	---	ND	---	0.509
24		---	---	ND	---	0.509
25		---	---	ND	---	0.509
26	26/29	---	---	ND	---	0.509
27		---	---	ND	---	0.509
28	20/28	---	---	ND	---	0.611
29	26/29	---	---	ND	---	0.509
30	18/30	---	---	ND	---	0.509
31		---	---	ND	---	0.509
32		---	---	ND	---	0.509
33	21/33	---	---	ND	---	0.509
34		---	---	ND	---	0.509
35		---	---	ND	---	0.509
36		---	---	ND	---	0.509
37		---	---	ND	---	0.509
38		---	---	ND	---	0.509
39		---	---	ND	---	0.509
40	40/41/71	---	---	ND	---	0.509
41	40/41/71	---	---	ND	---	0.509
42		---	---	ND	---	0.509

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-10
Lab Sample ID	1063590010
Filename	P71220A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.509
44	44/47/65	---	---	ND	---	0.611
45	45/51	---	---	ND	---	0.509
46		---	---	ND	---	0.509
47	44/47/65	---	---	ND	---	0.611
48		---	---	ND	---	0.509
49	49/69	---	---	ND	---	0.509
50	50/53	---	---	ND	---	0.509
51	45/51	---	---	ND	---	0.509
52		---	---	ND	---	0.509
53	50/53	---	---	ND	---	0.509
54		---	---	ND	---	0.509
55		---	---	ND	---	0.509
56		---	---	ND	---	0.509
57		---	---	ND	---	0.509
58		---	---	ND	---	0.509
59	59/62/75	---	---	ND	---	0.509
60		---	---	ND	---	0.509
61	61/70/74/76	---	---	ND	---	0.509
62	59/62/75	---	---	ND	---	0.509
63		---	---	ND	---	0.509
64		---	---	ND	---	0.509
65	44/47/65	---	---	ND	---	0.611
66		---	---	ND	---	0.509
67		---	---	ND	---	0.509
68		---	---	ND	---	0.509
69	49/69	---	---	ND	---	0.509
70	61/70/74/76	---	---	ND	---	0.509
71	40/41/71	---	---	ND	---	0.509
72		---	---	ND	---	0.509
73		---	---	ND	---	0.509
74	61/70/74/76	---	---	ND	---	0.509
75	59/62/75	---	---	ND	---	0.509
76	61/70/74/76	---	---	ND	---	0.509
77		---	---	ND	---	0.509
78		---	---	ND	---	0.509
79		---	---	ND	---	0.509
80		---	---	ND	---	0.509
81		---	---	ND	---	0.509
82		---	---	ND	---	0.509
83		---	---	ND	---	0.509
84		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-10
Lab Sample ID	1063590010
Filename	P71220A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.611
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.509
89		---	---	ND	---	0.509
90	90/101/113	29.484	1.58	1.31	---	0.509
91	88/91	---	---	ND	---	0.509
92		---	---	ND	---	0.509
93	93/98/100/102	---	---	ND	---	0.764
94		---	---	ND	---	0.509
95		26.148	1.55	0.801	---	0.509
96		---	---	ND	---	0.509
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.764
99		---	---	ND	---	0.509
100	93/98/100/102	---	---	ND	---	0.764
101	90/101/113	29.484	1.58	(1.31)	---	0.509
102	93/98/100/102	---	---	ND	---	0.764
103		---	---	ND	---	0.509
104		---	---	ND	---	0.509
105		---	---	ND	---	0.509
106		---	---	ND	---	0.509
107	107/124	---	---	ND	---	0.509
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.509
110	110/115	31.597	1.53	0.912	---	0.509
111		---	---	ND	---	0.509
112		---	---	ND	---	0.509
113	90/101/113	29.484	1.58	(1.31)	---	0.509
114		---	---	ND	---	0.509
115	110/115	31.597	1.53	(0.912)	---	0.509
116	85/116/117	---	---	ND	---	0.611
117	85/116/117	---	---	ND	---	0.611
118		34.900	1.59	0.581	---	0.509
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.509
121		---	---	ND	---	0.509
122		---	---	ND	---	0.509
123		---	---	ND	---	0.509
124	107/124	---	---	ND	---	0.509
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-10
Lab Sample ID	1063590010
Filename	P71220A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.509
128	128/166	---	---	ND	---	1.02
129	129/138/163	38.203	1.24	3.62	---	0.509
130		---	---	ND	---	0.509
131		---	---	ND	---	0.509
132		34.917	1.25	0.929	---	0.509
133		---	---	ND	---	0.509
134	134/143	---	---	ND	---	0.509
135	135/151	32.620	1.26	1.06	---	0.519
136		---	---	ND	---	0.509
137		---	---	ND	---	0.509
138	129/138/163	38.203	1.24	(3.62)	---	0.509
139	139/140	---	---	ND	---	0.509
140	139/140	---	---	ND	---	0.509
141		37.096	1.23	0.609	---	0.509
142		---	---	ND	---	0.509
143	134/143	---	---	ND	---	0.509
144		---	---	ND	---	0.509
145		---	---	ND	---	0.509
146		---	---	ND	---	0.509
147	147/149	33.609	1.24	2.66	---	0.509
148		---	---	ND	---	0.509
149	147/149	33.609	1.24	(2.66)	---	0.509
150		---	---	ND	---	0.509
151	135/151	32.620	1.26	(1.06)	---	0.519
152		---	---	ND	---	0.509
153	153/168	36.912	1.25	4.18	---	0.611
154		---	---	ND	---	0.509
155		---	---	ND	---	0.509
156	156/157	---	---	ND	---	0.509
157	156/157	---	---	ND	---	0.509
158		---	---	ND	---	0.509
159		---	---	ND	---	0.509
160		---	---	ND	---	0.509
161		---	---	ND	---	0.509
162		---	---	ND	---	0.509
163	129/138/163	38.203	1.24	(3.62)	---	0.509
164		---	---	ND	---	0.509
165		---	---	ND	---	0.509
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.509
168	153/168	36.912	1.25	(4.18)	---	0.611

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Report No.....1063590

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-10
Lab Sample ID 1063590010
Filename P71220A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.509
170		45.363	1.10	1.31	---	0.509
171	171/173	---	---	ND	---	0.509
172		---	---	ND	---	0.509
173	171/173	---	---	ND	---	0.509
174		40.517	1.07	0.989	---	0.509
175		---	---	ND	---	0.509
176		---	---	ND	---	0.509
177		40.969	1.02	0.592	---	0.509
178		---	---	ND	---	0.509
179		---	---	ND	---	0.509
180	180/193	44.088	1.03	3.01	---	0.509
181		---	---	ND	---	0.509
182		---	---	ND	---	0.509
183	183/185	40.316	0.99	0.968	---	0.509
184		---	---	ND	---	0.509
185	183/185	40.316	0.99	(0.968)	---	0.509
186		---	---	ND	---	0.509
187		39.662	1.06	1.20	---	0.509
188		---	---	ND	---	0.509
189		---	---	ND	---	0.509
190		---	---	ND	---	0.509
191		---	---	ND	---	0.509
192		---	---	ND	---	0.509
193	180/193	44.088	1.03	(3.01)	---	0.509
194		50.878	0.90	0.599	---	0.509
195		---	---	ND	---	0.509
196		---	---	ND	---	0.713
197	197/200	---	---	ND	---	2.55
198	198/199	---	---	ND	---	0.509
199	198/199	---	---	ND	---	0.509
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.509
202		---	---	ND	---	0.509
203		---	---	ND	---	0.509
204		---	---	ND	---	0.509
205		---	---	ND	---	0.509
206		---	---	ND	---	0.509
207		---	---	ND	---	0.509
208		---	---	ND	---	0.509
209		---	---	ND	---	0.509

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0657-10
Lab Sample ID	1063590010
Filename	P71220A_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	3.61
Total Hexachloro Biphenyls	13.1
Total Heptachloro Biphenyls	8.07
Total Octachloro Biphenyls	0.599
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	25.3

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-11		
Lab Sample ID	1063590011		
Filename	P71220A_06		
Injected By	SMT		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/20/2007	Received	11/20/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 13:19

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.575	3.08	2.0	1.35	68
13C-4-MoCB	3	7.996	3.15	2.0	1.50	75
13C-2,2'-DiCB	4	8.271	1.56	2.0	2.03	102
13C-4,4'-DiCB	15	15.855	1.51	2.0	0.907	45
13C-2,2',6-TrCB	19	12.285	1.04	2.0	2.04	102
13C-3,4,4'-TrCB	37	24.253	1.04	2.0	1.85	92
13C-2,2',6,6'-TeCB	54	16.172	0.80	2.0	1.84	92
13C-3,4,4',5-TeCB	81	31.849	0.79	2.0	1.78	89
13C-3,3',4,4'-TeCB	77	32.453	0.79	2.0	1.64	82
13C-2,2',4,6,6'-PeCB	104	22.778	1.58	2.0	2.27	113
13C-2,3,3',4,4'-PeCB	105	36.192	1.58	2.0	1.59	79
13C-2,3,4,4',5-PeCB	114	35.538	1.61	2.0	1.49	75
13C-2,3',4,4',5-PeCB	118	35.002	1.59	2.0	1.62	81
13C-2,3',4,4',5'-PeCB	123	34.650	1.56	2.0	1.62	81
13C-3,3',4,4',5-PeCB	126	39.613	1.56	2.0	1.41	71
13C-2,2',4,4',6,6'-HxCB	155	29.301	1.27	2.0	2.33	116
13C-HxCB (156/157)	156/157	42.765	1.23	4.0	3.00	75
13C-2,3',4,4',5,5'-HxCB	167	41.692	1.35	2.0	1.54	77
13C-3,3',4,4',5,5'-HxCB	169	46.286	1.26	2.0	1.40	70
13C-2,2',3,4',5,6,6'-HpCB	188	35.488	1.07	2.0	2.87	144
13C-2,3,3',4,4',5,5'-HpCB	189	48.854	1.04	2.0	1.76	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.223	0.90	2.0	2.49	124
13C-2,3,3',4,4',5,5',6-OcCB	205	51.612	0.89	2.0	1.99	99
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.315	0.80	2.0	2.08	104
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.250	0.80	2.0	2.23	111
13C--DeCB	209	54.975	0.70	2.0	1.93	96
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.575	1.02	2.0	1.77	89
13C-2,3,3',5,5'-PeCB	111	32.570	1.59	2.0	1.91	96
13C-2,2',3,3',5,5',6-HpCB	178	38.808	1.06	2.0	2.10	105
Recovery Standards						
13C-2,5-DiCB	9	10.895	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.772	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.669	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.288	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.031	0.89	2.0	NA	NA

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-11
Lab Sample ID	1063590011
Filename	P71220A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.503
2		---	---	ND	---	0.503
3		---	---	ND	---	0.503
4		---	---	ND	---	0.503
5		---	---	ND	---	0.503
6		---	---	ND	---	0.503
7		---	---	ND	---	0.503
8		---	---	ND	---	0.503
9		---	---	ND	---	0.503
10		---	---	ND	---	0.503
11		15.148	1.56	0.857	---	0.603
12	12/13	---	---	ND	---	0.503
13	12/13	---	---	ND	---	0.503
14		---	---	ND	---	0.503
15		---	---	ND	---	0.503
16		---	---	ND	---	0.503
17		---	---	ND	---	0.503
18	18/30	---	---	ND	---	0.503
19		---	---	ND	---	0.503
20	20/28	---	---	ND	---	0.603
21	21/33	---	---	ND	---	0.503
22		---	---	ND	---	0.503
23		---	---	ND	---	0.503
24		---	---	ND	---	0.503
25		---	---	ND	---	0.503
26	26/29	---	---	ND	---	0.503
27		---	---	ND	---	0.503
28	20/28	---	---	ND	---	0.603
29	26/29	---	---	ND	---	0.503
30	18/30	---	---	ND	---	0.503
31		---	---	ND	---	0.503
32		---	---	ND	---	0.503
33	21/33	---	---	ND	---	0.503
34		---	---	ND	---	0.503
35		---	---	ND	---	0.503
36		---	---	ND	---	0.503
37		---	---	ND	---	0.503
38		---	---	ND	---	0.503
39		---	---	ND	---	0.503
40	40/41/71	---	---	ND	---	0.503
41	40/41/71	---	---	ND	---	0.503
42		---	---	ND	---	0.503

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-11
Lab Sample ID	1063590011
Filename	P71220A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.503
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.503
46		---	---	ND	---	0.503
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.503
49	49/69	---	---	ND	---	0.503
50	50/53	---	---	ND	---	0.503
51	45/51	---	---	ND	---	0.503
52		---	---	ND	---	0.503
53	50/53	---	---	ND	---	0.503
54		---	---	ND	---	0.503
55		---	---	ND	---	0.503
56		---	---	ND	---	0.503
57		---	---	ND	---	0.503
58		---	---	ND	---	0.503
59	59/62/75	---	---	ND	---	0.503
60		---	---	ND	---	0.503
61	61/70/74/76	27.372	0.76	0.717	---	0.503
62	59/62/75	---	---	ND	---	0.503
63		---	---	ND	---	0.503
64		---	---	ND	---	0.503
65	44/47/65	---	---	ND	---	0.603
66		---	---	ND	---	0.503
67		---	---	ND	---	0.503
68		---	---	ND	---	0.503
69	49/69	---	---	ND	---	0.503
70	61/70/74/76	27.372	0.76	(0.717)	---	0.503
71	40/41/71	---	---	ND	---	0.503
72		---	---	ND	---	0.503
73		---	---	ND	---	0.503
74	61/70/74/76	27.372	0.76	(0.717)	---	0.503
75	59/62/75	---	---	ND	---	0.503
76	61/70/74/76	27.372	0.76	(0.717)	---	0.503
77		---	---	ND	---	0.503
78		---	---	ND	---	0.503
79		---	---	ND	---	0.503
80		---	---	ND	---	0.503
81		---	---	ND	---	0.503
82		---	---	ND	---	0.503
83		---	---	ND	---	0.503
84		---	---	ND	---	0.503

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-11
Lab Sample ID	1063590011
Filename	P71220A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.503
89		---	---	ND	---	0.503
90	90/101/113	29.703	1.59	1.41	---	0.503
91	88/91	---	---	ND	---	0.503
92		---	---	ND	---	0.503
93	93/98/100/102	---	---	ND	---	0.754
94		---	---	ND	---	0.503
95		26.232	1.59	1.01	---	0.503
96		---	---	ND	---	0.503
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.754
99		---	---	ND	---	0.503
100	93/98/100/102	---	---	ND	---	0.754
101	90/101/113	29.703	1.59	(1.41)	---	0.503
102	93/98/100/102	---	---	ND	---	0.754
103		---	---	ND	---	0.503
104		---	---	ND	---	0.503
105		36.226	1.58	0.571	---	0.503
106		---	---	ND	---	0.503
107	107/124	---	---	ND	---	0.503
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.503
110	110/115	31.698	1.55	1.67	---	0.503
111		---	---	ND	---	0.503
112		---	---	ND	---	0.503
113	90/101/113	29.703	1.59	(1.41)	---	0.503
114		---	---	ND	---	0.503
115	110/115	31.698	1.55	(1.67)	---	0.503
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		35.035	1.52	1.29	---	0.503
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.503
121		---	---	ND	---	0.503
122		---	---	ND	---	0.503
123		---	---	ND	---	0.503
124	107/124	---	---	ND	---	0.503
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.503

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-11
Lab Sample ID 1063590011
Filename P71220A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.503
128	128/166	---	---	ND	---	1.01
129	129/138/163	38.322	1.24	3.70	---	0.503
130		---	---	ND	---	0.503
131		---	---	ND	---	0.503
132		35.035	1.26	1.10	---	0.503
133		---	---	ND	---	0.503
134	134/143	---	---	ND	---	0.503
135	135/151	32.721	1.25	0.998	---	0.513
136		---	---	ND	---	0.503
137		---	---	ND	---	0.503
138	129/138/163	38.322	1.24	(3.70)	---	0.503
139	139/140	---	---	ND	---	0.503
140	139/140	---	---	ND	---	0.503
141		37.215	1.24	0.587	---	0.503
142		---	---	ND	---	0.503
143	134/143	---	---	ND	---	0.503
144		---	---	ND	---	0.503
145		---	---	ND	---	0.503
146		---	---	ND	---	0.503
147	147/149	33.727	1.24	2.57	---	0.503
148		---	---	ND	---	0.503
149	147/149	33.727	1.24	(2.57)	---	0.503
150		---	---	ND	---	0.503
151	135/151	32.721	1.25	(0.998)	---	0.513
152		---	---	ND	---	0.503
153	153/168	37.031	1.24	3.30	---	0.603
154		---	---	ND	---	0.503
155		---	---	ND	---	0.503
156	156/157	---	---	ND	---	0.503
157	156/157	---	---	ND	---	0.503
158		---	---	ND	---	0.503
159		---	---	ND	---	0.503
160		---	---	ND	---	0.503
161		---	---	ND	---	0.503
162		---	---	ND	---	0.503
163	129/138/163	38.322	1.24	(3.70)	---	0.503
164		---	---	ND	---	0.503
165		---	---	ND	---	0.503
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.503
168	153/168	37.031	1.24	(3.30)	---	0.603

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-11
Lab Sample ID 1063590011
Filename P71220A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.503
170		45.532	1.02	1.27	---	0.503
171	171/173	---	---	ND	---	0.503
172		---	---	ND	---	0.503
173	171/173	---	---	ND	---	0.503
174		40.653	1.04	1.01	---	0.503
175		---	---	ND	---	0.503
176		---	---	ND	---	0.503
177		41.122	1.03	0.634	---	0.503
178		---	---	ND	---	0.503
179		---	---	ND	---	0.503
180	180/193	44.258	1.04	2.70	---	0.503
181		---	---	ND	---	0.503
182		---	---	ND	---	0.503
183	183/185	40.452	1.03	0.956	---	0.503
184		---	---	ND	---	0.503
185	183/185	40.452	1.03	(0.956)	---	0.503
186		---	---	ND	---	0.503
187		39.798	1.03	1.17	---	0.503
188		---	---	ND	---	0.503
189		---	---	ND	---	0.503
190		---	---	ND	---	0.503
191		---	---	ND	---	0.503
192		---	---	ND	---	0.503
193	180/193	44.258	1.04	(2.70)	---	0.503
194		51.074	0.89	0.620	---	0.503
195		---	---	ND	---	0.503
196		---	---	ND	---	0.704
197	197/200	---	---	ND	---	2.51
198	198/199	46.303	0.92	0.620	---	0.503
199	198/199	46.303	0.92	(0.620)	---	0.503
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.503
202		---	---	ND	---	0.503
203		---	---	ND	---	0.503
204		---	---	ND	---	0.503
205		---	---	ND	---	0.503
206		---	---	ND	---	0.503
207		---	---	ND	---	0.503
208		---	---	ND	---	0.503
209		---	---	ND	---	0.503

Conc = Concentration
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-11
Lab Sample ID	1063590011
Filename	P71220A_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.857
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.717
Total Pentachloro Biphenyls	5.95
Total Hexachloro Biphenyls	12.3
Total Heptachloro Biphenyls	7.75
Total Octachloro Biphenyls	1.24
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	28.8

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-12		
Lab Sample ID	1063590012		
Filename	P71220A_07		
Injected By	SMT		
Total Amount Extracted	975 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/20/2007	Received	11/20/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 14:22

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Internal Standards						
13C-2-MoCB	1	5.587	3.18	2.0	0.857	43
13C-4-MoCB	3	7.995	3.24	2.0	0.920	46
13C-2,2'-DiCB	4	8.271	1.59	2.0	1.27	64
13C-4,4'-DiCB	15	15.854	1.51	2.0	0.833	42
13C-2,2',6-TrCB	19	12.284	0.98	2.0	1.27	64
13C-3,4,4'-TrCB	37	24.201	1.04	2.0	1.11	55
13C-2,2',6,6'-TeCB	54	16.137	0.79	2.0	1.11	56
13C-3,4,4',5-TeCB	81	31.729	0.79	2.0	1.49	74
13C-3,3',4,4'-TeCB	77	32.350	0.79	2.0	1.48	74
13C-2,2',4,6,6'-PeCB	104	22.743	1.59	2.0	1.32	66
13C-2,3,3',4,4'-PeCB	105	36.089	1.57	2.0	1.43	72
13C-2,3,4,4',5-PeCB	114	35.401	1.55	2.0	1.32	66
13C-2,3',4,4',5-PeCB	118	34.865	1.58	2.0	1.44	72
13C-2,3',4,4',5'-PeCB	123	34.513	1.54	2.0	1.41	71
13C-3,3',4,4',5-PeCB	126	39.425	1.58	2.0	1.44	72
13C-2,2',4,4',6,6'-HxCB	155	29.198	1.25	2.0	1.61	80
13C-HxCB (156/157)	156/157	42.577	1.21	4.0	2.84	71
13C-2,3',4,4',5,5'-HxCB	167	41.403	1.24	2.0	1.43	72
13C-3,3',4,4',5,5'-HxCB	169	46.031	1.25	2.0	1.28	64
13C-2,2',3,4',5,6,6'-HpCB	188	35.384	1.06	2.0	2.67	134
13C-2,3,3',4,4',5,5'-HpCB	189	48.634	1.06	2.0	1.68	84
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.068	0.92	2.0	2.50	125
13C-2,3,3',4,4',5,5',6-OcCB	205	51.307	0.91	2.0	1.85	92
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.074	0.80	2.0	1.97	99
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.074	0.80	2.0	2.10	105
13C--DeCB	209	54.690	0.72	2.0	2.05	102
Cleanup Standards						
13C-2,4,4'-TrCB	28	19.557	1.02	2.0	1.06	53
13C-2,3,3',5,5'-PeCB	111	32.467	1.58	2.0	1.75	88
13C-2,2',3,3',5,5',6-HpCB	178	38.671	1.06	2.0	1.97	98
Recovery Standards						
13C-2,5-DiCB	9	10.894	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	21.720	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	29.483	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	38.168	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.811	0.92	2.0	NA	NA

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-12
Lab Sample ID 1063590012
Filename P71220A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.513
2		---	---	ND	---	0.513
3		---	---	ND	---	0.513
4		---	---	ND	---	0.513
5		---	---	ND	---	0.513
6		---	---	ND	---	0.513
7		---	---	ND	---	0.513
8		---	---	ND	---	0.513
9		---	---	ND	---	0.513
10		---	---	ND	---	0.513
11		---	---	ND	---	0.615
12	12/13	---	---	ND	---	0.513
13	12/13	---	---	ND	---	0.513
14		---	---	ND	---	0.513
15		---	---	ND	---	0.513
16		---	---	ND	---	0.513
17		---	---	ND	---	0.513
18	18/30	---	---	ND	---	0.513
19		---	---	ND	---	0.513
20	20/28	---	---	ND	---	0.615
21	21/33	---	---	ND	---	0.513
22		---	---	ND	---	0.513
23		---	---	ND	---	0.513
24		---	---	ND	---	0.513
25		---	---	ND	---	0.513
26	26/29	---	---	ND	---	0.513
27		---	---	ND	---	0.513
28	20/28	---	---	ND	---	0.615
29	26/29	---	---	ND	---	0.513
30	18/30	---	---	ND	---	0.513
31		---	---	ND	---	0.513
32		---	---	ND	---	0.513
33	21/33	---	---	ND	---	0.513
34		---	---	ND	---	0.513
35		---	---	ND	---	0.513
36		---	---	ND	---	0.513
37		---	---	ND	---	0.513
38		---	---	ND	---	0.513
39		---	---	ND	---	0.513
40	40/41/71	---	---	ND	---	0.513
41	40/41/71	---	---	ND	---	0.513
42		---	---	ND	---	0.513

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Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-12
Lab Sample ID 1063590012
Filename P71220A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.513
44	44/47/65	---	---	ND	---	0.615
45	45/51	---	---	ND	---	0.513
46		---	---	ND	---	0.513
47	44/47/65	---	---	ND	---	0.615
48		---	---	ND	---	0.513
49	49/69	---	---	ND	---	0.513
50	50/53	---	---	ND	---	0.513
51	45/51	---	---	ND	---	0.513
52		---	---	ND	---	0.513
53	50/53	---	---	ND	---	0.513
54		---	---	ND	---	0.513
55		---	---	ND	---	0.513
56		---	---	ND	---	0.513
57		---	---	ND	---	0.513
58		---	---	ND	---	0.513
59	59/62/75	---	---	ND	---	0.513
60		---	---	ND	---	0.513
61	61/70/74/76	---	---	ND	---	0.513
62	59/62/75	---	---	ND	---	0.513
63		---	---	ND	---	0.513
64		---	---	ND	---	0.513
65	44/47/65	---	---	ND	---	0.615
66		---	---	ND	---	0.513
67		---	---	ND	---	0.513
68		---	---	ND	---	0.513
69	49/69	---	---	ND	---	0.513
70	61/70/74/76	---	---	ND	---	0.513
71	40/41/71	---	---	ND	---	0.513
72		---	---	ND	---	0.513
73		---	---	ND	---	0.513
74	61/70/74/76	---	---	ND	---	0.513
75	59/62/75	---	---	ND	---	0.513
76	61/70/74/76	---	---	ND	---	0.513
77		---	---	ND	---	0.513
78		---	---	ND	---	0.513
79		---	---	ND	---	0.513
80		---	---	ND	---	0.513
81		---	---	ND	---	0.513
82		---	---	ND	---	0.513
83		---	---	ND	---	0.513
84		---	---	ND	---	0.513

Conc = Concentration
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Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-12
Lab Sample ID 1063590012
Filename P71220A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.615
86	86/87/97/108/119/125	---	---	ND	---	1.03
87	86/87/97/108/119/125	---	---	ND	---	1.03
88	88/91	---	---	ND	---	0.513
89		---	---	ND	---	0.513
90	90/101/113	---	---	ND	---	0.513
91	88/91	---	---	ND	---	0.513
92		---	---	ND	---	0.513
93	93/98/100/102	---	---	ND	---	0.769
94		---	---	ND	---	0.513
95		---	---	ND	---	0.513
96		---	---	ND	---	0.513
97	86/87/97/108/119/125	---	---	ND	---	1.03
98	93/98/100/102	---	---	ND	---	0.769
99		---	---	ND	---	0.513
100	93/98/100/102	---	---	ND	---	0.769
101	90/101/113	---	---	ND	---	0.513
102	93/98/100/102	---	---	ND	---	0.769
103		---	---	ND	---	0.513
104		---	---	ND	---	0.513
105		---	---	ND	---	0.513
106		---	---	ND	---	0.513
107	107/124	---	---	ND	---	0.513
108	86/87/97/108/119/125	---	---	ND	---	1.03
109		---	---	ND	---	0.513
110	110/115	---	---	ND	---	0.513
111		---	---	ND	---	0.513
112		---	---	ND	---	0.513
113	90/101/113	---	---	ND	---	0.513
114		---	---	ND	---	0.513
115	110/115	---	---	ND	---	0.513
116	85/116/117	---	---	ND	---	0.615
117	85/116/117	---	---	ND	---	0.615
118		---	---	ND	---	0.513
119	86/87/97/108/119/125	---	---	ND	---	1.03
120		---	---	ND	---	0.513
121		---	---	ND	---	0.513
122		---	---	ND	---	0.513
123		---	---	ND	---	0.513
124	107/124	---	---	ND	---	0.513
125	86/87/97/108/119/125	---	---	ND	---	1.03
126		---	---	ND	---	0.513

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-12
Lab Sample ID 1063590012
Filename P71220A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.513
128	128/166	---	---	ND	---	1.03
129	129/138/163	---	---	ND	---	0.513
130		---	---	ND	---	0.513
131		---	---	ND	---	0.513
132		---	---	ND	---	0.513
133		---	---	ND	---	0.513
134	134/143	---	---	ND	---	0.513
135	135/151	---	---	ND	---	0.523
136		---	---	ND	---	0.513
137		---	---	ND	---	0.513
138	129/138/163	---	---	ND	---	0.513
139	139/140	---	---	ND	---	0.513
140	139/140	---	---	ND	---	0.513
141		---	---	ND	---	0.513
142		---	---	ND	---	0.513
143	134/143	---	---	ND	---	0.513
144		---	---	ND	---	0.513
145		---	---	ND	---	0.513
146		---	---	ND	---	0.513
147	147/149	---	---	ND	---	0.513
148		---	---	ND	---	0.513
149	147/149	---	---	ND	---	0.513
150		---	---	ND	---	0.513
151	135/151	---	---	ND	---	0.523
152		---	---	ND	---	0.513
153	153/168	---	---	ND	---	0.615
154		---	---	ND	---	0.513
155		---	---	ND	---	0.513
156	156/157	---	---	ND	---	0.513
157	156/157	---	---	ND	---	0.513
158		---	---	ND	---	0.513
159		---	---	ND	---	0.513
160		---	---	ND	---	0.513
161		---	---	ND	---	0.513
162		---	---	ND	---	0.513
163	129/138/163	---	---	ND	---	0.513
164		---	---	ND	---	0.513
165		---	---	ND	---	0.513
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.513
168	153/168	---	---	ND	---	0.615

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0657-12
Lab Sample ID 1063590012
Filename P71220A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.513
170		---	---	ND	---	0.513
171	171/173	---	---	ND	---	0.513
172		---	---	ND	---	0.513
173	171/173	---	---	ND	---	0.513
174		---	---	ND	---	0.513
175		---	---	ND	---	0.513
176		---	---	ND	---	0.513
177		---	---	ND	---	0.513
178		---	---	ND	---	0.513
179		---	---	ND	---	0.513
180	180/193	---	---	ND	---	0.513
181		---	---	ND	---	0.513
182		---	---	ND	---	0.513
183	183/185	---	---	ND	---	0.513
184		---	---	ND	---	0.513
185	183/185	---	---	ND	---	0.513
186		---	---	ND	---	0.513
187		---	---	ND	---	0.513
188		---	---	ND	---	0.513
189		---	---	ND	---	0.513
190		---	---	ND	---	0.513
191		---	---	ND	---	0.513
192		---	---	ND	---	0.513
193	180/193	---	---	ND	---	0.513
194		---	---	ND	---	0.513
195		---	---	ND	---	0.513
196		---	---	ND	---	0.718
197	197/200	---	---	ND	---	2.56
198	198/199	---	---	ND	---	0.513
199	198/199	---	---	ND	---	0.513
200	197/200	---	---	ND	---	2.56
201		---	---	ND	---	0.513
202		---	---	ND	---	0.513
203		---	---	ND	---	0.513
204		---	---	ND	---	0.513
205		---	---	ND	---	0.513
206		---	---	ND	---	0.513
207		---	---	ND	---	0.513
208		---	---	ND	---	0.513
209		---	---	ND	---	0.513

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-12
Lab Sample ID	1063590012
Filename	P71220A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - North Creek Analytical

Client's Sample ID	PQK0657-13		
Lab Sample ID	1063590013		
Filename	P71220A_08		
Injected By	SMT		
Total Amount Extracted	993 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/16/2007
ICAL Date	12/20/2007	Received	11/20/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 15:26

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	5.575	3.05	2.0	1.37	68	
13C-4-MoCB	3	7.995	3.00	2.0	1.45	72	
13C-2,2'-DiCB	4	8.271	1.61	2.0	1.97	98	
13C-4,4'-DiCB	15	15.843	1.51	2.0	1.34	67	
13C-2,2',6-TrCB	19	12.273	1.07	2.0	1.93	97	
13C-3,4,4'-TrCB	37	24.202	1.02	2.0	1.61	80	
13C-2,2',6,6'-TeCB	54	16.121	0.81	2.0	1.70	85	
13C-3,4,4',5-TeCB	81	31.748	0.79	2.0	1.71	85	
13C-3,3',4,4'-TeCB	77	32.352	0.79	2.0	1.66	83	
13C-2,2',4,6,6'-PeCB	104	22.744	1.58	2.0	2.01	100	
13C-2,3,3',4,4'-PeCB	105	36.108	1.55	2.0	1.57	78	
13C-2,3,4,4',5-PeCB	114	35.421	1.59	2.0	1.50	75	
13C-2,3',4,4',5-PeCB	118	34.884	1.54	2.0	1.64	82	
13C-2,3',4,4',5'-PeCB	123	34.532	1.57	2.0	1.59	79	
13C-3,3',4,4',5-PeCB	126	39.445	1.57	2.0	1.52	76	
13C-2,2',4,4',6,6'-HxCB	155	29.199	1.27	2.0	2.11	105	
13C-HxCB (156/157)	156/157	42.614	1.25	4.0	3.09	77	
13C-2,3',4,4',5,5'-HxCB	167	41.457	1.25	2.0	1.56	78	
13C-3,3',4,4',5,5'-HxCB	169	46.085	1.27	2.0	1.32	66	
13C-2,2',3,4',5,6,6'-HpCB	188	35.404	1.04	2.0	3.01	151	P
13C-2,3,3',4,4',5,5'-HpCB	189	48.703	1.03	2.0	1.79	89	
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.105	0.91	2.0	2.67	133	
13C-2,3,3',4,4',5,5',6-OcCB	205	51.397	0.90	2.0	1.95	97	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.164	0.78	2.0	2.20	110	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.121	0.79	2.0	2.30	115	
13C--DeCB	209	54.781	0.70	2.0	2.27	114	
Cleanup Standards							
13C-2,4,4'-TrCB	28	19.541	1.03	2.0	1.54	77	
13C-2,3,3',5,5'-PeCB	111	32.469	1.59	2.0	1.95	98	
13C-2,2',3,3',5,5',6-HpCB	178	38.690	1.05	2.0	2.06	103	
Recovery Standards							
13C-2,5-DiCB	9	10.883	1.53	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	21.721	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	29.484	1.59	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	38.187	1.29	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.880	0.87	2.0	NA	NA	

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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NA = Not Applicable
NC = Not Calculated
* = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-13
Lab Sample ID 1063590013
Filename P71220A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.504
2		---	---	ND	---	0.504
3		---	---	ND	---	0.504
4		---	---	ND	---	0.504
5		---	---	ND	---	0.504
6		---	---	ND	---	0.504
7		---	---	ND	---	0.504
8		---	---	ND	---	0.504
9		---	---	ND	---	0.504
10		---	---	ND	---	0.504
11		---	---	ND	---	0.604
12	12/13	---	---	ND	---	0.504
13	12/13	---	---	ND	---	0.504
14		---	---	ND	---	0.504
15		---	---	ND	---	0.504
16		---	---	ND	---	0.504
17		---	---	ND	---	0.504
18	18/30	---	---	ND	---	0.504
19		---	---	ND	---	0.504
20	20/28	---	---	ND	---	0.604
21	21/33	---	---	ND	---	0.504
22		---	---	ND	---	0.504
23		---	---	ND	---	0.504
24		---	---	ND	---	0.504
25		---	---	ND	---	0.504
26	26/29	---	---	ND	---	0.504
27		---	---	ND	---	0.504
28	20/28	---	---	ND	---	0.604
29	26/29	---	---	ND	---	0.504
30	18/30	---	---	ND	---	0.504
31		---	---	ND	---	0.504
32		---	---	ND	---	0.504
33	21/33	---	---	ND	---	0.504
34		---	---	ND	---	0.504
35		---	---	ND	---	0.504
36		---	---	ND	---	0.504
37		---	---	ND	---	0.504
38		---	---	ND	---	0.504
39		---	---	ND	---	0.504
40	40/41/71	---	---	ND	---	0.504
41	40/41/71	---	---	ND	---	0.504
42		---	---	ND	---	0.504

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Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-13
Lab Sample ID 1063590013
Filename P71220A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.504
44	44/47/65	---	---	ND	---	0.604
45	45/51	---	---	ND	---	0.504
46		---	---	ND	---	0.504
47	44/47/65	---	---	ND	---	0.604
48		---	---	ND	---	0.504
49	49/69	---	---	ND	---	0.504
50	50/53	---	---	ND	---	0.504
51	45/51	---	---	ND	---	0.504
52		---	---	ND	---	0.504
53	50/53	---	---	ND	---	0.504
54		---	---	ND	---	0.504
55		---	---	ND	---	0.504
56		---	---	ND	---	0.504
57		---	---	ND	---	0.504
58		---	---	ND	---	0.504
59	59/62/75	---	---	ND	---	0.504
60		---	---	ND	---	0.504
61	61/70/74/76	---	---	ND	---	0.504
62	59/62/75	---	---	ND	---	0.504
63		---	---	ND	---	0.504
64		---	---	ND	---	0.504
65	44/47/65	---	---	ND	---	0.604
66		---	---	ND	---	0.504
67		---	---	ND	---	0.504
68		---	---	ND	---	0.504
69	49/69	---	---	ND	---	0.504
70	61/70/74/76	---	---	ND	---	0.504
71	40/41/71	---	---	ND	---	0.504
72		---	---	ND	---	0.504
73		---	---	ND	---	0.504
74	61/70/74/76	---	---	ND	---	0.504
75	59/62/75	---	---	ND	---	0.504
76	61/70/74/76	---	---	ND	---	0.504
77		---	---	ND	---	0.504
78		---	---	ND	---	0.504
79		---	---	ND	---	0.504
80		---	---	ND	---	0.504
81		---	---	ND	---	0.504
82		---	---	ND	---	0.504
83		---	---	ND	---	0.504
84		---	---	ND	---	0.504

Conc = Concentration
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Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-13
Lab Sample ID 1063590013
Filename P71220A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.604
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.504
89		---	---	ND	---	0.504
90	90/101/113	---	---	ND	---	0.504
91	88/91	---	---	ND	---	0.504
92		---	---	ND	---	0.504
93	93/98/100/102	---	---	ND	---	0.755
94		---	---	ND	---	0.504
95		---	---	ND	---	0.504
96		---	---	ND	---	0.504
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.755
99		---	---	ND	---	0.504
100	93/98/100/102	---	---	ND	---	0.755
101	90/101/113	---	---	ND	---	0.504
102	93/98/100/102	---	---	ND	---	0.755
103		---	---	ND	---	0.504
104		---	---	ND	---	0.504
105		---	---	ND	---	0.504
106		---	---	ND	---	0.504
107	107/124	---	---	ND	---	0.504
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.504
110	110/115	31.614	1.58	0.505	---	0.504
111		---	---	ND	---	0.504
112		---	---	ND	---	0.504
113	90/101/113	---	---	ND	---	0.504
114		---	---	ND	---	0.504
115	110/115	31.614	1.58	(0.505)	---	0.504
116	85/116/117	---	---	ND	---	0.604
117	85/116/117	---	---	ND	---	0.604
118		---	---	ND	---	0.504
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.504
121		---	---	ND	---	0.504
122		---	---	ND	---	0.504
123		---	---	ND	---	0.504
124	107/124	---	---	ND	---	0.504
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.504

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-13
Lab Sample ID	1063590013
Filename	P71220A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.504
128	128/166	---	---	ND	---	1.01
129	129/138/163	38.221	1.27	0.657	---	0.504
130		---	---	ND	---	0.504
131		---	---	ND	---	0.504
132		---	---	ND	---	0.504
133		---	---	ND	---	0.504
134	134/143	---	---	ND	---	0.504
135	135/151	---	---	ND	---	0.514
136		---	---	ND	---	0.504
137		---	---	ND	---	0.504
138	129/138/163	38.221	1.27	(0.657)	---	0.504
139	139/140	---	---	ND	---	0.504
140	139/140	---	---	ND	---	0.504
141		---	---	ND	---	0.504
142		---	---	ND	---	0.504
143	134/143	---	---	ND	---	0.504
144		---	---	ND	---	0.504
145		---	---	ND	---	0.504
146		---	---	ND	---	0.504
147	147/149	---	---	ND	---	0.504
148		---	---	ND	---	0.504
149	147/149	---	---	ND	---	0.504
150		---	---	ND	---	0.504
151	135/151	---	---	ND	---	0.514
152		---	---	ND	---	0.504
153	153/168	---	---	ND	---	0.604
154		---	---	ND	---	0.504
155		---	---	ND	---	0.504
156	156/157	---	---	ND	---	0.504
157	156/157	---	---	ND	---	0.504
158		---	---	ND	---	0.504
159		---	---	ND	---	0.504
160		---	---	ND	---	0.504
161		---	---	ND	---	0.504
162		---	---	ND	---	0.504
163	129/138/163	38.221	1.27	(0.657)	---	0.504
164		---	---	ND	---	0.504
165		---	---	ND	---	0.504
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.504
168	153/168	---	---	ND	---	0.604

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0657-13
Lab Sample ID 1063590013
Filename P71220A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.504
170		---	---	ND	---	0.504
171	171/173	---	---	ND	---	0.504
172		---	---	ND	---	0.504
173	171/173	---	---	ND	---	0.504
174		---	---	ND	---	0.504
175		---	---	ND	---	0.504
176		---	---	ND	---	0.504
177		---	---	ND	---	0.504
178		---	---	ND	---	0.504
179		---	---	ND	---	0.504
180	180/193	---	---	ND	---	0.504
181		---	---	ND	---	0.504
182		---	---	ND	---	0.504
183	183/185	---	---	ND	---	0.504
184		---	---	ND	---	0.504
185	183/185	---	---	ND	---	0.504
186		---	---	ND	---	0.504
187		---	---	ND	---	0.504
188		---	---	ND	---	0.504
189		---	---	ND	---	0.504
190		---	---	ND	---	0.504
191		---	---	ND	---	0.504
192		---	---	ND	---	0.504
193	180/193	---	---	ND	---	0.504
194		---	---	ND	---	0.504
195		---	---	ND	---	0.504
196		---	---	ND	---	0.705
197	197/200	---	---	ND	---	2.52
198	198/199	---	---	ND	---	0.504
199	198/199	---	---	ND	---	0.504
200	197/200	---	---	ND	---	2.52
201		---	---	ND	---	0.504
202		---	---	ND	---	0.504
203		---	---	ND	---	0.504
204		---	---	ND	---	0.504
205		---	---	ND	---	0.504
206		---	---	ND	---	0.504
207		---	---	ND	---	0.504
208		---	---	ND	---	0.504
209		---	---	ND	---	0.504

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQK0657-13
Lab Sample ID	1063590013
Filename	P71220A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	0.505
Total Hexachloro Biphenyls	0.657
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	1.16

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - North Creek Analytical

Lab Sample ID	LCS-14980		
Filename	P71217B_07	Matrix	Water
Total Amount Extracted	1050 mL	Dilution	NA
ICAL Date	12/17/2007	Extracted	12/06/2007
CCal Filename(s)	P71217B_03	Analyzed	12/17/2007 18:58
Method Blank ID	BLANK-14979	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	1.07	107	2.0	1.19	59
3	1.0	1.07	107	2.0	1.13	57
4	1.0	1.03	103	2.0	1.23	62
15	1.0	1.05	105	2.0	1.35	67
19	1.0	1.01	101	2.0	1.27	63
37	1.0	1.08	108	2.0	1.68	84
54	1.0	1.03	103	2.0	1.27	63
81	1.0	1.03	103	2.0	1.93	96
77	1.0	1.05	105	2.0	1.89	95
104	1.0	0.984	98	2.0	1.41	70
105	1.0	1.04	104	2.0	1.95	98
114	1.0	1.05	105	2.0	1.89	95
118	1.0	1.15	115	2.0	2.02	101
123	1.0	0.988	99	2.0	1.99	100
126	1.0	0.973	97	2.0	2.04	102
155	1.0	1.00	100	2.0	1.46	73
156/157	2.0	2.06	103	4.0	3.86	96
167	1.0	1.11	111	2.0	1.94	97
169	1.0	0.966	97	2.0	1.79	90
188	1.0	0.995	99	2.0	1.96	98
189	1.0	1.07	107	2.0	2.10	105
202	1.0	1.05	105	2.0	1.95	97
205	1.0	0.928	93	2.0	2.02	101
206	1.0	0.972	97	2.0	1.96	98
208	1.0	1.01	101	2.0	1.95	97
209	1.0	0.921	92	2.0	1.85	92

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
I = See Discussion
ng = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - North Creek Analytical

Lab Sample ID	LCSD-14981		
Filename	P71217B_08	Matrix	Water
Total Amount Extracted	1050 mL	Dilution	NA
ICAL Date	12/17/2007	Extracted	12/06/2007
CCal Filename(s)	P71217B_03	Analyzed	12/17/2007 20:02
Method Blank ID	BLANK-14979	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	1.02	102	2.0	1.45	73
3	1.0	1.03	103	2.0	1.39	69
4	1.0	1.02	102	2.0	1.48	74
15	1.0	1.03	103	2.0	1.54	77
19	1.0	0.989	99	2.0	1.48	74
37	1.0	1.05	105	2.0	1.87	94
54	1.0	1.03	103	2.0	1.44	72
81	1.0	1.00	100	2.0	2.07	103
77	1.0	1.04	104	2.0	2.02	101
104	1.0	0.958	96	2.0	1.55	77
105	1.0	0.993	99	2.0	2.03	102
114	1.0	1.01	101	2.0	1.96	98
118	1.0	0.972	97	2.0	2.06	103
123	1.0	0.960	96	2.0	2.05	103
126	1.0	0.942	94	2.0	2.09	105
155	1.0	0.992	99	2.0	1.60	80
156/157	2.0	1.90	95	4.0	4.04	101
167	1.0	1.03	103	2.0	2.06	103
169	1.0	0.953	95	2.0	1.88	94
188	1.0	0.974	97	2.0	2.01	101
189	1.0	1.01	101	2.0	2.20	110
202	1.0	1.00	100	2.0	2.00	100
205	1.0	0.905	90	2.0	2.09	104
206	1.0	0.900	90	2.0	2.02	101
208	1.0	0.971	97	2.0	2.00	100
209	1.0	0.911	91	2.0	1.91	95

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A
Spike Recovery Relative Percent Difference (RPD) Results

Client

Spike 1 ID	LCS-14980	Spike 2 ID	LCSD-14981
Spike 1 Filename	P71217B_07	Spike 2 Filename	P71217B_08

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	107	102	4.8
4-MoCB	3	107	103	3.8
2,2'-DiCB	4	103	102	1.0
4,4'-DiCB	15	105	103	1.9
2,2',6-TrCB	19	101	99	2.0
3,4,4'-TrCB	37	108	105	2.8
2,2',6,6'-TeCB	54	103	103	0.0
3,3',4,4'-TeCB	77	105	104	1.0
3,4,4',5-TeCB	81	103	100	3.0
2,2',4,6,6'-PeCB	104	98	96	2.1
2,3,3',4,4'-PeCB	105	104	99	4.9
2,3,4,4',5-PeCB	114	105	101	3.9
2,3',4,4',5-PeCB	118	115	97	17.0
2,3',4,4',5'-PeCB	123	99	96	3.1
3,3',4,4',5-PeCB	126	97	94	3.1
2,2',4,4',6,6'-HxCB	155	100	99	1.0
HxCB (156/157)	156/157	103	95	8.1
2,3',4,4',5,5'-HxCB	167	111	103	7.5
3,3',4,4',5,5'-HxCB	169	97	95	2.1
2,2',3,4',5,6,6'-HpCB	188	99	97	2.0
2,3,3',4,4',5,5'-HpCB	189	107	101	5.8
2,2',3,3',5,5',6,6'-OcCB	202	105	100	4.9
2,3,3',4,4',5,5',6-OcCB	205	93	90	3.3
2,2',3,3',4,4',5,5',6-NoCB	206	97	90	7.5
2,2',3,3',4,5,5',6,6'-NoCB	208	101	97	4.0
Decachlorobiphenyl	209	92	91	1.1

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

Report No.....1063590

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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December 14 – 15, 2007
Sampling Event

Laboratory Data QA/QC Review
Upland Source Control Investigation
December 14 and 15, 2007 Stormwater Sampling

To: File

From: Julia Fowler, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses conducted by the City of Portland (City) on December 14 and 15, 2007. Eight stormwater samples were collected by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) laboratory and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks,

laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the subcontracted laboratory analysis of PCB congeners. The recoveries were within control limits with two exceptions: method blank and sample FO071583. Pace Analytical reports that the data were automatically corrected for recovery variations and accurate values were obtained.

Laboratory Control/Laboratory Control Duplicate Samples

Laboratory control/laboratory control duplicate samples were processed during the subcontracted laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. The laboratory control sample recovery for 3,3-dichlorobenzidine and the laboratory control duplicate sample

recoveries for 3,3-dichlorobenzidine, 2-methylphenol, 4-methylphenol and 2,4-dimethylphenol during the EPA 8270C (SVOCs) analysis were outside of control limits. The error associated with reduced recovery equates to a potential low bias for the method reporting limit.

Other

The method reporting limits (MRL) for samples FO071581, FO071583, FO071584 were elevated during the SVOCs analyses due to less than optimal sample volume available for analysis.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 12-14-07
Page: 1 of 2
Collected By: RLB, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 _ Matrix: STORMWTR

Requested Analyses

Sample Time recorded in PST

	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071581	6543 N Burlington Ave	50_SW1	12-14-07	2335	G	0	0	0	0	0	0	7.0	66	6.5
FO 071582	5051 N Lagoon Ave	52_SW1	12-15-07	0018	G	0	0	0	0	0	0	5.9	83	7.5
FO 071583	4800 N Channel Ave	55_SW1	12-15-07	0041	G	0	0	0	0	0	0	7.4	73	8.7
FO 071584	5949 N Basin	M2_SW1	12-15-07	0131	G	0	0	0	0	0	0	8.1	170	6.6

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0253	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0720	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Portland Harbor Stormwater Sampling Portland Harbor Stormwater QA/QC FY07-08

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-3836

City of Portland Chain-of-Custody
Bureau of Environmental Services

Date: 12/14 -15/07
Page: 2 of 2
Collected By: MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 - **Matrix:** STORMWTR

☐ Sample Time recorded in PST

MJS

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 071585	~~6904~~ N Bradford 8940	52A-SW1	12/14/07	2352	G	•	•	•	•	•	•	8.0	56	6.2
FO 071586	5828 N Van Houten Pl	48-SW1	12/15/07	0025	G	•	•	•	•	•	•	6.3	86	6.6
FO 071587	5555 N. Channel Ave	51-SW1	12/15/07	0049	G	•	•	•	•	•	•	6.8	45	6.8
FO 071588	5555 N Channel @Cascade General	56-SW1	12/15/07	0112	G	•	•	•	•	•	•	7.3	50	6.8

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0253	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0720	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: 12/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\SSD\WPCL\Projects\Portland Harbor Stormwater Comp\Completed\Portland Harbor Stormwater CT Seal 12-07 FINAL.xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071581 **Sample Collected:** 12/14/2007 23:35 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12189
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	66	µmhos/cm	1	SM 2510 B	12/14/07
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	12/14/07
TEMPERATURE	7.0	Deg. C	0.1	SM 2550 B	12/14/07
GENERAL					
TOTAL SUSPENDED SOLIDS	13	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0055	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.50	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.11	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	0.88	µg/L	0.4	EPA 200.8	12/19/07
COPPER	5.14	µg/L	0.2	EPA 200.8	12/19/07
LEAD	1.90	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	1.32	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	129	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.0102	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.0104	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0150	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0114	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Chrysene	0.0236	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071581 **Sample Collected:** 12/14/2007 23:35 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12189
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Fluoranthene	0.0604	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Naphthalene	0.0331	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Phenanthrene	0.0401	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Pyrene	0.0438	µg/L	0.0194	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	12/20/07
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	12/20/07
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	12/20/07
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	12/20/07
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	12/20/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071581** **Sample Collected:** 12/14/2007 23:35 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12189
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	12/20/07
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	12/20/07
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Anthracene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	12/20/07
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	1.5	µg/L	1.1	EPA 8270	12/20/07
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	12/20/07
Chrysene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	12/20/07
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	12/20/07
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	12/20/07
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	12/20/07
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Fluorene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	12/20/07
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Isophorone	<0.21	µg/L	0.21	EPA 8270	12/20/07
Naphthalene	<0.21	µg/L	0.21	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071581** **Sample Collected:** 12/14/2007 23:35 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-50-AAE536
6543 N BURLINGTON AVE DS
Sample Point Code: 50_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL12189
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	12/20/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	12/20/07
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	12/20/07
Phenol	<0.51	µg/L	0.51	EPA 8270	12/20/07
Pyrene	<0.21	µg/L	0.21	EPA 8270	12/20/07

End of Report for Sample ID: FO071581

Report Date: 04/15/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071582 **Sample Collected:** 12/15/2007 00:18 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12190
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	83	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	7.5	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	5.9	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	15	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0039	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.39	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.24	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	4.00	µg/L	0.4	EPA 200.8	12/19/07
COPPER	10.5	µg/L	0.2	EPA 200.8	12/19/07
LEAD	1.55	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	1.47	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	512	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Acenaphthylene	0.0223	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.0235	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.0250	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0344	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	0.0315	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0256	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	2.24	µg/L	0.980	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	1.17	µg/L	0.980	EPA 8270M-SIM	12/18/07
Chrysene	0.0499	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.0098	µg/L	0.0098	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071582 **Sample Collected:** 12/15/2007 00:18 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12190
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	4.08	µg/L	0.980	EPA 8270M-SIM	12/18/07
Fluoranthene	0.119	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	0.0188	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Naphthalene	0.0600	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Phenanthrene	0.102	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Pyrene	0.0846	µg/L	0.0196	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/20/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071582** **Sample Collected:** 12/15/2007 00:18 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12190
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Methylphenol	0.57	µg/L	0.50	EPA 8270	12/20/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	12/20/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	8.5	µg/L	1.0	EPA 8270	12/20/07
Butyl benzyl phthalate	1.7	µg/L	0.20	EPA 8270	12/20/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/20/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dimethyl phthalate	0.84	µg/L	0.20	EPA 8270	12/20/07
Di-n-butyl phthalate	0.23	µg/L	0.20	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	12/20/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/20/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071582** **Sample Collected:** 12/15/2007 00:18 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S2-AAP957
5051 N LAGOON AVE DS
Sample Point Code: S2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL12190
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	12/20/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Phenol	1.1	µg/L	0.50	EPA 8270	12/20/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07

End of Report for Sample ID: FO071582

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071583 **Sample Collected:** 12/15/2007 00:41 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12191
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	73	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	8.7	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	7.4	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	38	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0072	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.01	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.24	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	3.56	µg/L	0.4	EPA 200.8	12/19/07
COPPER	17.6	µg/L	0.2	EPA 200.8	12/19/07
LEAD	4.87	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	2.66	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	304	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Acenaphthylene	0.0205	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Anthracene	0.0417	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.100	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.0901	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0930	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	0.0752	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0985	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	2.29	µg/L	0.980	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Chrysene	0.164	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	0.0233	µg/L	0.0098	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071583 **Sample Collected:** 12/15/2007 00:41 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12191
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Fluoranthene	0.383	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	0.0592	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Naphthalene	0.0390	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Phenanthrene	0.195	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Pyrene	0.237	µg/L	0.0196	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.3	µg/L	4.3	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.3	µg/L	4.3	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Chloronaphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Chlorophenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
2-Methylnaphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Methylphenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
2-Nitroaniline	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Nitrophenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.2	µg/L	2.2	EPA 8270	12/20/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.2	µg/L	2.2	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
4-Chloroaniline	<0.22	µg/L	0.22	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071583** **Sample Collected:** 12/15/2007 00:41 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12191
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
4-Methylphenol	<0.53	µg/L	0.53	EPA 8270	12/20/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4-Nitrophenol	<2.2	µg/L	2.2	EPA 8270	12/20/07
Acenaphthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Acenaphthylene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(a)anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzoic acid	<5.3	µg/L	5.3	EPA 8270	12/20/07
Benzyl alcohol	<5.3	µg/L	5.3	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	1.8	µg/L	1.1	EPA 8270	12/20/07
Butyl benzyl phthalate	0.80	µg/L	0.22	EPA 8270	12/20/07
Chrysene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Dibenzofuran	<0.22	µg/L	0.22	EPA 8270	12/20/07
Diethyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Dimethyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Di-n-butyl phthalate	0.38	µg/L	0.22	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Fluoranthene	0.39	µg/L	0.22	EPA 8270	12/20/07
Fluorene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorobutadiene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	12/20/07
Hexachloroethane	<0.22	µg/L	0.22	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Isophorone	<0.22	µg/L	0.22	EPA 8270	12/20/07
Naphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071583** **Sample Collected:** 12/15/2007 00:41 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S5-AAP982
4800 N CHANNEL AVE DS
Sample Point Code: S5_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12191
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.22	µg/L	0.22	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.22	µg/L	0.22	EPA 8270	12/20/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	12/20/07
Phenanthrene	0.29	µg/L	0.22	EPA 8270	12/20/07
Phenol	1.1	µg/L	0.53	EPA 8270	12/20/07
Pyrene	0.40	µg/L	0.22	EPA 8270	12/20/07

End of Report for Sample ID: FO071583

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071584 **Sample Collected:** 12/15/2007 01:31 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12192
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	170	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	8.1	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	48	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0066	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.33	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.28	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	1.93	µg/L	0.4	EPA 200.8	12/19/07
COPPER	9.13	µg/L	0.2	EPA 200.8	12/19/07
LEAD	3.81	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	2.53	µg/L	0.2	EPA 200.8	12/19/07
SILVER	0.13	µg/L	0.1	EPA 200.8	12/19/07
ZINC	107	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0142	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0105	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Chrysene	0.0229	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071584** **Sample Collected:** 12/15/2007 01:31 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12192
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Fluoranthene	0.0515	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Naphthalene	0.0366	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Phenanthrene	0.0541	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Pyrene	0.0585	µg/L	0.0194	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.3	µg/L	4.3	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.3	µg/L	4.3	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Chloronaphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Chlorophenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
2-Methylnaphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Methylphenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
2-Nitroaniline	<0.22	µg/L	0.22	EPA 8270	12/20/07
2-Nitrophenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.2	µg/L	2.2	EPA 8270	12/20/07
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.2	µg/L	2.2	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
4-Chloroaniline	<0.22	µg/L	0.22	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071584** **Sample Collected:** 12/15/2007 01:31 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-M2-AAM169
5949 N BASIN AVE DS OF MANHOLE
Sample Point Code: M2_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12192
EID File # : 1020.005
LocCode: PORTHASW
Collected By: RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
4-Methylphenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	12/20/07
4-Nitrophenol	<2.2	µg/L	2.2	EPA 8270	12/20/07
Acenaphthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Acenaphthylene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(a)anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Benzoic acid	<5.4	µg/L	5.4	EPA 8270	12/20/07
Benzyl alcohol	<5.4	µg/L	5.4	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.22	µg/L	0.22	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	12/20/07
Butyl benzyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Chrysene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Dibenzofuran	<0.22	µg/L	0.22	EPA 8270	12/20/07
Diethyl phthalate	0.25	µg/L	0.22	EPA 8270	12/20/07
Dimethyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Di-n-butyl phthalate	0.24	µg/L	0.22	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.22	µg/L	0.22	EPA 8270	12/20/07
Fluoranthene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Fluorene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorobutadiene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	12/20/07
Hexachloroethane	<0.22	µg/L	0.22	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Isophorone	<0.22	µg/L	0.22	EPA 8270	12/20/07
Naphthalene	<0.22	µg/L	0.22	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID:	**FO071584**	**Sample Collected:**	12/15/2007 01:31	**Sample Status:**	**COMPLETE AND VALIDATED**
		Sample Received:	12/15/07		

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-M2-AAM169 5949 N BASIN AVE DS OF MANHOLE	**System ID:**	AL12192
Sample Point Code:	M2_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	RCB/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.22	µg/L	0.22	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.22	µg/L	0.22	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.22	µg/L	0.22	EPA 8270	12/20/07
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	12/20/07
Phenanthrene	<0.22	µg/L	0.22	EPA 8270	12/20/07
Phenol	<0.54	µg/L	0.54	EPA 8270	12/20/07
Pyrene	<0.22	µg/L	0.22	EPA 8270	12/20/07

End of Report for Sample ID: FO071584

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071585 **Sample Collected:** 12/14/2007 23:52 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12193
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	56	µmhos/cm	1	SM 2510 B	12/14/07
pH (FIELD)	6.2	pH Units	0.1	SM 4500-H B	12/14/07
TEMPERATURE	8.0	Deg. C	0.1	SM 2550 B	12/14/07
GENERAL					
TOTAL SUSPENDED SOLIDS	20	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0078	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.19	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.18	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	1.42	µg/L	0.4	EPA 200.8	12/19/07
COPPER	8.58	µg/L	0.2	EPA 200.8	12/19/07
LEAD	4.05	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	1.88	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	174	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Acenaphthylene	0.0253	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Anthracene	0.0587	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.0315	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.0168	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0441	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0249	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	4.67	µg/L	0.980	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Chrysene	0.0756	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.0098	µg/L	0.0098	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071585 **Sample Collected:** 12/14/2007 23:52 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12193
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	1.46	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	1.11	µg/L	0.980	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	1.60	µg/L	0.980	EPA 8270M-SIM	12/18/07
Fluoranthene	0.350	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Fluorene	0.0218	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	0.0117	µg/L	0.0098	EPA 8270M-SIM	12/18/07
Naphthalene	0.0652	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Phenanthrene	0.128	µg/L	0.0196	EPA 8270M-SIM	12/18/07
Pyrene	0.150	µg/L	0.0196	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/20/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071585** **Sample Collected:** 12/14/2007 23:52 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12193
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	12/20/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	2.4	µg/L	1.0	EPA 8270	12/20/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/20/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dimethyl phthalate	1.5	µg/L	0.20	EPA 8270	12/20/07
Di-n-butyl phthalate	1.2	µg/L	0.20	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluoranthene	0.27	µg/L	0.20	EPA 8270	12/20/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	12/20/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/20/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071585** **Sample Collected:** 12/14/2007 23:52 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-52A-AAE397
8940 N BRADFORD
Sample Point Code: 52A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL12193
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	12/20/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Phenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07

End of Report for Sample ID: FO071585

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071586 **Sample Collected:** 12/15/2007 00:25 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12194
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	86	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	6.3	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	26	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0040	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.46	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	1.16	µg/L	0.4	EPA 200.8	12/19/07
COPPER	7.43	µg/L	0.2	EPA 200.8	12/19/07
LEAD	2.69	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	5.63	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	26.7	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Acenaphthylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Anthracene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.00966	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0203	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0122	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Chrysene	0.0321	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071586 **Sample Collected:** 12/15/2007 00:25 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12194
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	12/18/07
Fluoranthene	0.104	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Fluorene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	12/18/07
Naphthalene	0.0357	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Phenanthrene	0.0693	µg/L	0.0192	EPA 8270M-SIM	12/18/07
Pyrene	0.0449	µg/L	0.0192	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/20/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071586** **Sample Collected:** 12/15/2007 00:25 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12194
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	12/20/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	12/20/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/20/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	12/20/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/20/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071586** **Sample Collected:** 12/15/2007 00:25 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-48-AAJ670
5828 N VAN HOUTEN PLACE
Sample Point Code: 48_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL12194
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	12/20/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Phenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07

End of Report for Sample ID: FO071586

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071587 **Sample Collected:** 12/15/2007 00:49 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12195
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	45	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	6.8	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	22	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0082	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.89	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.42	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	2.80	µg/L	0.4	EPA 200.8	12/19/07
COPPER	24.1	µg/L	0.2	EPA 200.8	12/19/07
LEAD	8.04	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	4.39	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	287	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0724	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Acenaphthylene	0.0227	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Anthracene	0.171	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.508	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.396	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.431	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	0.213	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.402	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Chrysene	0.739	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	0.0847	µg/L	0.00971	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071587 **Sample Collected:** 12/15/2007 00:49 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12195
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Fluoranthene	1.88	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Fluorene	0.0518	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	0.202	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Naphthalene	0.345	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Phenanthrene	0.737	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Pyrene	1.14	µg/L	0.0194	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/20/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071587** **Sample Collected:** 12/15/2007 00:49 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12195
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)anthracene	0.84	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)pyrene	0.60	µg/L	0.20	EPA 8270	12/20/07
Benzo(b)fluoranthene	1.0	µg/L	0.20	EPA 8270	12/20/07
Benzo(g,h,i)perylene	0.47	µg/L	0.20	EPA 8270	12/20/07
Benzo(k)fluoranthene	0.37	µg/L	0.20	EPA 8270	12/20/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	12/20/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	1.3	µg/L	1.0	EPA 8270	12/20/07
Butyl benzyl phthalate	0.29	µg/L	0.20	EPA 8270	12/20/07
Chrysene	1.2	µg/L	0.20	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/20/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Di-n-butyl phthalate	0.23	µg/L	0.20	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluoranthene	1.7	µg/L	0.20	EPA 8270	12/20/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	12/20/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	0.57	µg/L	0.20	EPA 8270	12/20/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/20/07
Naphthalene	0.30	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071587** **Sample Collected:** 12/15/2007 00:49 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S1-AAM131
5555 N CHANNEL AVE DS
Sample Point Code: S1_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12195
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	12/20/07
Phenanthrene	0.91	µg/L	0.20	EPA 8270	12/20/07
Phenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
Pyrene	1.8	µg/L	0.20	EPA 8270	12/20/07

End of Report for Sample ID: FO071587

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071588 **Sample Collected:** 12/15/2007 01:12 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL12196
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	50	µmhos/cm	1	SM 2510 B	12/15/07
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	12/15/07
TEMPERATURE	7.3	Deg. C	0.1	SM 2550 B	12/15/07
GENERAL					
TOTAL SUSPENDED SOLIDS	8	mg/L	2	SM 2540 D	12/15/07
METALS					
MERCURY	0.0047	µg/L	0.002	WPCLSOP M-1(	12/21/07
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.51	µg/L	0.1	EPA 200.8	12/19/07
CADMIUM	0.18	µg/L	0.1	EPA 200.8	12/19/07
CHROMIUM	1.12	µg/L	0.4	EPA 200.8	12/19/07
COPPER	21.3	µg/L	0.2	EPA 200.8	12/19/07
LEAD	3.01	µg/L	0.1	EPA 200.8	12/19/07
NICKEL	2.48	µg/L	0.2	EPA 200.8	12/19/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	12/19/07
ZINC	320	µg/L	0.5	EPA 200.8	12/19/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	01/16/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Anthracene	0.0402	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(a)anthracene	0.0611	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(a)pyrene	0.0410	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(b)fluoranthene	0.0488	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Benzo(ghi)perylene	0.0312	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Benzo(k)fluoranthene	0.0522	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Chrysene	0.0968	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	12/18/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO071588 **Sample Collected:** 12/15/2007 01:12 **Sample Received:** 12/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12196
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	12/18/07
Fluoranthene	0.253	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Indeno(1,2,3-cd)pyrene	0.0241	µg/L	0.00971	EPA 8270M-SIM	12/18/07
Naphthalene	0.0353	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Phenanthrene	0.143	µg/L	0.0194	EPA 8270M-SIM	12/18/07
Pyrene	0.126	µg/L	0.0194	EPA 8270M-SIM	12/18/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	12/20/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/20/07
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071588** **Sample Collected:** 12/15/2007 01:12 **Sample Received:** 12/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
Sample Point Code: S6_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AL12196
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Low recoveries for 3,3'-Dichlorobenzidine in both LCS's, and for Methyl- and Dimethylphenols in one of 2 LCS's, indicate a low bias for these Semivolatile Organic analytes.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	12/20/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/20/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	12/20/07
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	12/20/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/20/07
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	12/20/07
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/20/07
Diethyl phthalate	0.26	µg/L	0.20	EPA 8270	12/20/07
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Di-n-butyl phthalate	0.23	µg/L	0.20	EPA 8270	12/20/07
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	12/20/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/20/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/20/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	12/20/07

Report Date: 04/15/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

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Address/Location: SW-S6-AAM118
5555 N CHANNEL AV DS MH NR CASC GEN
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Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL12196
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
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Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/20/07
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	12/20/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	12/20/07
Phenol	<0.50	µg/L	0.50	EPA 8270	12/20/07
Pyrene	<0.20	µg/L	0.20	EPA 8270	12/20/07

End of Report for Sample ID: FO071588

Report Date: 04/15/08 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

January 28, 2008 Analytical Report for Service Request No: K0711827

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Samp.

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on December 17, 2007. For your reference, these analyses have been assigned our service request number K0711827.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Received:**	12/17/2007
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 12/17/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Lab Control Sample Exceptions:
The spike recovery of 3,3'-Dichlorobenzidine for Laboratory Control Sample (LCS) KWG0713854-1 was outside the lower control criterion. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. The data is flagged to indicate the problem.

The spike recovery of 2-Methylphenol, 4-Methylphenol, 2,4-Dimethylphenol, and 3,3'-Dichlorobenzidine for Duplicate Laboratory Control Sample (DLCS) KWG0713854-2 was outside the lower control criterion. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. The data is flagged to indicate the problem.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for 2-Methylphenol, 4-Methylphenol, and 2,4-Dimethylphenol in the replicate Laboratory Control Sample (LCS/DLCS) analyses (KWG0713854-1 and KWG0713854-2) was outside control criteria. Reanalysis of the associated field samples could not be performed because insufficient sample remained for additional testing. The data is flagged to indicate the problem.

The Relative Percent Difference (RPD) criterion for the replicate analysis of 3,3'-Dichlorobenzidine in the replicate Laboratory Control Sample (LCS/DLCS) analyses (KWG0713854-1 and KWG0713854-2) is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Elevated Method Reporting Limits:
The Method Reporting Limits (MRL) for samples F0071581, F0071583, F0071584 was elevated due to less than optimal sample volume available for analysis.

Approved by LV **Date** 1/28/08

Sample Notes and Discussion

Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Approved by LW **Date** 1/28/08

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: 1107 11827

PAGE 1 OF 1 COC #

PROJECT NAME: Portland Harbor Stormwater Samp
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Low Level SVOCs EPA 8270 C	PAH + Phthalates EPA 8270C SIM	REMARKS
FO 071581	12/14/07	2335		Storm water	1	X	X	
1582	12/15/07	0018			1	X	X	
1583		0041			1	X	X	
1584		0131			1	X	X	
1585	12/14/07	2352			1	X	X	
1586	12/15/07	0025			1	X	X	
1587		0049			1	X	X	
1588		0112			1	X	X	

Metals (list below) ☐ Total Volatile Solids ☐ Total Solids ☐ Lipids
TOC (ASTM D4129M)
Grain size - PSEP / ASTM D422
Sulfide ☐ Total (9030M) ☐ Water Soluble
AVS / SEM
Ammonia ☐ Total (350.1m) ☐ Pore water
Pesticides (8081)
PCBs (8082) ☐ Aroclors ☐ Congeners
Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP
Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra
Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra
Volatiles (8260)
TRPH 8015 / 418.1

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for Low Level analysis of full 8270 list.

Thanks.

On hold per Client 12/17/07 - telephone - Ahnell

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Rena Kueh	Printed Name:	Printed Name:	Printed Name: Tracy Black
Firm: City of Portland	Firm:	Firm:	Firm: CAH
Date/Time: 12/17/07 0945	Date/Time: 12/17/07 945	Date/Time: 12/17/07 12	Date/Time: 12/17/07 1300

PC VO

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

lient / Project: City of PRV Service Request K07 11827

eceived: 12/7/07 Opened: 12/7/07 By: [illegible]

Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*

Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*

Were custody seals on coolers? NA Y (N) If yes, how many and where? _____

If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y (N)

Temperature of cooler(s) upon receipt (°C):	1.6			
Temperature Blank (°C):				
If applicable, list Chain of Custody Numbers:				

Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

Packing material used. *Inserts* *Bubble Wrap* (Gel Packs) *Wet Ice* *Sleeves* *Other* _____

Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.*	NA	(Y)	N
2. Were all sample labels complete (i.e analysis, preservation, etc.)?		(Y)	N
3. Did all sample labels and tags agree with custody papers? *Indicate in the table below*		(Y)	N
4. Were the correct types of bottles used for the tests indicated?	NA	(Y)	N
5. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below*	(NA)	Y	N
6. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.*	(NA)	Y	N
7. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?	(NA)	Y	N
8. Was C12/Res negative?	NA	(Y)	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

ditional Notes, Discrepancies, & Resolutions: _____

00010

Semi-Volatile Organic Compounds
EPA Method 8270C

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/14/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071581	**Units:**	ug/L
Lab Code:	K0711827-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Phenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.1	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.1	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.1	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.51	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/14/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071581
Lab Code: K0711827-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.1	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.1	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.1	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	**1.5**		1.1	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.21	1	12/20/07	01/22/08	KWG0713854	

Comments:

00013

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/14/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071581
Lab Code: K0711827-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	71	16-122	01/22/08	Acceptable
Phenol-d6	77	25-118	01/22/08	Acceptable
Nitrobenzene-d5	81	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	74	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	97	22-148	01/22/08	Acceptable
Terphenyl-d14	89	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00014

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071582	**Units:**	ug/L
Lab Code:	K0711827-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Phenol	**1.1**		0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	**0.57**		0.50	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	**0.84**		0.20	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

00015

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071582
Lab Code: K0711827-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	**0.23**		0.20	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	**1.7**		0.20	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	**8.5**		1.0	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

00016

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071582
Lab Code: K0711827-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	61	16-122	01/22/08	Acceptable
Phenol-d6	68	25-118	01/22/08	Acceptable
Nitrobenzene-d5	68	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	67	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	93	22-148	01/22/08	Acceptable
Terphenyl-d14	72	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071583	**Units:**	ug/L
Lab Code:	K0711827-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Phenol	**1.1**		0.53	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.3	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.3	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.3	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.53	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071583
Lab Code: K0711827-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.3	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	**0.29**		0.22	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	**0.38**		0.22	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	**0.39**		0.22	1	12/20/07	01/22/08	KWG0713854	
Pyrene	**0.40**		0.22	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	**0.80**		0.22	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	**1.8**		1.1	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071583
Lab Code: K0711827-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	58	16-122	01/22/08	Acceptable
Phenol-d6	66	25-118	01/22/08	Acceptable
Nitrobenzene-d5	68	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	68	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	86	22-148	01/22/08	Acceptable
Terphenyl-d14	68	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071584
Lab Code: K0711827-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Phenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.4	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.3	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.4	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.54	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	

Comments:

00021

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071584
Lab Code: K0711827-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.3	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	**0.25**		0.22	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	**0.24**		0.22	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.2	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.22	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071584
Lab Code: K0711827-004

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	01/22/08	Acceptable
Phenol-d6	66	25-118	01/22/08	Acceptable
Nitrobenzene-d5	70	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	66	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	79	22-148	01/22/08	Acceptable
Terphenyl-d14	70	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/14/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071585
Lab Code: K0711827-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Phenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	**1.5**		0.20	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/14/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071585
Lab Code: K0711827-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	**1.2**		0.20	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	**0.27**		0.20	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	**2.4**		1.0	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/14/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071585
Lab Code: K0711827-005

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	64	16-122	01/22/08	Acceptable
Phenol-d6	68	25-118	01/22/08	Acceptable
Nitrobenzene-d5	67	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	60	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	94	22-148	01/22/08	Acceptable
Terphenyl-d14	66	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071586	**Units:**	ug/L
Lab Code:	K0711827-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Phenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071586	**Units:**	ug/L
Lab Code:	K0711827-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071586
Lab Code: K0711827-006

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	63	16-122	01/22/08	Acceptable
Phenol-d6	72	25-118	01/22/08	Acceptable
Nitrobenzene-d5	82	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	79	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	82	22-148	01/22/08	Acceptable
Terphenyl-d14	73	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071587	**Units:**	ug/L
Lab Code:	K0711827-007	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Phenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/23/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Methylphenol†	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/23/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/23/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Naphthalene	**0.30**		0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071587
Lab Code: K0711827-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/23/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Diethyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
Phenanthrene	**0.91**		0.20	1	12/20/07	01/23/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Di-n-butyl Phthalate	**0.23**		0.20	1	12/20/07	01/23/08	KWG0713854	
Fluoranthene	**1.7**		0.20	1	12/20/07	01/23/08	KWG0713854	
Pyrene	**1.8**		0.20	1	12/20/07	01/23/08	KWG0713854	
Butyl Benzyl Phthalate	**0.29**		0.20	1	12/20/07	01/23/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
Benz(a)anthracene	**0.84**		0.20	1	12/20/07	01/23/08	KWG0713854	
Chrysene	**1.2**		0.20	1	12/20/07	01/23/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	**1.3**		1.0	1	12/20/07	01/23/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(b)fluoranthene	**1.0**		0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(k)fluoranthene	**0.37**		0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(a)pyrene	**0.60**		0.20	1	12/20/07	01/23/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	**0.57**		0.20	1	12/20/07	01/23/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(g,h,i)perylene	**0.47**		0.20	1	12/20/07	01/23/08	KWG0713854	

Comments:

00031

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071587	**Units:**	ug/L
Lab Code:	K0711827-007	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	79	16-122	01/23/08	Acceptable
Phenol-d6	82	25-118	01/23/08	Acceptable
Nitrobenzene-d5	84	24-131	01/23/08	Acceptable
2-Fluorobiphenyl	84	26-114	01/23/08	Acceptable
2,4,6-Tribromophenol	101	22-148	01/23/08	Acceptable
Terphenyl-d14	79	28-144	01/23/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00032

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071588	**Units:**	ug/L
Lab Code:	K0711827-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Phenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/23/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Methylphenol†	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/23/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/23/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Naphthalene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/23/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	

Comments:

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	12/15/2007
Sample Matrix:	Water	**Date Received:**	12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0071588	**Units:**	ug/L
Lab Code:	K0711827-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/23/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Diethyl Phthalate	**0.26**		0.20	1	12/20/07	01/23/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
Phenanthrene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Di-n-butyl Phthalate	**0.23**		0.20	1	12/20/07	01/23/08	KWG0713854	
Fluoranthene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Pyrene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/23/08	KWG0713854	
Benz(a)anthracene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Chrysene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	12/20/07	01/23/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/20/07	01/23/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: 12/15/2007
Date Received: 12/17/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071588
Lab Code: K0711827-008

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	54	16-122	01/23/08	Acceptable
Phenol-d6	63	25-118	01/23/08	Acceptable
Nitrobenzene-d5	71	24-131	01/23/08	Acceptable
2-Fluorobiphenyl	73	26-114	01/23/08	Acceptable
2,4,6-Tribromophenol	78	22-148	01/23/08	Acceptable
Terphenyl-d14	74	28-144	01/23/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0713854-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Phenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
1,3-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,4-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
1,2-Dichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzyl Alcohol	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Hexachloroethane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Methylphenol†	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Nitrobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Isophorone	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitrophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4-Dimethylphenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,4-Dichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
Benzoic Acid	ND	U	5.0	1	12/20/07	01/22/08	KWG0713854	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Naphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobutadiene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chloro-3-methylphenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Methylnaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorocyclopentadiene	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4,6-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2,4,5-Trichlorophenol	ND	U	0.50	1	12/20/07	01/22/08	KWG0713854	
2-Chloronaphthalene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2-Nitroaniline	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Acenaphthylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dimethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
2,6-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0713854-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrophenol	ND	U	4.0	1	12/20/07	01/22/08	KWG0713854	
Dibenzofuran	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
2,4-Dinitrotoluene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluorene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Diethyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Nitroaniline	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Hexachlorobenzene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pentachlorophenol	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Phenanthrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Di-n-butyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Butyl Benzyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/20/07	01/22/08	KWG0713854	
Benz(a)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Chrysene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	12/20/07	01/22/08	KWG0713854	
Di-n-octyl Phthalate	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(b)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(k)fluoranthene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(a)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/20/07	01/22/08	KWG0713854	

Comments:

00037

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0713854-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	16-122	01/22/08	Acceptable
Phenol-d6	75	25-118	01/22/08	Acceptable
Nitrobenzene-d5	84	24-131	01/22/08	Acceptable
2-Fluorobiphenyl	79	26-114	01/22/08	Acceptable
2,4,6-Tribromophenol	64	22-148	01/22/08	Acceptable
Terphenyl-d14	91	28-144	01/22/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
F0071581	K0711827-001	71	77	81	74	97	89
F0071582	K0711827-002	61	68	68	67	93	72
F0071583	K0711827-003	58	66	68	68	86	68
F0071584	K0711827-004	59	66	70	66	79	70
F0071585	K0711827-005	64	68	67	60	94	66
F0071586	K0711827-006	63	72	82	79	82	73
F0071587	K0711827-007	79	82	84	84	101	79
F0071588	K0711827-008	54	63	71	73	78	74
Method Blank	KWG0713854-3	65	75	84	79	64	91
Lab Control Sample	KWG0713854-1	80	83	83	71	93	91
Duplicate Lab Control Sample	KWG0713854-2	74	81	85	74	80	97

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0711827
Date Extracted: 12/20/2007
Date Analyzed: 01/22/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0713854

Analyte Name	Lab Control Sample KWG0713854-1 Lab Control Spike Result	Expected	%Rec	Duplicate Lab Control Sample KWG0713854-2 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD	RPD Limit
Bis(2-chloroethyl) Ether	3.21	5.00	64	3.30	5.00	66	30-125	3	30
Phenol	3.47	5.00	69	3.32	5.00	66	32-117	4	30
2-Chlorophenol	3.46	5.00	69	3.39	5.00	68	32-117	2	30
1,3-Dichlorobenzene	1.64	5.00	33	1.62	5.00	32	10-79	1	30
1,4-Dichlorobenzene	1.75	5.00	35	1.70	5.00	34	10-81	3	30
1,2-Dichlorobenzene	1.92	5.00	38	1.86	5.00	37	15-86	3	30
Benzyl Alcohol	2.63	5.00	53	2.79	5.00	56	33-119	6	30
Bis(2-chloroisopropyl) Ether	3.06	5.00	61	3.08	5.00	62	29-116	1	30
2-Methylphenol	2.88	5.00	58	1.28	5.00	26 *	29-115	77 *	30
Hexachloroethane	1.25	5.00	25	1.13	5.00	23	10-76	11	30
N-Nitrosodi-n-propylamine	3.29	5.00	66	3.32	5.00	66	35-119	1	30
4-Methylphenol	2.94	5.00	59	1.09	5.00	22 *	30-116	91 *	30
Nitrobenzene	3.41	5.00	68	3.46	5.00	69	34-122	1	30
Isophorone	3.26	5.00	65	3.35	5.00	67	33-121	3	30
2-Nitrophenol	3.59	5.00	72	3.71	5.00	74	33-120	3	30
2,4-Dimethylphenol	0.705	5.00	14	0.153	5.00	3 *	10-116	129 *	30
Bis(2-chloroethoxy)methane	3.29	5.00	66	3.36	5.00	67	34-119	2	30
2,4-Dichlorophenol	3.41	5.00	68	3.35	5.00	67	33-120	2	30
Benzoic Acid	5.42	15.0	36	5.12	15.0	34	10-118	6	30
1,2,4-Trichlorobenzene	1.93	5.00	39	1.93	5.00	39	14-88	0	30
Naphthalene	2.74	5.00	55	2.80	5.00	56	27-103	2	30
4-Chloroaniline	1.13	5.00	23	1.03	5.00	21	10-110	9	30
Hexachlorobutadiene	1.19	5.00	24	1.07	5.00	21	10-75	11	30
4-Chloro-3-methylphenol	3.35	5.00	67	2.77	5.00	55	37-120	19	30
2-Methylnaphthalene	2.67	5.00	53	2.73	5.00	55	27-99	2	30
Hexachlorocyclopentadiene	0.707	5.00	14	0.650	5.00	13	10-54	8	30
2,4,6-Trichlorophenol	3.40	5.00	68	3.10	5.00	62	34-118	9	30
2,4,5-Trichlorophenol	3.51	5.00	70	3.63	5.00	73	36-119	4	30
2-Chloronaphthalene	2.75	5.00	55	2.83	5.00	57	30-108	3	30
2-Nitroaniline	3.64	5.00	73	3.81	5.00	76	35-122	5	30
Acenaphthylene	3.13	5.00	63	3.22	5.00	64	39-116	3	30
Dimethyl Phthalate	3.59	5.00	72	3.77	5.00	75	43-116	5	30
2,6-Dinitrotoluene	3.76	5.00	75	4.01	5.00	80	42-120	7	30
Acenaphthene	3.12	5.00	62	3.18	5.00	64	36-108	2	30
3-Nitroaniline	3.09	5.00	62	2.95	5.00	59	24-115	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

30040

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Portland, City of	**Service Request:**	K0711827
Project:	Portland Harbor Stormwater Samp.	**Date Extracted:**	12/20/2007
Sample Matrix:	Water	**Date Analyzed:**	01/22/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0713854

	Lab Control Sample KWG0713854-1 Lab Control Spike			Duplicate Lab Control Sample KWG0713854-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	3.59	5.00	72	3.97	5.00	79	10-121	10	30
Dibenzofuran	3.26	5.00	65	3.35	5.00	67	36-108	3	30
4-Nitrophenol	3.61	5.00	72	3.75	5.00	75	33-136	4	30
2,4-Dinitrotoluene	3.93	5.00	79	4.19	5.00	84	43-124	6	30
Fluorene	3.41	5.00	68	3.53	5.00	71	37-113	3	30
4-Chlorophenyl Phenyl Ether	3.38	5.00	68	3.48	5.00	70	36-112	3	30
Diethyl Phthalate	3.69	5.00	74	3.88	5.00	78	42-120	5	30
4-Nitroaniline	3.41	5.00	68	3.51	5.00	70	23-120	3	30
2-Methyl-4,6-dinitrophenol	3.84	5.00	77	4.13	5.00	83	24-123	7	30
N-Nitrosodiphenylamine	3.48	5.00	70	2.90	5.00	58	30-115	18	30
4-Bromophenyl Phenyl Ether	3.49	5.00	70	3.66	5.00	73	40-113	5	30
Hexachlorobenzene	3.50	5.00	70	3.66	5.00	73	40-114	5	30
Pentachlorophenol	3.76	5.00	75	3.95	5.00	79	24-123	5	30
Phenanthrene	3.48	5.00	70	3.68	5.00	74	42-113	6	30
Anthracene	3.33	5.00	67	3.42	5.00	68	40-113	2	30
Di-n-butyl Phthalate	3.93	5.00	79	4.26	5.00	85	46-119	8	30
Fluoranthene	3.65	5.00	73	3.89	5.00	78	44-116	6	30
Pyrene	3.54	5.00	71	3.72	5.00	74	42-121	5	30
Butyl Benzyl Phthalate	3.67	5.00	73	3.97	5.00	79	43-121	8	30
3,3'-Dichlorobenzidine	0.0580	5.00	1 *	0.0260	5.00	1 *	10-101	76 *	30
Benz(a)anthracene	3.55	5.00	71	3.78	5.00	76	43-121	6	30
Chrysene	3.57	5.00	71	3.82	5.00	76	45-119	7	30
Bis(2-ethylhexyl) Phthalate	3.98	5.00	80	4.14	5.00	83	34-136	4	30
Di-n-octyl Phthalate	3.56	5.00	71	3.74	5.00	75	39-123	5	30
Benzo(b)fluoranthene	3.64	5.00	73	3.86	5.00	77	42-119	6	30
Benzo(k)fluoranthene	3.66	5.00	73	3.88	5.00	78	43-120	6	30
Benzo(a)pyrene	3.45	5.00	69	3.48	5.00	70	39-116	1	30
Indeno(1,2,3-cd)pyrene	3.85	5.00	77	4.09	5.00	82	42-123	6	30
Dibenz(a,h)anthracene	3.76	5.00	75	3.98	5.00	80	38-130	6	30
Benzo(g,h,i)perylene	3.77	5.00	75	4.02	5.00	80	38-125	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

January 08, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 12/17/07 12:15. The following list is a summary of the Work Orders contained in this report, generated on 01/08/08 16:24.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQL0652	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071581	PQL0652-01	Water	12/14/07 23:35	12/17/07 12:15
FO 071582	PQL0652-02	Water	12/15/07 00:18	12/17/07 12:15
FO 071583	PQL0652-03	Water	12/15/07 00:41	12/17/07 12:15
FO 071584	PQL0652-04	Water	12/15/07 01:31	12/17/07 12:15
FO 071585	PQL0652-05	Water	12/14/07 23:52	12/17/07 12:15
FO 071586	PQL0652-06	Water	12/15/07 00:25	12/17/07 12:15
FO 071587	PQL0652-07	Water	12/15/07 00:49	12/17/07 12:15
FO 071588	PQL0652-08	Water	12/15/07 01:12	12/17/07 12:15

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-01 (FO 071581)		**Water**			**Sampled: 12/14/07 23:35**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7120680	12/18/07 15:45	12/28/07 13:44	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0102**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0104**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0150**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0114**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0236**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0604**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0331**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0401**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.801**	*0.511*	0.971	"	"	"	"	01/03/08 20:22	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0438**	*0.0194*	0.0194	"	"	"	"	12/28/07 13:44	
Surrogate(s): Fluorene-d10			*84.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*90.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*70.5%*		*10 - 125 %*	"			"	
PQL0652-02 (FO 071582)		**Water**			**Sampled: 12/15/07 00:18**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7120680	12/18/07 15:45	12/28/07 20:32	
Acenaphthylene	"	**0.0223**	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0235**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0250**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0344**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0315**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0256**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0499**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.119**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0188**	*0.00980*	0.00980	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-02 (FO 071582)			**Water**			**Sampled: 12/15/07 00:18**				
Naphthalene	EPA 8270m	**0.0600**	*0.0196*	0.0196	ug/l	1x	7120680	12/18/07 15:45	12/28/07 20:32	
Phenanthrene	"	**0.102**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**2.24**	*0.516*	0.980	"	"	"	"	01/03/08 20:55	
Butyl benzyl phthalate	"	**1.17**	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	**4.08**	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	**0.675**	*0.516*	0.980	"	"	"	"	"	**J**
Pyrene	"	**0.0846**	*0.0196*	0.0196	"	"	"	"	12/28/07 20:32	
Surrogate(s): Fluorene-d10			*82.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*65.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*52.1%*		*10 - 125 %*	"			"	
PQL0652-03 (FO 071583)			**Water**			**Sampled: 12/15/07 00:41**				
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7120680	12/18/07 15:45	12/28/07 19:29	
Acenaphthylene	"	**0.0205**	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	**0.0417**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.100**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0901**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0930**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0752**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0985**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.164**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0233**	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.383**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0592**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0390**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.195**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**2.29**	*0.516*	0.980	"	"	"	"	01/03/08 21:28	
Butyl benzyl phthalate	"	**0.687**	*0.516*	0.980	"	"	"	"	"	**J**
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.237**	*0.0196*	0.0196	"	"	"	"	12/28/07 19:29	
Surrogate(s): Fluorene-d10			*53.9%*		*25 - 125 %*	"			"	
Pyrene-d10			*66.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*69.3%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-04 (FO 071584)		**Water**			**Sampled: 12/15/07 01:31**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7120680	12/18/07 15:45	12/28/07 20:01	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0142**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0105**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0229**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0515**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0366**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0541**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.569**	*0.511*	0.971	"	"	"	"	01/03/08 22:02	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0585**	*0.0194*	0.0194	"	"	"	"	12/28/07 20:01	
Surrogate(s): Fluorene-d10			*91.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*91.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*78.8%*		*10 - 125 %*	"			"	
PQL0652-05 (FO 071585)		**Water**			**Sampled: 12/14/07 23:52**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	7120680	12/18/07 15:45	12/28/07 15:18	
Acenaphthylene	"	**0.0253**	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	**0.0587**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0315**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0168**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0441**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0249**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0756**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.350**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	**0.0218**	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0117**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0652**	*0.0196*	0.0196	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-05 (FO 071585)		**Water**			**Sampled: 12/14/07 23:52**					
Phenanthrene	EPA 8270m	**0.128**	*0.0196*	0.0196	ug/l	1x	7120680	12/18/07 15:45	12/28/07 15:18	
Bis(2-ethylhexyl)phthalate	"	**4.67**	*0.516*	0.980	"	"	"	"	01/03/08 22:35	
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	**1.11**	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	**1.60**	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	**1.46**	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.150**	*0.0196*	0.0196	"	"	"	"	12/28/07 15:18	
Surrogate(s): Fluorene-d10			*82.0%*		*25 - 125 %*	"			"	
Pyrene-d10			*78.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*51.3%*		*10 - 125 %*	"			"	
PQL0652-06 (FO 071586)		**Water**			**Sampled: 12/15/07 00:25**					
Acenaphthene	EPA 8270m	ND	*0.0192*	0.0192	ug/l	1x	7120680	12/18/07 15:45	12/28/07 15:49	
Acenaphthylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Anthracene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) anthracene	"	**0.00966**	*0.00962*	0.00962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0203**	*0.00962*	0.00962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0122**	*0.00962*	0.00962	"	"	"	"	"	
Chrysene	"	**0.0321**	*0.00962*	0.00962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Fluoranthene	"	**0.104**	*0.0192*	0.0192	"	"	"	"	"	
Fluorene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Naphthalene	"	**0.0357**	*0.0192*	0.0192	"	"	"	"	"	
Phenanthrene	"	**0.0693**	*0.0192*	0.0192	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.506*	0.962	"	"	"	"	01/03/08 23:10	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Pyrene	"	**0.0449**	*0.0192*	0.0192	"	"	"	"	12/28/07 15:49	
Surrogate(s): Fluorene-d10			*82.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*77.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*76.2%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-07 (FO 071587)		**Water**			**Sampled: 12/15/07 00:49**					
Acenaphthene	EPA 8270m	**0.0724**	*0.0194*	0.0194	ug/l	1x	7120680	12/18/07 15:45	12/28/07 18:26	
Acenaphthylene	"	**0.0227**	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.171**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.508**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.396**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.431**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.213**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.402**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.739**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0847**	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**1.88**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0518**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.202**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.345**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.737**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.860**	*0.511*	0.971	"	"	"	"	01/03/08 23:43	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**1.14**	*0.0194*	0.0194	"	"	"	"	12/28/07 18:26	
Surrogate(s): Fluorene-d10			*74.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*66.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*50.5%*		*10 - 125 %*	"			"	
PQL0652-08 (FO 071588)		**Water**			**Sampled: 12/15/07 01:12**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	7120680	12/18/07 15:45	12/28/07 14:47	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0402**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0611**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0410**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0488**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0312**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0522**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0968**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.253**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0241**	*0.00971*	0.00971	"	"	"	"	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQL0652-08 (FO 071588)		**Water**			**Sampled: 12/15/07 01:12**					
Naphthalene	EPA 8270m	**0.0353**	*0.0194*	0.0194	ug/l	1x	7120680	12/18/07 15:45	12/28/07 14:47	
Phenanthrene	"	**0.143**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.909**	*0.511*	0.971	"	"	"	"	01/04/08 00:17	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.126**	*0.0194*	0.0194	"	"	"	"	12/28/07 14:47	
Surrogate(s): Fluorene-d10			*91.3%*		*25 - 125 %*	"			"	
Pyrene-d10			*66.1%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*59.1%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7120680 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7120680-BLK1)									**Extracted: 12/18/07 15:45**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	12/28/07 14:16	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	01/03/08 18:42	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	12/28/07 14:16	
Surrogate(s): Fluorene-d10		*Recovery: 92.8%*			*Limits: 25-125%*	"							*12/28/07 14:16*	
Pyrene-d10		*108%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*116%*			*10-125%*	"							"	
LCS (7120680-BS1)									**Extracted: 12/18/07 15:45**					
Acenaphthene	EPA 8270m	2.37	0.0400	0.0400	ug/l	2x	--	2.50	94.9%	(35-120)	--	--	12/28/07 12:42	
Acenaphthylene	"	2.52	0.0400	0.0400	"	"	--	"	101%	(34-116)	--	--	"	
Anthracene	"	2.49	0.0400	0.0400	"	"	--	"	99.8%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.46	0.0200	0.0200	"	"	--	"	98.4%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.49	0.0200	0.0200	"	"	--	"	99.5%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.86	0.0200	0.0200	"	"	--	"	114%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.46	0.0400	0.0400	"	"	--	"	98.3%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.42	0.0200	0.0200	"	"	--	"	97.0%	(18-145)	--	--	"	
Chrysene	"	2.52	0.0200	0.0200	"	"	--	"	101%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.45	0.0200	0.0200	"	"	--	"	98.2%	(20-141)	--	--	"	
Fluoranthene	"	2.80	0.0400	0.0400	"	"	--	"	112%	(31-125)	--	--	"	
Fluorene	"	1.82	0.0400	0.0400	"	"	--	"	72.6%	(27-124)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7120680 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7120680-BS1)									**Extracted: 12/18/07 15:45**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.49	0.0200	0.0200	ug/l	2x	--	2.50	99.4%	(30-135)	--	--	12/28/07 12:42	
Naphthalene	"	2.42	0.0400	0.0400	"	"	--	"	96.9%	(30-113)	--	--	"	
Phenanthrene	"	2.48	0.0400	0.0400	"	"	--	"	99.1%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	4.30	1.05	2.00	"	"	--	4.00	108%	(20-150)	--	--	01/03/08 19:15	
Butyl benzyl phthalate	"	3.78	1.05	2.00	"	"	--	"	94.6%	"	--	--	"	
Di-n-butyl phthalate	"	3.73	1.05	2.00	"	"	--	"	93.3%	"	--	--	"	
Di-n-octyl phthalate	"	3.86	1.05	2.00	"	"	--	"	96.6%	"	--	--	"	
Diethyl phthalate	"	3.46	1.05	2.00	"	"	--	"	86.4%	"	--	--	"	
Dimethyl phthalate	"	3.42	1.05	2.00	"	"	--	"	85.4%	"	--	--	"	
Pyrene	"	2.04	0.0400	0.0400	"	"	--	2.50	81.8%	(21-141)	--	--	12/28/07 12:42	
Surrogate(s): Fluorene-d10		*Recovery: 74.2%*			*Limits: 25-125%*	"							*12/28/07 12:42*	
Pyrene-d10		*85.9%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*106%*			*10-125%*	"							"	
LCS Dup (7120680-BSD1)									**Extracted: 12/18/07 15:45**					
Acenaphthene	EPA 8270m	2.52	0.0400	0.0400	ug/l	2x	--	2.50	101%	(35-120)	5.88%	(35)	12/28/07 13:13	
Acenaphthylene	"	2.66	0.0400	0.0400	"	"	--	"	106%	(34-116)	5.19%	"	"	
Anthracene	"	2.51	0.0400	0.0400	"	"	--	"	100%	(24-119)	0.491%	"	"	
Benzo (a) anthracene	"	2.51	0.0200	0.0200	"	"	--	"	100%	(36-128)	1.92%	"	"	
Benzo (a) pyrene	"	2.59	0.0200	0.0200	"	"	--	"	104%	(17-128)	4.11%	"	"	
Benzo (b) fluoranthene	"	2.68	0.0200	0.0200	"	"	--	"	107%	(37-131)	6.26%	"	"	
Benzo (ghi) perylene	"	2.52	0.0400	0.0400	"	"	--	"	101%	(26-126)	2.52%	"	"	
Benzo (k) fluoranthene	"	2.79	0.0200	0.0200	"	"	--	"	111%	(18-145)	13.9%	"	"	
Chrysene	"	2.58	0.0200	0.0200	"	"	--	"	103%	(16-137)	2.47%	"	"	
Dibenzo (a,h) anthracene	"	2.51	0.0200	0.0200	"	"	--	"	101%	(20-141)	2.33%	"	"	
Fluoranthene	"	2.84	0.0400	0.0400	"	"	--	"	113%	(31-125)	1.17%	"	"	
Fluorene	"	1.82	0.0400	0.0400	"	"	--	"	72.8%	(27-124)	0.265%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.57	0.0200	0.0200	"	"	--	"	103%	(30-135)	3.40%	"	"	
Naphthalene	"	2.49	0.0400	0.0400	"	"	--	"	99.5%	(30-113)	2.62%	"	"	
Phenanthrene	"	2.57	0.0400	0.0400	"	"	--	"	103%	(34-126)	3.69%	"	"	
Bis(2-ethylhexyl)phthalate	"	4.02	1.05	2.00	"	"	--	4.00	101%	(20-150)	6.69%	(50)	01/03/08 19:49	
Butyl benzyl phthalate	"	3.67	1.05	2.00	"	"	--	"	91.7%	"	3.06%	"	"	
Di-n-butyl phthalate	"	3.76	1.05	2.00	"	"	--	"	94.1%	"	0.798%	"	"	
Di-n-octyl phthalate	"	3.57	1.05	2.00	"	"	--	"	89.2%	"	7.93%	"	"	
Diethyl phthalate	"	3.53	1.05	2.00	"	"	--	"	88.4%	"	2.18%	"	"	
Dimethyl phthalate	"	3.52	1.05	2.00	"	"	--	"	88.0%	"	2.98%	"	"	
Pyrene	"	2.01	0.0400	0.0400	"	"	--	2.50	80.4%	(21-141)	1.68%	(35)	12/28/07 13:13	
Surrogate(s): Fluorene-d10		*Recovery: 76.2%*			*Limits: 25-125%*	"							*12/28/07 13:13*	
Pyrene-d10		*83.3%*			*23-150%*	"							"	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7120680 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (7120680-BSD1)													**Extracted: 12/18/07 15:45**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 109%*			*Limits: 10-125%*	*2x*							*12/28/07 13:13*	

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Portland, OR 97203	Project Manager:	Jennifer Shackelford	01/08/08 16:24

Notes and Definitions

Report Specific Notes:

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQL0652

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX:
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH + phthalates 8270 SIM (*)	PCB 209 Congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	F0071581	12/14/07 2335	X	X	W	2		
2	1582	12/15/07 0018	X	X	W	2		
3	1583	0041	X	X	W	2		
4	1584	0131	X	X	W	2		
5	1585	12/14/07 2352	X	X	W	2		
6	1586	12/15/07 0025	X	X	W	2		
7	1587	0049	X	X	W	2		
8	1588	0112	X	X	W	2		
9								
10								

RELEASED BY: Rona Klueh — FIRM: City of Portland — DATE: 12/17/07 — TIME: 1110
RECEIVED BY: Jeremy Morgan — FIRM: TAP — DATE: 12/17/07 — TIME: 1110
RELEASED BY: — FIRM: — DATE: — TIME:
RECEIVED BY: Jamie Ireland — FIRM: TAP — DATE: 12/17/07 — TIME: 12:15

ADDITIONAL REMARKS: (*) PAH + phthalates as for UIC project – same MRLs.
(**) PCB 209 Congeners to Pace Analytical please.

TEMP: 3.6

COC REV 09.2004

PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Received by: *(section A)* Date: 12/17/07 Time: 12:10 Initials: II

Unpacked by: *(section B)* Date: 12/17/07 Initials: JA

Logged-in by: Date: 12/17/07 Initials: JA

Work Order No. PQL0652

Client: City of Portland

Project: Portland Harbor

Cooler IDs:

Temperature out of range:

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 2.6 °C plastic glass NA *(oil/air samples, ESI client)* Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other:_____)

Received from:

X TA Courier
____Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:

Intact? (Y) N

Containers Match COC? (Y) N none given

IDs Match COC? (Y) N

For Analyses Requested:

Correct Type & Preservation? (Y) N

Adequate Volume? (Y) N

Within Hold Time? (Y) N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N (NA)

TB on COC? not provided Y N (NA)

Metals:

HNO3 Preserved? Y N (NA)

Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

*PM Reviewed:*_____ *(Initial/Date)*

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Accounts Payable
Test America
11720 North Creek Pkwy North
Bothell WA 98011

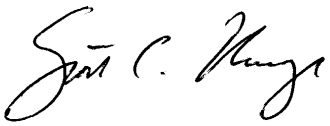
REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

Pace Project #: 1065292
Sample Receipt Date: 12/20/2007
Client Project #: PQL0652
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
January 21, 2008

Report of Laboratory Analysis

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
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DISCUSSION

This report presents the results from the analyses performed on eight samples submitted by a representative of Test America - Portland. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ng/L and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 13-130%. With the exceptions of two low values, which were flagged "P" on the sample PQL0652-03: FO071583 results table, the labeled internal standard recoveries obtained for the samples were within the target ranges specified in the method. Fifteen of the labeled standards in the laboratory QC samples were below the target range for this method. However, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. In one case a labeled PCB congener yielded an incorrect isotope ratio and was flagged "I" on the results table. This indicates that the sample preparation procedures did not significantly contribute to the levels determined for the water samples.

Laboratory spike samples were also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-132%, with relative percent differences of 0.0-30.6%. These results indicate generally high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

1065292

SUBCONTRACT ORDER

TestAmerica Portland

PQL0652

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
				COC# IDs
Sample ID: PQL0652-01	**Water**		Sampled: **12/14/07 23:35**	FO 071581 001
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/11/08 23:35	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-02	**Water**		Sampled: **12/15/07 00:18**	FO 071582 002
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 00:18	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-03	**Water**		Sampled: **12/15/07 00:41**	FO 071583 003
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 00:41	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-04	**Water**		Sampled: **12/15/07 01:31**	FO 071584 004
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 01:31	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-05	**Water**		Sampled: **12/14/07 23:52**	FO 071585 005
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/11/08 23:52	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-06	**Water**		Sampled: **12/15/07 00:25**	FO 071586 006
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 00:25	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Jamie J. Leland	12/18/07 14:20	J. Richardson	12/20/07 0955
Released By	Date/Time	Received By	Date/Time
Released By	Date/Time	Received By	Date/Time

T 4.7

1065292

SUBCONTRACT ORDER

TestAmerica Portland

PQL0652

Analysis	Units	Due	Expires	Comments
Sample ID: PQL0652-07	**Water**		Sampled: **12/15/07 00:49**	FO 071587 007
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 00:49	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PQL0652-08	**Water**		Sampled: **12/15/07 01:12**	FO 071588 008
1668 Coplanar PCBs - SUB	ug/l	01/01/08	06/12/08 01:12	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

J. Richardson 12/20/07 09:55

T= 4.2

Sample Condition Upon Receipt

Pace Analytical™ Client Name: Test America Project # 1065292

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z1AE5870193273716

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used ~~230104016~~ 72310129 Type of Ice: Wet (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.2 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12/20/07 JC

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: D Date: 12/20/07

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-01;FO071581		
Lab Sample ID	1065292001		
Filename	P80119A_05		
Injected By	BAL		
Total Amount Extracted	983 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/14/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 09:39

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.704	2.82	2.0	1.26	63
13C-4-MoCB	3	6.681	3.08	2.0	1.08	54
13C-2,2'-DiCB	4	6.896	1.70	2.0	1.38	69
13C-4,4'-DiCB	15	14.002	1.61	2.0	1.17	58
13C-2,2',6-TrCB	19	10.527	1.17	2.0	1.45	72
13C-3,4,4'-TrCB	37	22.171	1.12	2.0	1.39	70
13C-2,2',6,6'-TeCB	54	14.256	0.82	2.0	0.895	45
13C-3,4,4',5-TeCB	81	29.583	0.78	2.0	1.39	69
13C-3,3',4,4'-TeCB	77	30.203	0.82	2.0	1.29	64
13C-2,2',4,6,6'-PeCB	104	20.695	1.60	2.0	2.18	109
13C-2,3,3',4,4'-PeCB	105	33.909	1.60	2.0	1.63	81
13C-2,3,4,4',5-PeCB	114	33.222	1.40	2.0	1.47	74
13C-2,3',4,4',5-PeCB	118	32.702	1.56	2.0	1.73	86
13C-2,3',4,4',5'-PeCB	123	32.350	1.59	2.0	1.62	81
13C-3,3',4,4',5-PeCB	126	37.213	1.39	2.0	1.47	74
13C-2,2',4,4',6,6'-HxCB	155	27.084	1.22	2.0	2.26	113
13C-HxCB (156/157)	156/157	40.349	1.26	4.0	3.88	97
13C-2,3',4,4',5,5'-HxCB	167	39.192	1.31	2.0	1.97	99
13C-3,3',4,4',5,5'-HxCB	169	43.753	1.17	2.0	1.76	88
13C-2,2',3,4',5,6,6'-HpCB	188	33.239	1.02	2.0	2.11	106
13C-2,3,3',4,4',5,5'-HpCB	189	46.361	1.04	2.0	1.91	96
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.873	0.92	2.0	2.03	102
13C-2,3,3',4,4',5,5',6-OcCB	205	49.013	0.85	2.0	2.07	104
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.802	0.78	2.0	2.13	107
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.823	0.82	2.0	1.85	93
13C--DeCB	209	52.418	0.71	2.0	2.39	119
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.576	1.05	2.0	1.66	83
13C-2,3,3',5,5'-PeCB	111	30.321	1.65	2.0	1.73	87
13C-2,2',3,3',5,5',6-HpCB	178	36.492	1.03	2.0	1.93	97
Recovery Standards						
13C-2,5-DiCB	9	9.209	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.706	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.352	1.69	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.972	1.22	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.517	0.89	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-01;FO071581
Lab Sample ID	1065292001
Filename	P80119A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.509
2		---	---	ND	---	0.509
3		---	---	ND	---	0.509
4		---	---	ND	---	0.509
5		---	---	ND	---	0.509
6		---	---	ND	---	0.509
7		---	---	ND	---	0.509
8		---	---	ND	---	0.509
9		---	---	ND	---	0.509
10		---	---	ND	---	0.509
11		---	---	ND	---	0.610
12	12/13	---	---	ND	---	0.509
13	12/13	---	---	ND	---	0.509
14		---	---	ND	---	0.509
15		---	---	ND	---	0.509
16		---	---	ND	---	0.509
17		---	---	ND	---	0.509
18	18/30	---	---	ND	---	0.509
19		---	---	ND	---	0.509
20	20/28	---	---	ND	---	0.610
21	21/33	---	---	ND	---	0.509
22		---	---	ND	---	0.509
23		---	---	ND	---	0.509
24		---	---	ND	---	0.509
25		---	---	ND	---	0.509
26	26/29	---	---	ND	---	0.509
27		---	---	ND	---	0.509
28	20/28	---	---	ND	---	0.610
29	26/29	---	---	ND	---	0.509
30	18/30	---	---	ND	---	0.509
31		---	---	ND	---	0.509
32		---	---	ND	---	0.509
33	21/33	---	---	ND	---	0.509
34		---	---	ND	---	0.509
35		---	---	ND	---	0.509
36		---	---	ND	---	0.509
37		---	---	ND	---	0.509
38		---	---	ND	---	0.509
39		---	---	ND	---	0.509
40	40/41/71	---	---	ND	---	0.509
41	40/41/71	---	---	ND	---	0.509
42		---	---	ND	---	0.509
43		---	---	ND	---	0.509
44	44/47/65	---	---	ND	---	0.610
45	45/51	---	---	ND	---	0.509
46		---	---	ND	---	0.509
47	44/47/65	---	---	ND	---	0.610
48		---	---	ND	---	0.509

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.509
50	50/53	---	---	ND	---	0.509
51	45/51	---	---	ND	---	0.509
52		---	---	ND	---	0.509
53	50/53	---	---	ND	---	0.509
54		---	---	ND	---	0.509
55		---	---	ND	---	0.509
56		---	---	ND	---	0.509
57		---	---	ND	---	0.509
58		---	---	ND	---	0.509
59	59/62/75	---	---	ND	---	0.509
60		---	---	ND	---	0.509
61	61/70/74/76	---	---	ND	---	0.509
62	59/62/75	---	---	ND	---	0.509
63		---	---	ND	---	0.509
64		---	---	ND	---	0.509
65	44/47/65	---	---	ND	---	0.610
66		---	---	ND	---	0.509
67		---	---	ND	---	0.509
68		---	---	ND	---	0.509
69	49/69	---	---	ND	---	0.509
70	61/70/74/76	---	---	ND	---	0.509
71	40/41/71	---	---	ND	---	0.509
72		---	---	ND	---	0.509
73		---	---	ND	---	0.509
74	61/70/74/76	---	---	ND	---	0.509
75	59/62/75	---	---	ND	---	0.509
76	61/70/74/76	---	---	ND	---	0.509
77		---	---	ND	---	0.509
78		---	---	ND	---	0.509
79		---	---	ND	---	0.509
80		---	---	ND	---	0.509
81		---	---	ND	---	0.509
82		---	---	ND	---	0.509
83		---	---	ND	---	0.509
84		---	---	ND	---	0.509
85	85/116/117	---	---	ND	---	0.610
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.509
89		---	---	ND	---	0.509
90	90/101/113	---	---	ND	---	0.509
91	88/91	---	---	ND	---	0.509
92		---	---	ND	---	0.509
93	93/98/100/102	---	---	ND	---	0.763
94		---	---	ND	---	0.509
95		---	---	ND	---	0.509
96		---	---	ND	---	0.509
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.763
99		---	---	ND	---	0.509
100	93/98/100/102	---	---	ND	---	0.763
101	90/101/113	---	---	ND	---	0.509
102	93/98/100/102	---	---	ND	---	0.763
103		---	---	ND	---	0.509

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.509
105		---	---	ND	---	0.509
106		---	---	ND	---	0.509
107	107/124	---	---	ND	---	0.509
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.509
110	110/115	---	---	ND	---	0.509
111		---	---	ND	---	0.509
112		---	---	ND	---	0.509
113	90/101/113	---	---	ND	---	0.509
114		---	---	ND	---	0.509
115	110/115	---	---	ND	---	0.509
116	85/116/117	---	---	ND	---	0.610
117	85/116/117	---	---	ND	---	0.610
118		---	---	ND	---	0.509
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.509
121		---	---	ND	---	0.509
122		---	---	ND	---	0.509
123		---	---	ND	---	0.509
124	107/124	---	---	ND	---	0.509
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.509
127		---	---	ND	---	0.509
128	128/166	---	---	ND	---	1.02
129	129/138/163	---	---	ND	---	0.509
130		---	---	ND	---	0.509
131		---	---	ND	---	0.509
132		---	---	ND	---	0.509
133		---	---	ND	---	0.509
134	134/143	---	---	ND	---	0.509
135	135/151	---	---	ND	---	0.519
136		---	---	ND	---	0.509
137		---	---	ND	---	0.509
138	129/138/163	---	---	ND	---	0.509
139	139/140	---	---	ND	---	0.509
140	139/140	---	---	ND	---	0.509
141		---	---	ND	---	0.509
142		---	---	ND	---	0.509
143	134/143	---	---	ND	---	0.509
144		---	---	ND	---	0.509
145		---	---	ND	---	0.509
146		---	---	ND	---	0.509
147	147/149	---	---	ND	---	0.509
148		---	---	ND	---	0.509
149	147/149	---	---	ND	---	0.509
150		---	---	ND	---	0.509
151	135/151	---	---	ND	---	0.519
152		---	---	ND	---	0.509
153	153/168	---	---	ND	---	0.610
154		---	---	ND	---	0.509
155		---	---	ND	---	0.509
156	156/157	---	---	ND	---	0.509
157	156/157	---	---	ND	---	0.509
158		---	---	ND	---	0.509

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Minneapolis, MN 55414

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Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.509
160		---	---	ND	---	0.509
161		---	---	ND	---	0.509
162		---	---	ND	---	0.509
163	129/138/163	---	---	ND	---	0.509
164		---	---	ND	---	0.509
165		---	---	ND	---	0.509
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.509
168	153/168	---	---	ND	---	0.610
169		---	---	ND	---	0.509
170		---	---	ND	---	0.509
171	171/173	---	---	ND	---	0.509
172		---	---	ND	---	0.509
173	171/173	---	---	ND	---	0.509
174		---	---	ND	---	0.509
175		---	---	ND	---	0.509
176		---	---	ND	---	0.509
177		---	---	ND	---	0.509
178		---	---	ND	---	0.509
179		---	---	ND	---	0.509
180	180/193	---	---	ND	---	0.509
181		---	---	ND	---	0.509
182		---	---	ND	---	0.509
183	183/185	---	---	ND	---	0.509
184		---	---	ND	---	0.509
185	183/185	---	---	ND	---	0.509
186		---	---	ND	---	0.509
187		---	---	ND	---	0.509
188		---	---	ND	---	0.509
189		---	---	ND	---	0.509
190		---	---	ND	---	0.509
191		---	---	ND	---	0.509
192		---	---	ND	---	0.509
193	180/193	---	---	ND	---	0.509
194		---	---	ND	---	0.509
195		---	---	ND	---	0.509
196		---	---	ND	---	0.712
197	197/200	---	---	ND	---	2.54
198	198/199	---	---	ND	---	0.509
199	198/199	---	---	ND	---	0.509
200	197/200	---	---	ND	---	2.54
201		---	---	ND	---	0.509
202		---	---	ND	---	0.509
203		---	---	ND	---	0.509
204		---	---	ND	---	0.509
205		---	---	ND	---	0.509
206		---	---	ND	---	0.509
207		---	---	ND	---	0.509
208		---	---	ND	---	0.509
209		---	---	ND	---	0.509

Conc = Concentration
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-01;FO071581
Lab Sample ID	1065292001
Filename	P80119A_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-02;FO071582		
Lab Sample ID	1065292002		
Filename	P80119A_06		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 10:42

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.704	3.13	2.0	1.33	66
13C-4-MoCB	3	6.681	3.09	2.0	1.16	58
13C-2,2'-DiCB	4	6.896	1.64	2.0	1.49	75
13C-4,4'-DiCB	15	13.978	1.51	2.0	1.28	64
13C-2,2',6-TrCB	19	10.527	1.03	2.0	1.51	75
13C-3,4,4'-TrCB	37	22.137	1.06	2.0	1.64	82
13C-2,2',6,6'-TeCB	54	14.239	0.78	2.0	0.889	44
13C-3,4,4',5-TeCB	81	29.566	0.80	2.0	1.63	81
13C-3,3',4,4'-TeCB	77	30.186	0.73	2.0	1.52	76
13C-2,2',4,6,6'-PeCB	104	20.695	1.52	2.0	2.06	103
13C-2,3,3',4,4'-PeCB	105	33.892	1.53	2.0	1.68	84
13C-2,3,4,4',5-PeCB	114	33.205	1.61	2.0	1.56	78
13C-2,3',4,4',5-PeCB	118	32.685	1.59	2.0	1.76	88
13C-2,3',4,4',5'-PeCB	123	32.333	1.57	2.0	1.72	86
13C-3,3',4,4',5-PeCB	126	37.196	1.48	2.0	1.66	83
13C-2,2',4,4',6,6'-HxCB	155	27.084	1.27	2.0	1.99	100
13C-HxCB (156/157)	156/157	40.331	1.24	4.0	3.87	97
13C-2,3',4,4',5,5'-HxCB	167	39.174	1.23	2.0	1.87	94
13C-3,3',4,4',5,5'-HxCB	169	43.735	1.26	2.0	1.89	95
13C-2,2',3,4',5,6,6'-HpCB	188	33.221	1.04	2.0	1.86	93
13C-2,3,3',4,4',5,5'-HpCB	189	46.361	1.03	2.0	1.76	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.872	0.91	2.0	1.75	88
13C-2,3,3',4,4',5,5',6-OcCB	205	49.012	0.88	2.0	2.10	105
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.801	0.83	2.0	2.07	103
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.822	0.76	2.0	1.76	88
13C--DeCB	209	52.417	0.71	2.0	2.42	121
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.559	1.09	2.0	1.92	96
13C-2,3,3',5,5'-PeCB	111	30.303	1.51	2.0	1.87	94
13C-2,2',3,3',5,5',6-HpCB	178	36.475	1.12	2.0	1.93	96
Recovery Standards						
13C-2,5-DiCB	9	9.197	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.689	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.352	1.54	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.971	1.32	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.516	0.91	2.0	NA	NA

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-02;FO071582
Lab Sample ID	1065292002
Filename	P80119A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.496
2		---	---	ND	---	0.496
3		---	---	ND	---	0.496
4		---	---	ND	---	0.496
5		---	---	ND	---	0.496
6		---	---	ND	---	0.496
7		---	---	ND	---	0.496
8		---	---	ND	---	0.496
9		---	---	ND	---	0.496
10		---	---	ND	---	0.496
11		---	---	ND	---	0.595
12	12/13	---	---	ND	---	0.496
13	12/13	---	---	ND	---	0.496
14		---	---	ND	---	0.496
15		---	---	ND	---	0.496
16		---	---	ND	---	0.496
17		---	---	ND	---	0.496
18	18/30	---	---	ND	---	0.496
19		---	---	ND	---	0.496
20	20/28	---	---	ND	---	0.595
21	21/33	---	---	ND	---	0.496
22		---	---	ND	---	0.496
23		---	---	ND	---	0.496
24		---	---	ND	---	0.496
25		---	---	ND	---	0.496
26	26/29	---	---	ND	---	0.496
27		---	---	ND	---	0.496
28	20/28	---	---	ND	---	0.595
29	26/29	---	---	ND	---	0.496
30	18/30	---	---	ND	---	0.496
31		---	---	ND	---	0.496
32		---	---	ND	---	0.496
33	21/33	---	---	ND	---	0.496
34		---	---	ND	---	0.496
35		---	---	ND	---	0.496
36		---	---	ND	---	0.496
37		---	---	ND	---	0.496
38		---	---	ND	---	0.496
39		---	---	ND	---	0.496
40	40/41/71	---	---	ND	---	0.496
41	40/41/71	---	---	ND	---	0.496
42		---	---	ND	---	0.496
43		---	---	ND	---	0.496
44	44/47/65	---	---	ND	---	0.595
45	45/51	---	---	ND	---	0.496
46		---	---	ND	---	0.496
47	44/47/65	---	---	ND	---	0.595
48		---	---	ND	---	0.496

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.496
50	50/53	---	---	ND	---	0.496
51	45/51	---	---	ND	---	0.496
52		---	---	ND	---	0.496
53	50/53	---	---	ND	---	0.496
54		---	---	ND	---	0.496
55		---	---	ND	---	0.496
56		---	---	ND	---	0.496
57		---	---	ND	---	0.496
58		---	---	ND	---	0.496
59	59/62/75	---	---	ND	---	0.496
60		---	---	ND	---	0.496
61	61/70/74/76	---	---	ND	---	0.496
62	59/62/75	---	---	ND	---	0.496
63		---	---	ND	---	0.496
64		---	---	ND	---	0.496
65	44/47/65	---	---	ND	---	0.595
66		---	---	ND	---	0.496
67		---	---	ND	---	0.496
68		---	---	ND	---	0.496
69	49/69	---	---	ND	---	0.496
70	61/70/74/76	---	---	ND	---	0.496
71	40/41/71	---	---	ND	---	0.496
72		---	---	ND	---	0.496
73		---	---	ND	---	0.496
74	61/70/74/76	---	---	ND	---	0.496
75	59/62/75	---	---	ND	---	0.496
76	61/70/74/76	---	---	ND	---	0.496
77		---	---	ND	---	0.496
78		---	---	ND	---	0.496
79		---	---	ND	---	0.496
80		---	---	ND	---	0.496
81		---	---	ND	---	0.496
82		---	---	ND	---	0.496
83		---	---	ND	---	0.496
84		---	---	ND	---	0.496
85	85/116/117	---	---	ND	---	0.595
86	86/87/97/108/119/125	---	---	ND	---	0.992
87	86/87/97/108/119/125	---	---	ND	---	0.992
88	88/91	---	---	ND	---	0.496
89		---	---	ND	---	0.496
90	90/101/113	27.369	1.57	0.870	---	0.496
91	88/91	---	---	ND	---	0.496
92		---	---	ND	---	0.496
93	93/98/100/102	---	---	ND	---	0.744
94		---	---	ND	---	0.496
95		---	---	ND	---	0.496
96		---	---	ND	---	0.496
97	86/87/97/108/119/125	---	---	ND	---	0.992
98	93/98/100/102	---	---	ND	---	0.744
99		---	---	ND	---	0.496
100	93/98/100/102	---	---	ND	---	0.744
101	90/101/113	27.369	1.57	(0.870)	---	0.496
102	93/98/100/102	---	---	ND	---	0.744
103		---	---	ND	---	0.496

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.496
105		---	---	ND	---	0.496
106		---	---	ND	---	0.496
107	107/124	---	---	ND	---	0.496
108	86/87/97/108/119/125	---	---	ND	---	0.992
109		---	---	ND	---	0.496
110	110/115	29.465	1.71	0.556	---	0.496
111		---	---	ND	---	0.496
112		---	---	ND	---	0.496
113	90/101/113	27.369	1.57	(0.870)	---	0.496
114		---	---	ND	---	0.496
115	110/115	29.465	1.71	(0.556)	---	0.496
116	85/116/117	---	---	ND	---	0.595
117	85/116/117	---	---	ND	---	0.595
118		---	---	ND	---	0.496
119	86/87/97/108/119/125	---	---	ND	---	0.992
120		---	---	ND	---	0.496
121		---	---	ND	---	0.496
122		---	---	ND	---	0.496
123		---	---	ND	---	0.496
124	107/124	---	---	ND	---	0.496
125	86/87/97/108/119/125	---	---	ND	---	0.992
126		---	---	ND	---	0.496
127		---	---	ND	---	0.496
128	128/166	---	---	ND	---	0.992
129	129/138/163	36.005	1.22	2.34	---	0.496
130		---	---	ND	---	0.496
131		---	---	ND	---	0.496
132		32.752	1.15	0.553	---	0.496
133		---	---	ND	---	0.496
134	134/143	---	---	ND	---	0.496
135	135/151	30.471	1.22	0.709	---	0.506
136		---	---	ND	---	0.496
137		---	---	ND	---	0.496
138	129/138/163	36.005	1.22	(2.34)	---	0.496
139	139/140	---	---	ND	---	0.496
140	139/140	---	---	ND	---	0.496
141		34.898	1.41	0.512	---	0.496
142		---	---	ND	---	0.496
143	134/143	---	---	ND	---	0.496
144		---	---	ND	---	0.496
145		---	---	ND	---	0.496
146		---	---	ND	---	0.496
147	147/149	31.477	1.26	1.58	---	0.496
148		---	---	ND	---	0.496
149	147/149	31.477	1.26	(1.58)	---	0.496
150		---	---	ND	---	0.496
151	135/151	30.471	1.22	(0.709)	---	0.506
152		---	---	ND	---	0.496
153	153/168	34.731	1.19	2.51	---	0.595
154		---	---	ND	---	0.496
155		---	---	ND	---	0.496
156	156/157	---	---	ND	---	0.496
157	156/157	---	---	ND	---	0.496
158		---	---	ND	---	0.496

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.496
160		---	---	ND	---	0.496
161		---	---	ND	---	0.496
162		---	---	ND	---	0.496
163	129/138/163	36.005	1.22	(2.34)	---	0.496
164		---	---	ND	---	0.496
165		---	---	ND	---	0.496
166	128/166	---	---	ND	---	0.992
167		---	---	ND	---	0.496
168	153/168	34.731	1.19	(2.51)	---	0.595
169		---	---	ND	---	0.496
170		43.098	1.07	1.07	---	0.496
171	171/173	---	---	ND	---	0.496
172		---	---	ND	---	0.496
173	171/173	---	---	ND	---	0.496
174		38.302	0.93	0.815	---	0.496
175		---	---	ND	---	0.496
176		---	---	ND	---	0.496
177		38.755	1.01	0.501	---	0.496
178		---	---	ND	---	0.496
179		---	---	ND	---	0.496
180	180/193	41.840	1.07	2.26	---	0.496
181		---	---	ND	---	0.496
182		---	---	ND	---	0.496
183	183/185	38.101	1.10	0.709	---	0.496
184		---	---	ND	---	0.496
185	183/185	38.101	1.10	(0.709)	---	0.496
186		---	---	ND	---	0.496
187		37.464	1.01	0.962	---	0.496
188		---	---	ND	---	0.496
189		---	---	ND	---	0.496
190		---	---	ND	---	0.496
191		---	---	ND	---	0.496
192		---	---	ND	---	0.496
193	180/193	41.840	1.07	(2.26)	---	0.496
194		---	---	ND	---	0.496
195		---	---	ND	---	0.496
196		---	---	ND	---	0.694
197	197/200	---	---	ND	---	2.48
198	198/199	---	---	ND	---	0.496
199	198/199	---	---	ND	---	0.496
200	197/200	---	---	ND	---	2.48
201		---	---	ND	---	0.496
202		---	---	ND	---	0.496
203		---	---	ND	---	0.496
204		---	---	ND	---	0.496
205		---	---	ND	---	0.496
206		---	---	ND	---	0.496
207		---	---	ND	---	0.496
208		---	---	ND	---	0.496
209		---	---	ND	---	0.496

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQL0652-02;FO071582
Lab Sample ID	1065292002
Filename	P80119A_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	1.43
Total Hexachloro Biphenyls	8.20
Total Heptachloro Biphenyls	6.32
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	15.9

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-03;FO071583		
Lab Sample ID	1065292003		
Filename	P80119A_10		
Injected By	BAL		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 14:56

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	4.704	2.90	2.0	0.263	13	P
13C-4-MoCB	3	6.680	3.01	2.0	0.440	22	P
13C-2,2'-DiCB	4	6.896	1.66	2.0	0.567	28	
13C-4,4'-DiCB	15	13.989	1.52	2.0	1.08	54	
13C-2,2',6-TrCB	19	10.526	1.01	2.0	1.01	51	
13C-3,4,4'-TrCB	37	22.153	1.03	2.0	1.61	81	
13C-2,2',6,6'-TeCB	54	14.255	0.78	2.0	0.844	42	
13C-3,4,4',5-TeCB	81	29.582	0.76	2.0	1.67	84	
13C-3,3',4,4'-TeCB	77	30.186	0.75	2.0	1.63	82	
13C-2,2',4,6,6'-PeCB	104	20.711	1.62	2.0	1.85	92	
13C-2,3,3',4,4'-PeCB	105	33.892	1.77	2.0	1.70	85	
13C-2,3,4,4',5-PeCB	114	33.221	1.49	2.0	1.59	79	
13C-2,3',4,4',5-PeCB	118	32.701	1.61	2.0	1.81	90	
13C-2,3',4,4',5'-PeCB	123	32.349	1.50	2.0	1.81	90	
13C-3,3',4,4',5-PeCB	126	37.195	1.59	2.0	1.81	90	
13C-2,2',4,4',6,6'-HxCB	155	27.100	1.24	2.0	2.05	103	
13C-HxCB (156/157)	156/157	40.348	1.23	4.0	4.03	101	
13C-2,3',4,4',5,5'-HxCB	167	39.191	1.26	2.0	1.97	98	
13C-3,3',4,4',5,5'-HxCB	169	43.752	1.28	2.0	2.08	104	
13C-2,2',3,4',5,6,6'-HpCB	188	33.238	1.07	2.0	1.74	87	
13C-2,3,3',4,4',5,5'-HpCB	189	46.361	1.09	2.0	1.89	95	
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.889	0.88	2.0	1.84	92	
13C-2,3,3',4,4',5,5',6-OcCB	205	49.012	0.87	2.0	2.07	103	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.801	0.78	2.0	2.13	106	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.843	0.79	2.0	1.78	89	
13C--DeCB	209	52.439	0.72	2.0	2.29	114	
Cleanup Standards							
13C-2,4,4'-TrCB	28	17.559	1.09	2.0	1.56	78	
13C-2,3,3',5,5'-PeCB	111	30.320	1.60	2.0	1.78	89	
13C-2,2',3,3',5,5',6-HpCB	178	36.491	1.05	2.0	1.78	89	
Recovery Standards							
13C-2,5-DiCB	9	9.208	1.55	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	19.705	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	27.369	1.70	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	35.971	1.17	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.538	0.90	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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ng's = Nanograms

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-03;FO071583
Lab Sample ID	1065292003
Filename	P80119A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.498
2		---	---	ND	---	0.498
3		---	---	ND	---	0.498
4		---	---	ND	---	0.498
5		---	---	ND	---	0.498
6		---	---	ND	---	0.498
7		---	---	ND	---	0.498
8		---	---	ND	---	0.498
9		---	---	ND	---	0.498
10		---	---	ND	---	0.498
11		13.270	1.60	0.629	---	0.597
12	12/13	---	---	ND	---	0.498
13	12/13	---	---	ND	---	0.498
14		---	---	ND	---	0.498
15		---	---	ND	---	0.498
16		---	---	ND	---	0.498
17		---	---	ND	---	0.498
18	18/30	---	---	ND	---	0.498
19		---	---	ND	---	0.498
20	20/28	---	---	ND	---	0.597
21	21/33	---	---	ND	---	0.498
22		---	---	ND	---	0.498
23		---	---	ND	---	0.498
24		---	---	ND	---	0.498
25		---	---	ND	---	0.498
26	26/29	---	---	ND	---	0.498
27		---	---	ND	---	0.498
28	20/28	---	---	ND	---	0.597
29	26/29	---	---	ND	---	0.498
30	18/30	---	---	ND	---	0.498
31		---	---	ND	---	0.498
32		---	---	ND	---	0.498
33	21/33	---	---	ND	---	0.498
34		---	---	ND	---	0.498
35		---	---	ND	---	0.498
36		---	---	ND	---	0.498
37		---	---	ND	---	0.498
38		---	---	ND	---	0.498
39		---	---	ND	---	0.498
40	40/41/71	---	---	ND	---	0.498
41	40/41/71	---	---	ND	---	0.498
42		---	---	ND	---	0.498
43		---	---	ND	---	0.498
44	44/47/65	---	---	ND	---	0.597
45	45/51	---	---	ND	---	0.498
46		---	---	ND	---	0.498
47	44/47/65	---	---	ND	---	0.597
48		---	---	ND	---	0.498

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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! = Outside QC Limits
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.498
50	50/53	---	---	ND	---	0.498
51	45/51	---	---	ND	---	0.498
52		---	---	ND	---	0.498
53	50/53	---	---	ND	---	0.498
54		---	---	ND	---	0.498
55		---	---	ND	---	0.498
56		---	---	ND	---	0.498
57		---	---	ND	---	0.498
58		---	---	ND	---	0.498
59	59/62/75	---	---	ND	---	0.498
60		---	---	ND	---	0.498
61	61/70/74/76	---	---	ND	---	0.498
62	59/62/75	---	---	ND	---	0.498
63		---	---	ND	---	0.498
64		---	---	ND	---	0.498
65	44/47/65	---	---	ND	---	0.597
66		---	---	ND	---	0.498
67		---	---	ND	---	0.498
68		---	---	ND	---	0.498
69	49/69	---	---	ND	---	0.498
70	61/70/74/76	---	---	ND	---	0.498
71	40/41/71	---	---	ND	---	0.498
72		---	---	ND	---	0.498
73		---	---	ND	---	0.498
74	61/70/74/76	---	---	ND	---	0.498
75	59/62/75	---	---	ND	---	0.498
76	61/70/74/76	---	---	ND	---	0.498
77		---	---	ND	---	0.498
78		---	---	ND	---	0.498
79		---	---	ND	---	0.498
80		---	---	ND	---	0.498
81		---	---	ND	---	0.498
82		---	---	ND	---	0.498
83		---	---	ND	---	0.498
84		---	---	ND	---	0.498
85	85/116/117	---	---	ND	---	0.597
86	86/87/97/108/119/125	---	---	ND	---	0.996
87	86/87/97/108/119/125	---	---	ND	---	0.996
88	88/91	---	---	ND	---	0.498
89		---	---	ND	---	0.498
90	90/101/113	---	---	ND	---	0.498
91	88/91	---	---	ND	---	0.498
92		---	---	ND	---	0.498
93	93/98/100/102	---	---	ND	---	0.747
94		---	---	ND	---	0.498
95		---	---	ND	---	0.498
96		---	---	ND	---	0.498
97	86/87/97/108/119/125	---	---	ND	---	0.996
98	93/98/100/102	---	---	ND	---	0.747
99		---	---	ND	---	0.498
100	93/98/100/102	---	---	ND	---	0.747
101	90/101/113	---	---	ND	---	0.498
102	93/98/100/102	---	---	ND	---	0.747
103		---	---	ND	---	0.498

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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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NC = Not Calculated
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! = Outside QC Limits
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.498
105		---	---	ND	---	0.498
106		---	---	ND	---	0.498
107	107/124	---	---	ND	---	0.498
108	86/87/97/108/119/125	---	---	ND	---	0.996
109		---	---	ND	---	0.498
110	110/115	---	---	ND	---	0.498
111		---	---	ND	---	0.498
112		---	---	ND	---	0.498
113	90/101/113	---	---	ND	---	0.498
114		---	---	ND	---	0.498
115	110/115	---	---	ND	---	0.498
116	85/116/117	---	---	ND	---	0.597
117	85/116/117	---	---	ND	---	0.597
118		---	---	ND	---	0.498
119	86/87/97/108/119/125	---	---	ND	---	0.996
120		---	---	ND	---	0.498
121		---	---	ND	---	0.498
122		---	---	ND	---	0.498
123		---	---	ND	---	0.498
124	107/124	---	---	ND	---	0.498
125	86/87/97/108/119/125	---	---	ND	---	0.996
126		---	---	ND	---	0.498
127		---	---	ND	---	0.498
128	128/166	---	---	ND	---	0.996
129	129/138/163	36.005	1.06	0.515	---	0.498
130		---	---	ND	---	0.498
131		---	---	ND	---	0.498
132		---	---	ND	---	0.498
133		---	---	ND	---	0.498
134	134/143	---	---	ND	---	0.498
135	135/151	---	---	ND	---	0.508
136		---	---	ND	---	0.498
137		---	---	ND	---	0.498
138	129/138/163	36.005	1.06	(0.515)	---	0.498
139	139/140	---	---	ND	---	0.498
140	139/140	---	---	ND	---	0.498
141		---	---	ND	---	0.498
142		---	---	ND	---	0.498
143	134/143	---	---	ND	---	0.498
144		---	---	ND	---	0.498
145		---	---	ND	---	0.498
146		---	---	ND	---	0.498
147	147/149	---	---	ND	---	0.498
148		---	---	ND	---	0.498
149	147/149	---	---	ND	---	0.498
150		---	---	ND	---	0.498
151	135/151	---	---	ND	---	0.508
152		---	---	ND	---	0.498
153	153/168	---	---	ND	---	0.597
154		---	---	ND	---	0.498
155		---	---	ND	---	0.498
156	156/157	---	---	ND	---	0.498
157	156/157	---	---	ND	---	0.498
158		---	---	ND	---	0.498

Conc = Concentration
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.498
160		---	---	ND	---	0.498
161		---	---	ND	---	0.498
162		---	---	ND	---	0.498
163	129/138/163	36.005	1.06	(0.515)	---	0.498
164		---	---	ND	---	0.498
165		---	---	ND	---	0.498
166	128/166	---	---	ND	---	0.996
167		---	---	ND	---	0.498
168	153/168	---	---	ND	---	0.597
169		---	---	ND	---	0.498
170		---	---	ND	---	0.498
171	171/173	---	---	ND	---	0.498
172		---	---	ND	---	0.498
173	171/173	---	---	ND	---	0.498
174		---	---	ND	---	0.498
175		---	---	ND	---	0.498
176		---	---	ND	---	0.498
177		---	---	ND	---	0.498
178		---	---	ND	---	0.498
179		---	---	ND	---	0.498
180	180/193	---	---	ND	---	0.498
181		---	---	ND	---	0.498
182		---	---	ND	---	0.498
183	183/185	---	---	ND	---	0.498
184		---	---	ND	---	0.498
185	183/185	---	---	ND	---	0.498
186		---	---	ND	---	0.498
187		---	---	ND	---	0.498
188		---	---	ND	---	0.498
189		---	---	ND	---	0.498
190		---	---	ND	---	0.498
191		---	---	ND	---	0.498
192		---	---	ND	---	0.498
193	180/193	---	---	ND	---	0.498
194		---	---	ND	---	0.498
195		---	---	ND	---	0.498
196		---	---	ND	---	0.697
197	197/200	---	---	ND	---	2.49
198	198/199	---	---	ND	---	0.498
199	198/199	---	---	ND	---	0.498
200	197/200	---	---	ND	---	2.49
201		---	---	ND	---	0.498
202		---	---	ND	---	0.498
203		---	---	ND	---	0.498
204		---	---	ND	---	0.498
205		---	---	ND	---	0.498
206		---	---	ND	---	0.498
207		---	---	ND	---	0.498
208		---	---	ND	---	0.498
209		---	---	ND	---	0.498

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-03;FO071583
Lab Sample ID	1065292003
Filename	P80119A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.629
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	0.515
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	1.14

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-04;FO071584		
Lab Sample ID	1065292004		
Filename	P80119A_11		
Injected By	BAL		
Total Amount Extracted	970 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 16:00

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.716	3.17	2.0	1.20	60
13C-4-MoCB	3	6.693	3.22	2.0	1.16	58
13C-2,2'-DiCB	4	6.909	1.55	2.0	1.52	76
13C-4,4'-DiCB	15	14.002	1.52	2.0	1.52	76
13C-2,2',6-TrCB	19	10.539	1.08	2.0	1.75	88
13C-3,4,4'-TrCB	37	22.172	1.08	2.0	1.79	89
13C-2,2',6,6'-TeCB	54	14.256	0.84	2.0	1.23	61
13C-3,4,4',5-TeCB	81	29.585	0.80	2.0	1.78	89
13C-3,3',4,4'-TeCB	77	30.205	0.81	2.0	1.47	74
13C-2,2',4,6,6'-PeCB	104	20.713	1.56	2.0	2.24	112
13C-2,3,3',4,4'-PeCB	105	33.912	1.57	2.0	1.88	94
13C-2,3,4,4',5-PeCB	114	33.224	1.65	2.0	1.75	87
13C-2,3',4,4',5-PeCB	118	32.704	1.49	2.0	1.98	99
13C-2,3',4,4',5'-PeCB	123	32.369	1.56	2.0	1.88	94
13C-3,3',4,4',5-PeCB	126	37.216	1.63	2.0	1.86	93
13C-2,2',4,4',6,6'-HxCB	155	27.103	1.31	2.0	2.01	100
13C-HxCB (156/157)	156/157	40.352	1.28	4.0	4.03	101
13C-2,3',4,4',5,5'-HxCB	167	39.195	1.24	2.0	1.97	98
13C-3,3',4,4',5,5'-HxCB	169	43.773	1.36	2.0	2.01	101
13C-2,2',3,4',5,6,6'-HpCB	188	33.241	1.01	2.0	1.87	94
13C-2,3,3',4,4',5,5'-HpCB	189	46.370	1.04	2.0	1.90	95
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.893	0.88	2.0	1.89	94
13C-2,3,3',4,4',5,5',6-OcCB	205	49.022	0.95	2.0	2.20	110
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.811	0.80	2.0	2.23	112
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.853	0.77	2.0	1.85	92
13C--DeCB	209	52.428	0.71	2.0	2.44	122
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.577	1.07	2.0	1.90	95
13C-2,3,3',5,5'-PeCB	111	30.323	1.60	2.0	1.89	94
13C-2,2',3,3',5,5',6-HpCB	178	36.495	1.01	2.0	1.78	89
Recovery Standards						
13C-2,5-DiCB	9	9.221	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.707	0.75	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.371	1.56	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.991	1.22	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.547	0.92	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-04;FO071584
Lab Sample ID	1065292004
Filename	P80119A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.515
2		---	---	ND	---	0.515
3		---	---	ND	---	0.515
4		---	---	ND	---	0.515
5		---	---	ND	---	0.515
6		---	---	ND	---	0.515
7		---	---	ND	---	0.515
8		---	---	ND	---	0.515
9		---	---	ND	---	0.515
10		---	---	ND	---	0.515
11		---	---	ND	---	0.618
12	12/13	---	---	ND	---	0.515
13	12/13	---	---	ND	---	0.515
14		---	---	ND	---	0.515
15		---	---	ND	---	0.515
16		---	---	ND	---	0.515
17		---	---	ND	---	0.515
18	18/30	---	---	ND	---	0.515
19		---	---	ND	---	0.515
20	20/28	---	---	ND	---	0.618
21	21/33	---	---	ND	---	0.515
22		---	---	ND	---	0.515
23		---	---	ND	---	0.515
24		---	---	ND	---	0.515
25		---	---	ND	---	0.515
26	26/29	---	---	ND	---	0.515
27		---	---	ND	---	0.515
28	20/28	---	---	ND	---	0.618
29	26/29	---	---	ND	---	0.515
30	18/30	---	---	ND	---	0.515
31		---	---	ND	---	0.515
32		---	---	ND	---	0.515
33	21/33	---	---	ND	---	0.515
34		---	---	ND	---	0.515
35		---	---	ND	---	0.515
36		---	---	ND	---	0.515
37		---	---	ND	---	0.515
38		---	---	ND	---	0.515
39		---	---	ND	---	0.515
40	40/41/71	---	---	ND	---	0.515
41	40/41/71	---	---	ND	---	0.515
42		---	---	ND	---	0.515
43		---	---	ND	---	0.515
44	44/47/65	---	---	ND	---	0.618
45	45/51	---	---	ND	---	0.515
46		---	---	ND	---	0.515
47	44/47/65	---	---	ND	---	0.618
48		---	---	ND	---	0.515

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.515
50	50/53	---	---	ND	---	0.515
51	45/51	---	---	ND	---	0.515
52		---	---	ND	---	0.515
53	50/53	---	---	ND	---	0.515
54		---	---	ND	---	0.515
55		---	---	ND	---	0.515
56		---	---	ND	---	0.515
57		---	---	ND	---	0.515
58		---	---	ND	---	0.515
59	59/62/75	---	---	ND	---	0.515
60		---	---	ND	---	0.515
61	61/70/74/76	---	---	ND	---	0.515
62	59/62/75	---	---	ND	---	0.515
63		---	---	ND	---	0.515
64		---	---	ND	---	0.515
65	44/47/65	---	---	ND	---	0.618
66		---	---	ND	---	0.515
67		---	---	ND	---	0.515
68		---	---	ND	---	0.515
69	49/69	---	---	ND	---	0.515
70	61/70/74/76	---	---	ND	---	0.515
71	40/41/71	---	---	ND	---	0.515
72		---	---	ND	---	0.515
73		---	---	ND	---	0.515
74	61/70/74/76	---	---	ND	---	0.515
75	59/62/75	---	---	ND	---	0.515
76	61/70/74/76	---	---	ND	---	0.515
77		---	---	ND	---	0.515
78		---	---	ND	---	0.515
79		---	---	ND	---	0.515
80		---	---	ND	---	0.515
81		---	---	ND	---	0.515
82		---	---	ND	---	0.515
83		---	---	ND	---	0.515
84		---	---	ND	---	0.515
85	85/116/117	---	---	ND	---	0.618
86	86/87/97/108/119/125	---	---	ND	---	1.03
87	86/87/97/108/119/125	---	---	ND	---	1.03
88	88/91	---	---	ND	---	0.515
89		---	---	ND	---	0.515
90	90/101/113	---	---	ND	---	0.515
91	88/91	---	---	ND	---	0.515
92		---	---	ND	---	0.515
93	93/98/100/102	---	---	ND	---	0.773
94		---	---	ND	---	0.515
95		---	---	ND	---	0.515
96		---	---	ND	---	0.515
97	86/87/97/108/119/125	---	---	ND	---	1.03
98	93/98/100/102	---	---	ND	---	0.773
99		---	---	ND	---	0.515
100	93/98/100/102	---	---	ND	---	0.773
101	90/101/113	---	---	ND	---	0.515
102	93/98/100/102	---	---	ND	---	0.773
103		---	---	ND	---	0.515

Conc = Concentration
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.515
105		---	---	ND	---	0.515
106		---	---	ND	---	0.515
107	107/124	---	---	ND	---	0.515
108	86/87/97/108/119/125	---	---	ND	---	1.03
109		---	---	ND	---	0.515
110	110/115	---	---	ND	---	0.515
111		---	---	ND	---	0.515
112		---	---	ND	---	0.515
113	90/101/113	---	---	ND	---	0.515
114		---	---	ND	---	0.515
115	110/115	---	---	ND	---	0.515
116	85/116/117	---	---	ND	---	0.618
117	85/116/117	---	---	ND	---	0.618
118		---	---	ND	---	0.515
119	86/87/97/108/119/125	---	---	ND	---	1.03
120		---	---	ND	---	0.515
121		---	---	ND	---	0.515
122		---	---	ND	---	0.515
123		---	---	ND	---	0.515
124	107/124	---	---	ND	---	0.515
125	86/87/97/108/119/125	---	---	ND	---	1.03
126		---	---	ND	---	0.515
127		---	---	ND	---	0.515
128	128/166	---	---	ND	---	1.03
129	129/138/163	36.025	1.19	0.608	---	0.515
130		---	---	ND	---	0.515
131		---	---	ND	---	0.515
132		---	---	ND	---	0.515
133		---	---	ND	---	0.515
134	134/143	---	---	ND	---	0.515
135	135/151	---	---	ND	---	0.526
136		---	---	ND	---	0.515
137		---	---	ND	---	0.515
138	129/138/163	36.025	1.19	(0.608)	---	0.515
139	139/140	---	---	ND	---	0.515
140	139/140	---	---	ND	---	0.515
141		---	---	ND	---	0.515
142		---	---	ND	---	0.515
143	134/143	---	---	ND	---	0.515
144		---	---	ND	---	0.515
145		---	---	ND	---	0.515
146		---	---	ND	---	0.515
147	147/149	31.497	1.32	0.663	---	0.515
148		---	---	ND	---	0.515
149	147/149	31.497	1.32	(0.663)	---	0.515
150		---	---	ND	---	0.515
151	135/151	---	---	ND	---	0.526
152		---	---	ND	---	0.515
153	153/168	---	---	ND	---	0.618
154		---	---	ND	---	0.515
155		---	---	ND	---	0.515
156	156/157	---	---	ND	---	0.515
157	156/157	---	---	ND	---	0.515
158		---	---	ND	---	0.515

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.515
160		---	---	ND	---	0.515
161		---	---	ND	---	0.515
162		---	---	ND	---	0.515
163	129/138/163	36.025	1.19	(0.608)	---	0.515
164		---	---	ND	---	0.515
165		---	---	ND	---	0.515
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.515
168	153/168	---	---	ND	---	0.618
169		---	---	ND	---	0.515
170		---	---	ND	---	0.515
171	171/173	---	---	ND	---	0.515
172		---	---	ND	---	0.515
173	171/173	---	---	ND	---	0.515
174		---	---	ND	---	0.515
175		---	---	ND	---	0.515
176		---	---	ND	---	0.515
177		---	---	ND	---	0.515
178		---	---	ND	---	0.515
179		---	---	ND	---	0.515
180	180/193	---	---	ND	---	0.515
181		---	---	ND	---	0.515
182		---	---	ND	---	0.515
183	183/185	---	---	ND	---	0.515
184		---	---	ND	---	0.515
185	183/185	---	---	ND	---	0.515
186		---	---	ND	---	0.515
187		---	---	ND	---	0.515
188		---	---	ND	---	0.515
189		---	---	ND	---	0.515
190		---	---	ND	---	0.515
191		---	---	ND	---	0.515
192		---	---	ND	---	0.515
193	180/193	---	---	ND	---	0.515
194		---	---	ND	---	0.515
195		---	---	ND	---	0.515
196		---	---	ND	---	0.722
197	197/200	---	---	ND	---	2.58
198	198/199	---	---	ND	---	0.515
199	198/199	---	---	ND	---	0.515
200	197/200	---	---	ND	---	2.58
201		---	---	ND	---	0.515
202		---	---	ND	---	0.515
203		---	---	ND	---	0.515
204		---	---	ND	---	0.515
205		---	---	ND	---	0.515
206		---	---	ND	---	0.515
207		---	---	ND	---	0.515
208		---	---	ND	---	0.515
209		---	---	ND	---	0.515

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-04;FO071584
Lab Sample ID	1065292004
Filename	P80119A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	1.27
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	1.27

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-05;FO071585		
Lab Sample ID	1065292005		
Filename	P80119A_07		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/14/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 11:46

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.716	2.95	2.0	1.09	55
13C-4-MoCB	3	6.681	2.69	2.0	1.10	55
13C-2,2'-DiCB	4	6.908	1.60	2.0	1.25	62
13C-4,4'-DiCB	15	13.978	1.53	2.0	1.40	70
13C-2,2',6-TrCB	19	10.539	1.05	2.0	1.43	71
13C-3,4,4'-TrCB	37	22.137	0.99	2.0	1.89	94
13C-2,2',6,6'-TeCB	54	14.256	0.80	2.0	1.21	60
13C-3,4,4',5-TeCB	81	29.583	0.72	2.0	1.71	85
13C-3,3',4,4'-TeCB	77	30.186	0.73	2.0	1.62	81
13C-2,2',4,6,6'-PeCB	104	20.712	1.68	2.0	2.14	107
13C-2,3,3',4,4'-PeCB	105	33.909	1.47	2.0	1.71	86
13C-2,3,4,4',5-PeCB	114	33.222	1.54	2.0	1.68	84
13C-2,3',4,4',5-PeCB	118	32.702	1.52	2.0	1.87	94
13C-2,3',4,4',5'-PeCB	123	32.366	1.51	2.0	1.73	87
13C-3,3',4,4',5-PeCB	126	37.196	1.51	2.0	1.80	90
13C-2,2',4,4',6,6'-HxCB	155	27.101	1.29	2.0	2.18	109
13C-HxCB (156/157)	156/157	40.348	1.28	4.0	4.26	106
13C-2,3',4,4',5,5'-HxCB	167	39.191	1.22	2.0	1.97	98
13C-3,3',4,4',5,5'-HxCB	169	43.753	1.33	2.0	2.05	102
13C-2,2',3,4',5,6,6'-HpCB	188	33.238	1.08	2.0	1.98	99
13C-2,3,3',4,4',5,5'-HpCB	189	46.361	1.01	2.0	1.94	97
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.889	0.87	2.0	1.98	99
13C-2,3,3',4,4',5,5',6-OcCB	205	49.012	0.90	2.0	2.29	114
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.801	0.82	2.0	2.23	111
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.844	0.80	2.0	2.03	102
13C--DeCB	209	52.439	0.69	2.0	2.48	124
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.576	1.10	2.0	2.00	100
13C-2,3,3',5,5'-PeCB	111	30.320	1.53	2.0	1.84	92
13C-2,2',3,3',5,5',6-HpCB	178	36.491	1.05	2.0	1.99	100
Recovery Standards						
13C-2,5-DiCB	9	9.209	1.52	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.706	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.369	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.988	1.35	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.538	0.89	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-05;FO071585
Lab Sample ID	1065292005
Filename	P80119A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.493
2		---	---	ND	---	0.493
3		---	---	ND	---	0.493
4		---	---	ND	---	0.493
5		---	---	ND	---	0.493
6		---	---	ND	---	0.493
7		---	---	ND	---	0.493
8		---	---	ND	---	0.493
9		---	---	ND	---	0.493
10		---	---	ND	---	0.493
11		---	---	ND	---	0.591
12	12/13	---	---	ND	---	0.493
13	12/13	---	---	ND	---	0.493
14		---	---	ND	---	0.493
15		---	---	ND	---	0.493
16		---	---	ND	---	0.493
17		---	---	ND	---	0.493
18	18/30	---	---	ND	---	0.493
19		---	---	ND	---	0.493
20	20/28	---	---	ND	---	0.591
21	21/33	---	---	ND	---	0.493
22		---	---	ND	---	0.493
23		---	---	ND	---	0.493
24		---	---	ND	---	0.493
25		---	---	ND	---	0.493
26	26/29	---	---	ND	---	0.493
27		---	---	ND	---	0.493
28	20/28	---	---	ND	---	0.591
29	26/29	---	---	ND	---	0.493
30	18/30	---	---	ND	---	0.493
31		---	---	ND	---	0.493
32		---	---	ND	---	0.493
33	21/33	---	---	ND	---	0.493
34		---	---	ND	---	0.493
35		---	---	ND	---	0.493
36		---	---	ND	---	0.493
37		---	---	ND	---	0.493
38		---	---	ND	---	0.493
39		---	---	ND	---	0.493
40	40/41/71	---	---	ND	---	0.493
41	40/41/71	---	---	ND	---	0.493
42		---	---	ND	---	0.493
43		---	---	ND	---	0.493
44	44/47/65	---	---	ND	---	0.591
45	45/51	---	---	ND	---	0.493
46		---	---	ND	---	0.493
47	44/47/65	---	---	ND	---	0.591
48		---	---	ND	---	0.493

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.493
50	50/53	---	---	ND	---	0.493
51	45/51	---	---	ND	---	0.493
52		---	---	ND	---	0.493
53	50/53	---	---	ND	---	0.493
54		---	---	ND	---	0.493
55		---	---	ND	---	0.493
56		---	---	ND	---	0.493
57		---	---	ND	---	0.493
58		---	---	ND	---	0.493
59	59/62/75	---	---	ND	---	0.493
60		---	---	ND	---	0.493
61	61/70/74/76	25.122	0.76	1.10	---	0.493
62	59/62/75	---	---	ND	---	0.493
63		---	---	ND	---	0.493
64		---	---	ND	---	0.493
65	44/47/65	---	---	ND	---	0.591
66		25.458	0.80	0.680	---	0.493
67		---	---	ND	---	0.493
68		---	---	ND	---	0.493
69	49/69	---	---	ND	---	0.493
70	61/70/74/76	25.122	0.76	(1.10)	---	0.493
71	40/41/71	---	---	ND	---	0.493
72		---	---	ND	---	0.493
73		---	---	ND	---	0.493
74	61/70/74/76	25.122	0.76	(1.10)	---	0.493
75	59/62/75	---	---	ND	---	0.493
76	61/70/74/76	25.122	0.76	(1.10)	---	0.493
77		---	---	ND	---	0.493
78		---	---	ND	---	0.493
79		---	---	ND	---	0.493
80		---	---	ND	---	0.493
81		---	---	ND	---	0.493
82		---	---	ND	---	0.493
83		---	---	ND	---	0.493
84		---	---	ND	---	0.493
85	85/116/117	---	---	ND	---	0.591
86	86/87/97/108/119/125	---	---	ND	---	0.985
87	86/87/97/108/119/125	---	---	ND	---	0.985
88	88/91	---	---	ND	---	0.493
89		---	---	ND	---	0.493
90	90/101/113	---	---	ND	---	0.493
91	88/91	---	---	ND	---	0.493
92		---	---	ND	---	0.493
93	93/98/100/102	---	---	ND	---	0.739
94		---	---	ND	---	0.493
95		---	---	ND	---	0.493
96		---	---	ND	---	0.493
97	86/87/97/108/119/125	---	---	ND	---	0.985
98	93/98/100/102	---	---	ND	---	0.739
99		---	---	ND	---	0.493
100	93/98/100/102	---	---	ND	---	0.739
101	90/101/113	---	---	ND	---	0.493
102	93/98/100/102	---	---	ND	---	0.739
103		---	---	ND	---	0.493

Conc = Concentration
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.493
105		---	---	ND	---	0.493
106		---	---	ND	---	0.493
107	107/124	---	---	ND	---	0.493
108	86/87/97/108/119/125	---	---	ND	---	0.985
109		---	---	ND	---	0.493
110	110/115	29.482	1.66	0.667	---	0.493
111		---	---	ND	---	0.493
112		---	---	ND	---	0.493
113	90/101/113	---	---	ND	---	0.493
114		---	---	ND	---	0.493
115	110/115	29.482	1.66	(0.667)	---	0.493
116	85/116/117	---	---	ND	---	0.591
117	85/116/117	---	---	ND	---	0.591
118		32.735	1.70	0.538	---	0.493
119	86/87/97/108/119/125	---	---	ND	---	0.985
120		---	---	ND	---	0.493
121		---	---	ND	---	0.493
122		---	---	ND	---	0.493
123		---	---	ND	---	0.493
124	107/124	---	---	ND	---	0.493
125	86/87/97/108/119/125	---	---	ND	---	0.985
126		---	---	ND	---	0.493
127		---	---	ND	---	0.493
128	128/166	---	---	ND	---	0.985
129	129/138/163	36.022	1.17	0.599	---	0.493
130		---	---	ND	---	0.493
131		---	---	ND	---	0.493
132		---	---	ND	---	0.493
133		---	---	ND	---	0.493
134	134/143	---	---	ND	---	0.493
135	135/151	---	---	ND	---	0.502
136		---	---	ND	---	0.493
137		---	---	ND	---	0.493
138	129/138/163	36.022	1.17	(0.599)	---	0.493
139	139/140	---	---	ND	---	0.493
140	139/140	---	---	ND	---	0.493
141		---	---	ND	---	0.493
142		---	---	ND	---	0.493
143	134/143	---	---	ND	---	0.493
144		---	---	ND	---	0.493
145		---	---	ND	---	0.493
146		---	---	ND	---	0.493
147	147/149	---	---	ND	---	0.493
148		---	---	ND	---	0.493
149	147/149	---	---	ND	---	0.493
150		---	---	ND	---	0.493
151	135/151	---	---	ND	---	0.502
152		---	---	ND	---	0.493
153	153/168	---	---	ND	---	0.591
154		---	---	ND	---	0.493
155		---	---	ND	---	0.493
156	156/157	---	---	ND	---	0.493
157	156/157	---	---	ND	---	0.493
158		---	---	ND	---	0.493

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.493
160		---	---	ND	---	0.493
161		---	---	ND	---	0.493
162		---	---	ND	---	0.493
163	129/138/163	36.022	1.17	(0.599)	---	0.493
164		---	---	ND	---	0.493
165		---	---	ND	---	0.493
166	128/166	---	---	ND	---	0.985
167		---	---	ND	---	0.493
168	153/168	---	---	ND	---	0.591
169		---	---	ND	---	0.493
170		---	---	ND	---	0.493
171	171/173	---	---	ND	---	0.493
172		---	---	ND	---	0.493
173	171/173	---	---	ND	---	0.493
174		---	---	ND	---	0.493
175		---	---	ND	---	0.493
176		---	---	ND	---	0.493
177		---	---	ND	---	0.493
178		---	---	ND	---	0.493
179		---	---	ND	---	0.493
180	180/193	---	---	ND	---	0.493
181		---	---	ND	---	0.493
182		---	---	ND	---	0.493
183	183/185	---	---	ND	---	0.493
184		---	---	ND	---	0.493
185	183/185	---	---	ND	---	0.493
186		---	---	ND	---	0.493
187		---	---	ND	---	0.493
188		---	---	ND	---	0.493
189		---	---	ND	---	0.493
190		---	---	ND	---	0.493
191		---	---	ND	---	0.493
192		---	---	ND	---	0.493
193	180/193	---	---	ND	---	0.493
194		---	---	ND	---	0.493
195		---	---	ND	---	0.493
196		---	---	ND	---	0.690
197	197/200	---	---	ND	---	2.46
198	198/199	---	---	ND	---	0.493
199	198/199	---	---	ND	---	0.493
200	197/200	---	---	ND	---	2.46
201		---	---	ND	---	0.493
202		---	---	ND	---	0.493
203		---	---	ND	---	0.493
204		---	---	ND	---	0.493
205		---	---	ND	---	0.493
206		---	---	ND	---	0.493
207		---	---	ND	---	0.493
208		---	---	ND	---	0.493
209		---	---	ND	---	0.493

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-05;FO071585
Lab Sample ID	1065292005
Filename	P80119A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.78
Total Pentachloro Biphenyls	1.20
Total Hexachloro Biphenyls	0.599
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	3.59

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-06;FO071586		
Lab Sample ID	1065292006		
Filename	P80119A_08		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 12:49

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.680	2.67	2.0	1.67	84
13C-4-MoCB	3	6.657	2.75	2.0	1.39	70
13C-2,2'-DiCB	4	6.873	1.49	2.0	1.71	86
13C-4,4'-DiCB	15	13.991	1.55	2.0	1.36	68
13C-2,2',6-TrCB	19	10.515	0.96	2.0	1.72	86
13C-3,4,4'-TrCB	37	22.155	1.08	2.0	1.71	86
13C-2,2',6,6'-TeCB	54	14.240	0.83	2.0	0.991	50
13C-3,4,4',5-TeCB	81	29.584	0.71	2.0	1.50	75
13C-3,3',4,4'-TeCB	77	30.187	0.73	2.0	1.38	69
13C-2,2',4,6,6'-PeCB	104	20.696	1.67	2.0	2.29	115
13C-2,3,3',4,4'-PeCB	105	33.893	1.77	2.0	1.56	78
13C-2,3,4,4',5-PeCB	114	33.206	1.50	2.0	1.58	79
13C-2,3',4,4',5-PeCB	118	32.703	1.69	2.0	1.83	92
13C-2,3',4,4',5'-PeCB	123	32.350	1.59	2.0	1.64	82
13C-3,3',4,4',5-PeCB	126	37.197	1.45	2.0	1.58	79
13C-2,2',4,4',6,6'-HxCB	155	27.085	1.30	2.0	2.29	115
13C-HxCB (156/157)	156/157	40.333	1.27	4.0	3.93	98
13C-2,3',4,4',5,5'-HxCB	167	39.176	1.33	2.0	1.89	95
13C-3,3',4,4',5,5'-HxCB	169	43.753	1.30	2.0	1.83	92
13C-2,2',3,4',5,6,6'-HpCB	188	33.222	1.06	2.0	2.07	104
13C-2,3,3',4,4',5,5'-HpCB	189	46.362	1.12	2.0	1.92	96
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.874	0.92	2.0	1.91	96
13C-2,3,3',4,4',5,5',6-OcCB	205	49.013	0.87	2.0	2.14	107
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.781	0.84	2.0	2.11	106
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.823	0.75	2.0	1.90	95
13C--DeCB	209	52.419	0.72	2.0	2.61	130
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.560	1.11	2.0	1.89	95
13C-2,3,3',5,5'-PeCB	111	30.305	1.62	2.0	1.84	92
13C-2,2',3,3',5,5',6-HpCB	178	36.492	1.00	2.0	1.95	98
Recovery Standards						
13C-2,5-DiCB	9	9.185	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.690	0.76	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.353	1.57	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.973	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.517	0.85	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-06;FO071586
Lab Sample ID	1065292006
Filename	P80119A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.496
2		---	---	ND	---	0.496
3		---	---	ND	---	0.496
4		---	---	ND	---	0.496
5		---	---	ND	---	0.496
6		---	---	ND	---	0.496
7		---	---	ND	---	0.496
8		---	---	ND	---	0.496
9		---	---	ND	---	0.496
10		---	---	ND	---	0.496
11		---	---	ND	---	0.595
12	12/13	---	---	ND	---	0.496
13	12/13	---	---	ND	---	0.496
14		---	---	ND	---	0.496
15		---	---	ND	---	0.496
16		---	---	ND	---	0.496
17		---	---	ND	---	0.496
18	18/30	---	---	ND	---	0.496
19		---	---	ND	---	0.496
20	20/28	---	---	ND	---	0.595
21	21/33	---	---	ND	---	0.496
22		---	---	ND	---	0.496
23		---	---	ND	---	0.496
24		---	---	ND	---	0.496
25		---	---	ND	---	0.496
26	26/29	---	---	ND	---	0.496
27		---	---	ND	---	0.496
28	20/28	---	---	ND	---	0.595
29	26/29	---	---	ND	---	0.496
30	18/30	---	---	ND	---	0.496
31		---	---	ND	---	0.496
32		---	---	ND	---	0.496
33	21/33	---	---	ND	---	0.496
34		---	---	ND	---	0.496
35		---	---	ND	---	0.496
36		---	---	ND	---	0.496
37		---	---	ND	---	0.496
38		---	---	ND	---	0.496
39		---	---	ND	---	0.496
40	40/41/71	---	---	ND	---	0.496
41	40/41/71	---	---	ND	---	0.496
42		---	---	ND	---	0.496
43		---	---	ND	---	0.496
44	44/47/65	---	---	ND	---	0.595
45	45/51	---	---	ND	---	0.496
46		---	---	ND	---	0.496
47	44/47/65	---	---	ND	---	0.595
48		---	---	ND	---	0.496

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49	49/69	---	---	ND	---	0.496
50	50/53	---	---	ND	---	0.496
51	45/51	---	---	ND	---	0.496
52		---	---	ND	---	0.496
53	50/53	---	---	ND	---	0.496
54		---	---	ND	---	0.496
55		---	---	ND	---	0.496
56		---	---	ND	---	0.496
57		---	---	ND	---	0.496
58		---	---	ND	---	0.496
59	59/62/75	---	---	ND	---	0.496
60		---	---	ND	---	0.496
61	61/70/74/76	---	---	ND	---	0.496
62	59/62/75	---	---	ND	---	0.496
63		---	---	ND	---	0.496
64		---	---	ND	---	0.496
65	44/47/65	---	---	ND	---	0.595
66		---	---	ND	---	0.496
67		---	---	ND	---	0.496
68		---	---	ND	---	0.496
69	49/69	---	---	ND	---	0.496
70	61/70/74/76	---	---	ND	---	0.496
71	40/41/71	---	---	ND	---	0.496
72		---	---	ND	---	0.496
73		---	---	ND	---	0.496
74	61/70/74/76	---	---	ND	---	0.496
75	59/62/75	---	---	ND	---	0.496
76	61/70/74/76	---	---	ND	---	0.496
77		---	---	ND	---	0.496
78		---	---	ND	---	0.496
79		---	---	ND	---	0.496
80		---	---	ND	---	0.496
81		---	---	ND	---	0.496
82		---	---	ND	---	0.496
83		---	---	ND	---	0.496
84		---	---	ND	---	0.496
85	85/116/117	---	---	ND	---	0.595
86	86/87/97/108/119/125	---	---	ND	---	0.992
87	86/87/97/108/119/125	---	---	ND	---	0.992
88	88/91	---	---	ND	---	0.496
89		---	---	ND	---	0.496
90	90/101/113	---	---	ND	---	0.496
91	88/91	---	---	ND	---	0.496
92		---	---	ND	---	0.496
93	93/98/100/102	---	---	ND	---	0.744
94		---	---	ND	---	0.496
95		---	---	ND	---	0.496
96		---	---	ND	---	0.496
97	86/87/97/108/119/125	---	---	ND	---	0.992
98	93/98/100/102	---	---	ND	---	0.744
99		---	---	ND	---	0.496
100	93/98/100/102	---	---	ND	---	0.744
101	90/101/113	---	---	ND	---	0.496
102	93/98/100/102	---	---	ND	---	0.744
103		---	---	ND	---	0.496

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
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RT = Retention Time
I = Interference
ng's = Nanograms

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.496
105		---	---	ND	---	0.496
106		---	---	ND	---	0.496
107	107/124	---	---	ND	---	0.496
108	86/87/97/108/119/125	---	---	ND	---	0.992
109		---	---	ND	---	0.496
110	110/115	---	---	ND	---	0.496
111		---	---	ND	---	0.496
112		---	---	ND	---	0.496
113	90/101/113	---	---	ND	---	0.496
114		---	---	ND	---	0.496
115	110/115	---	---	ND	---	0.496
116	85/116/117	---	---	ND	---	0.595
117	85/116/117	---	---	ND	---	0.595
118		---	---	ND	---	0.496
119	86/87/97/108/119/125	---	---	ND	---	0.992
120		---	---	ND	---	0.496
121		---	---	ND	---	0.496
122		---	---	ND	---	0.496
123		---	---	ND	---	0.496
124	107/124	---	---	ND	---	0.496
125	86/87/97/108/119/125	---	---	ND	---	0.992
126		---	---	ND	---	0.496
127		---	---	ND	---	0.496
128	128/166	---	---	ND	---	0.992
129	129/138/163	---	---	ND	---	0.496
130		---	---	ND	---	0.496
131		---	---	ND	---	0.496
132		---	---	ND	---	0.496
133		---	---	ND	---	0.496
134	134/143	---	---	ND	---	0.496
135	135/151	---	---	ND	---	0.506
136		---	---	ND	---	0.496
137		---	---	ND	---	0.496
138	129/138/163	---	---	ND	---	0.496
139	139/140	---	---	ND	---	0.496
140	139/140	---	---	ND	---	0.496
141		---	---	ND	---	0.496
142		---	---	ND	---	0.496
143	134/143	---	---	ND	---	0.496
144		---	---	ND	---	0.496
145		---	---	ND	---	0.496
146		---	---	ND	---	0.496
147	147/149	---	---	ND	---	0.496
148		---	---	ND	---	0.496
149	147/149	---	---	ND	---	0.496
150		---	---	ND	---	0.496
151	135/151	---	---	ND	---	0.506
152		---	---	ND	---	0.496
153	153/168	---	---	ND	---	0.595
154		---	---	ND	---	0.496
155		---	---	ND	---	0.496
156	156/157	---	---	ND	---	0.496
157	156/157	---	---	ND	---	0.496
158		---	---	ND	---	0.496

Conc = Concentration
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.496
160		---	---	ND	---	0.496
161		---	---	ND	---	0.496
162		---	---	ND	---	0.496
163	129/138/163	---	---	ND	---	0.496
164		---	---	ND	---	0.496
165		---	---	ND	---	0.496
166	128/166	---	---	ND	---	0.992
167		---	---	ND	---	0.496
168	153/168	---	---	ND	---	0.595
169		---	---	ND	---	0.496
170		---	---	ND	---	0.496
171	171/173	---	---	ND	---	0.496
172		---	---	ND	---	0.496
173	171/173	---	---	ND	---	0.496
174		---	---	ND	---	0.496
175		---	---	ND	---	0.496
176		---	---	ND	---	0.496
177		---	---	ND	---	0.496
178		---	---	ND	---	0.496
179		---	---	ND	---	0.496
180	180/193	---	---	ND	---	0.496
181		---	---	ND	---	0.496
182		---	---	ND	---	0.496
183	183/185	---	---	ND	---	0.496
184		---	---	ND	---	0.496
185	183/185	---	---	ND	---	0.496
186		---	---	ND	---	0.496
187		---	---	ND	---	0.496
188		---	---	ND	---	0.496
189		---	---	ND	---	0.496
190		---	---	ND	---	0.496
191		---	---	ND	---	0.496
192		---	---	ND	---	0.496
193	180/193	---	---	ND	---	0.496
194		---	---	ND	---	0.496
195		---	---	ND	---	0.496
196		---	---	ND	---	0.695
197	197/200	---	---	ND	---	2.48
198	198/199	---	---	ND	---	0.496
199	198/199	---	---	ND	---	0.496
200	197/200	---	---	ND	---	2.48
201		---	---	ND	---	0.496
202		---	---	ND	---	0.496
203		---	---	ND	---	0.496
204		---	---	ND	---	0.496
205		---	---	ND	---	0.496
206		---	---	ND	---	0.496
207		---	---	ND	---	0.496
208		---	---	ND	---	0.496
209		---	---	ND	---	0.496

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-06;FO071586
Lab Sample ID	1065292006
Filename	P80119A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-07;FO071587		
Lab Sample ID	1065292007		
Filename	P80119A_12		
Injected By	BAL		
Total Amount Extracted	1020 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 17:03

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.692	2.96	2.0	1.42	71
13C-4-MoCB	3	6.669	2.93	2.0	1.31	66
13C-2,2'-DiCB	4	6.885	1.53	2.0	1.52	76
13C-4,4'-DiCB	15	13.979	1.59	2.0	1.62	81
13C-2,2',6-TrCB	19	10.528	1.13	2.0	1.74	87
13C-3,4,4'-TrCB	37	22.140	0.98	2.0	1.78	89
13C-2,2',6,6'-TeCB	54	14.257	0.83	2.0	1.18	59
13C-3,4,4',5-TeCB	81	29.569	0.82	2.0	1.80	90
13C-3,3',4,4'-TeCB	77	30.173	0.76	2.0	1.75	88
13C-2,2',4,6,6'-PeCB	104	20.697	1.56	2.0	2.05	102
13C-2,3,3',4,4'-PeCB	105	33.897	1.76	2.0	1.85	93
13C-2,3,4,4',5-PeCB	114	33.209	1.52	2.0	1.84	92
13C-2,3',4,4',5-PeCB	118	32.706	1.55	2.0	2.02	101
13C-2,3',4,4',5'-PeCB	123	32.354	1.50	2.0	2.00	100
13C-3,3',4,4',5-PeCB	126	37.200	1.52	2.0	2.04	102
13C-2,2',4,4',6,6'-HxCB	155	27.104	1.28	2.0	1.95	98
13C-HxCB (156/157)	156/157	40.354	1.25	4.0	4.40	110
13C-2,3',4,4',5,5'-HxCB	167	39.196	1.25	2.0	2.17	108
13C-3,3',4,4',5,5'-HxCB	169	43.758	1.25	2.0	2.30	115
13C-2,2',3,4',5,6,6'-HpCB	188	33.242	1.09	2.0	1.86	93
13C-2,3,3',4,4',5,5'-HpCB	189	46.372	1.01	2.0	2.09	105
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.894	0.92	2.0	1.85	93
13C-2,3,3',4,4',5,5',6-OcCB	205	49.024	0.95	2.0	2.33	116
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.813	0.83	2.0	2.23	112
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.833	0.78	2.0	1.99	100
13C--DeCB	209	52.430	0.75	2.0	2.58	129
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.561	1.05	2.0	1.94	97
13C-2,3,3',5,5'-PeCB	111	30.307	1.59	2.0	1.85	93
13C-2,2',3,3',5,5',6-HpCB	178	36.496	1.02	2.0	1.95	98
Recovery Standards						
13C-2,5-DiCB	9	9.197	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.708	0.82	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.372	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.976	1.26	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.549	0.81	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQL0652-07;FO071587
Lab Sample ID 1065292007
Filename P80119A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.492
2		---	---	ND	---	0.492
3		---	---	ND	---	0.492
4		---	---	ND	---	0.492
5		---	---	ND	---	0.492
6		---	---	ND	---	0.492
7		---	---	ND	---	0.492
8		---	---	ND	---	0.492
9		---	---	ND	---	0.492
10		---	---	ND	---	0.492
11		---	---	ND	---	0.590
12	12/13	---	---	ND	---	0.492
13	12/13	---	---	ND	---	0.492
14		---	---	ND	---	0.492
15		---	---	ND	---	0.492
16		---	---	ND	---	0.492
17		---	---	ND	---	0.492
18	18/30	---	---	ND	---	0.492
19		---	---	ND	---	0.492
20	20/28	---	---	ND	---	0.590
21	21/33	---	---	ND	---	0.492
22		---	---	ND	---	0.492
23		---	---	ND	---	0.492
24		---	---	ND	---	0.492
25		---	---	ND	---	0.492
26	26/29	---	---	ND	---	0.492
27		---	---	ND	---	0.492
28	20/28	---	---	ND	---	0.590
29	26/29	---	---	ND	---	0.492
30	18/30	---	---	ND	---	0.492
31		---	---	ND	---	0.492
32		---	---	ND	---	0.492
33	21/33	---	---	ND	---	0.492
34		---	---	ND	---	0.492
35		---	---	ND	---	0.492
36		---	---	ND	---	0.492
37		---	---	ND	---	0.492
38		---	---	ND	---	0.492
39		---	---	ND	---	0.492
40	40/41/71	---	---	ND	---	0.492
41	40/41/71	---	---	ND	---	0.492
42		---	---	ND	---	0.492
43		---	---	ND	---	0.492
44	44/47/65	---	---	ND	---	0.590
45	45/51	---	---	ND	---	0.492
46		---	---	ND	---	0.492
47	44/47/65	---	---	ND	---	0.590
48		---	---	ND	---	0.492

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.492
50	50/53	---	---	ND	---	0.492
51	45/51	---	---	ND	---	0.492
52		---	---	ND	---	0.492
53	50/53	---	---	ND	---	0.492
54		---	---	ND	---	0.492
55		---	---	ND	---	0.492
56		---	---	ND	---	0.492
57		---	---	ND	---	0.492
58		---	---	ND	---	0.492
59	59/62/75	---	---	ND	---	0.492
60		---	---	ND	---	0.492
61	61/70/74/76	---	---	ND	---	0.492
62	59/62/75	---	---	ND	---	0.492
63		---	---	ND	---	0.492
64		---	---	ND	---	0.492
65	44/47/65	---	---	ND	---	0.590
66		---	---	ND	---	0.492
67		---	---	ND	---	0.492
68		---	---	ND	---	0.492
69	49/69	---	---	ND	---	0.492
70	61/70/74/76	---	---	ND	---	0.492
71	40/41/71	---	---	ND	---	0.492
72		---	---	ND	---	0.492
73		---	---	ND	---	0.492
74	61/70/74/76	---	---	ND	---	0.492
75	59/62/75	---	---	ND	---	0.492
76	61/70/74/76	---	---	ND	---	0.492
77		---	---	ND	---	0.492
78		---	---	ND	---	0.492
79		---	---	ND	---	0.492
80		---	---	ND	---	0.492
81		---	---	ND	---	0.492
82		---	---	ND	---	0.492
83		---	---	ND	---	0.492
84		---	---	ND	---	0.492
85	85/116/117	---	---	ND	---	0.590
86	86/87/97/108/119/125	---	---	ND	---	0.984
87	86/87/97/108/119/125	---	---	ND	---	0.984
88	88/91	---	---	ND	---	0.492
89		---	---	ND	---	0.492
90	90/101/113	27.389	1.68	0.629	---	0.492
91	88/91	---	---	ND	---	0.492
92		---	---	ND	---	0.492
93	93/98/100/102	---	---	ND	---	0.738
94		---	---	ND	---	0.492
95		---	---	ND	---	0.492
96		---	---	ND	---	0.492
97	86/87/97/108/119/125	---	---	ND	---	0.984
98	93/98/100/102	---	---	ND	---	0.738
99		---	---	ND	---	0.492
100	93/98/100/102	---	---	ND	---	0.738
101	90/101/113	27.389	1.68	(0.629)	---	0.492
102	93/98/100/102	---	---	ND	---	0.738
103		---	---	ND	---	0.492

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
104		---	---	ND	---	0.492
105		---	---	ND	---	0.492
106		---	---	ND	---	0.492
107	107/124	---	---	ND	---	0.492
108	86/87/97/108/119/125	---	---	ND	---	0.984
109		---	---	ND	---	0.492
110	110/115	29.469	1.73	0.790	---	0.492
111		---	---	ND	---	0.492
112		---	---	ND	---	0.492
113	90/101/113	27.389	1.68	(0.629)	---	0.492
114		---	---	ND	---	0.492
115	110/115	29.469	1.73	(0.790)	---	0.492
116	85/116/117	---	---	ND	---	0.590
117	85/116/117	---	---	ND	---	0.590
118		32.723	1.71	0.625	---	0.492
119	86/87/97/108/119/125	---	---	ND	---	0.984
120		---	---	ND	---	0.492
121		---	---	ND	---	0.492
122		---	---	ND	---	0.492
123		---	---	ND	---	0.492
124	107/124	---	---	ND	---	0.492
125	86/87/97/108/119/125	---	---	ND	---	0.984
126		---	---	ND	---	0.492
127		---	---	ND	---	0.492
128	128/166	---	---	ND	---	0.984
129	129/138/163	36.010	1.23	1.50	---	0.492
130		---	---	ND	---	0.492
131		---	---	ND	---	0.492
132		---	---	ND	---	0.492
133		---	---	ND	---	0.492
134	134/143	---	---	ND	---	0.492
135	135/151	---	---	ND	---	0.502
136		---	---	ND	---	0.492
137		---	---	ND	---	0.492
138	129/138/163	36.010	1.23	(1.50)	---	0.492
139	139/140	---	---	ND	---	0.492
140	139/140	---	---	ND	---	0.492
141		---	---	ND	---	0.492
142		---	---	ND	---	0.492
143	134/143	---	---	ND	---	0.492
144		---	---	ND	---	0.492
145		---	---	ND	---	0.492
146		---	---	ND	---	0.492
147	147/149	31.481	1.25	0.857	---	0.492
148		---	---	ND	---	0.492
149	147/149	31.481	1.25	(0.857)	---	0.492
150		---	---	ND	---	0.492
151	135/151	---	---	ND	---	0.502
152		---	---	ND	---	0.492
153	153/168	34.752	1.23	1.15	---	0.590
154		---	---	ND	---	0.492
155		---	---	ND	---	0.492
156	156/157	---	---	ND	---	0.492
157	156/157	---	---	ND	---	0.492
158		---	---	ND	---	0.492

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Tel: 612-607-1700
Fax: 612- 607-6444

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
159		---	---	ND	---	0.492
160		---	---	ND	---	0.492
161		---	---	ND	---	0.492
162		---	---	ND	---	0.492
163	129/138/163	36.010	1.23	(1.50)	---	0.492
164		---	---	ND	---	0.492
165		---	---	ND	---	0.492
166	128/166	---	---	ND	---	0.984
167		---	---	ND	---	0.492
168	153/168	34.752	1.23	(1.15)	---	0.590
169		---	---	ND	---	0.492
170		43.121	1.07	0.601	---	0.492
171	171/173	---	---	ND	---	0.492
172		---	---	ND	---	0.492
173	171/173	---	---	ND	---	0.492
174		---	---	ND	---	0.492
175		---	---	ND	---	0.492
176		---	---	ND	---	0.492
177		---	---	ND	---	0.492
178		---	---	ND	---	0.492
179		---	---	ND	---	0.492
180	180/193	41.863	1.00	1.14	---	0.492
181		---	---	ND	---	0.492
182		---	---	ND	---	0.492
183	183/185	---	---	ND	---	0.492
184		---	---	ND	---	0.492
185	183/185	---	---	ND	---	0.492
186		---	---	ND	---	0.492
187		---	---	ND	---	0.492
188		---	---	ND	---	0.492
189		---	---	ND	---	0.492
190		---	---	ND	---	0.492
191		---	---	ND	---	0.492
192		---	---	ND	---	0.492
193	180/193	41.863	1.00	(1.14)	---	0.492
194		---	---	ND	---	0.492
195		---	---	ND	---	0.492
196		---	---	ND	---	0.688
197	197/200	---	---	ND	---	2.46
198	198/199	---	---	ND	---	0.492
199	198/199	---	---	ND	---	0.492
200	197/200	---	---	ND	---	2.46
201		---	---	ND	---	0.492
202		---	---	ND	---	0.492
203		---	---	ND	---	0.492
204		---	---	ND	---	0.492
205		---	---	ND	---	0.492
206		---	---	ND	---	0.492
207		---	---	ND	---	0.492
208		---	---	ND	---	0.492
209		---	---	ND	---	0.492

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PQL0652-07;FO071587
Lab Sample ID	1065292007
Filename	P80119A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	2.04
Total Hexachloro Biphenyls	3.51
Total Heptachloro Biphenyls	1.74
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	7.29

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQL0652-08;FO071588		
Lab Sample ID	1065292008		
Filename	P80119A_09		
Injected By	BAL		
Total Amount Extracted	970 mL	Matrix	Water
% Moisture	NA	Dilution	5
Dry Weight Extracted	NA	Collected	12/15/2007
ICAL Date	01/19/2008	Received	12/20/2007
CCal Filename(s)	P80119A_02	Extracted	01/16/2008
Method Blank ID	BLANK-15298	Analyzed	01/19/2008 13:53

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	4.704	2.83	2.0	1.54	77
13C-4-MoCB	3	6.681	2.80	2.0	1.33	66
13C-2,2'-DiCB	4	6.896	1.77	2.0	1.64	82
13C-4,4'-DiCB	15	14.002	1.54	2.0	1.53	76
13C-2,2',6-TrCB	19	10.539	1.12	2.0	1.84	92
13C-3,4,4'-TrCB	37	22.170	1.17	2.0	1.73	86
13C-2,2',6,6'-TeCB	54	14.256	0.81	2.0	1.39	69
13C-3,4,4',5-TeCB	81	29.582	0.75	2.0	1.75	88
13C-3,3',4,4'-TeCB	77	30.202	0.84	2.0	1.70	85
13C-2,2',4,6,6'-PeCB	104	20.711	1.65	2.0	2.37	119
13C-2,3,3',4,4'-PeCB	105	33.908	1.59	2.0	1.98	99
13C-2,3,4,4',5-PeCB	114	33.220	1.58	2.0	1.87	94
13C-2,3',4,4',5-PeCB	118	32.701	1.46	2.0	2.09	105
13C-2,3',4,4',5'-PeCB	123	32.365	1.56	2.0	1.99	99
13C-3,3',4,4',5-PeCB	126	37.211	1.59	2.0	2.03	102
13C-2,2',4,4',6,6'-HxCB	155	27.100	1.19	2.0	2.15	108
13C-HxCB (156/157)	156/157	40.347	1.21	4.0	4.45	111
13C-2,3',4,4',5,5'-HxCB	167	39.190	1.31	2.0	2.13	107
13C-3,3',4,4',5,5'-HxCB	169	43.767	1.32	2.0	2.22	111
13C-2,2',3,4',5,6,6'-HpCB	188	33.237	1.05	2.0	1.96	98
13C-2,3,3',4,4',5,5'-HpCB	189	46.381	1.09	2.0	2.10	105
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.888	0.91	2.0	2.03	102
13C-2,3,3',4,4',5,5',6-OcCB	205	49.032	0.96	2.0	2.26	113
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.820	0.80	2.0	2.26	113
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.842	0.80	2.0	2.10	105
13C--DeCB	209	52.437	0.69	2.0	2.52	126
Cleanup Standards						
13C-2,4,4'-TrCB	28	17.576	1.05	2.0	1.95	98
13C-2,3,3',5,5'-PeCB	111	30.319	1.50	2.0	2.10	105
13C-2,2',3,3',5,5',6-HpCB	178	36.490	1.01	2.0	2.10	105
Recovery Standards						
13C-2,5-DiCB	9	9.209	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	19.705	0.75	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	27.368	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	35.987	1.31	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.536	0.87	2.0	NA	NA

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-08;FO071588
Lab Sample ID	1065292008
Filename	P80119A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.515
2		---	---	ND	---	0.515
3		---	---	ND	---	0.515
4		---	---	ND	---	0.515
5		---	---	ND	---	0.515
6		---	---	ND	---	0.515
7		---	---	ND	---	0.515
8		---	---	ND	---	0.515
9		---	---	ND	---	0.515
10		---	---	ND	---	0.515
11		---	---	ND	---	0.618
12	12/13	---	---	ND	---	0.515
13	12/13	---	---	ND	---	0.515
14		---	---	ND	---	0.515
15		---	---	ND	---	0.515
16		---	---	ND	---	0.515
17		---	---	ND	---	0.515
18	18/30	---	---	ND	---	0.515
19		---	---	ND	---	0.515
20	20/28	---	---	ND	---	0.618
21	21/33	---	---	ND	---	0.515
22		---	---	ND	---	0.515
23		---	---	ND	---	0.515
24		---	---	ND	---	0.515
25		---	---	ND	---	0.515
26	26/29	---	---	ND	---	0.515
27		---	---	ND	---	0.515
28	20/28	---	---	ND	---	0.618
29	26/29	---	---	ND	---	0.515
30	18/30	---	---	ND	---	0.515
31		---	---	ND	---	0.515
32		---	---	ND	---	0.515
33	21/33	---	---	ND	---	0.515
34		---	---	ND	---	0.515
35		---	---	ND	---	0.515
36		---	---	ND	---	0.515
37		---	---	ND	---	0.515
38		---	---	ND	---	0.515
39		---	---	ND	---	0.515
40	40/41/71	---	---	ND	---	0.515
41	40/41/71	---	---	ND	---	0.515
42		---	---	ND	---	0.515
43		---	---	ND	---	0.515
44	44/47/65	---	---	ND	---	0.618
45	45/51	---	---	ND	---	0.515
46		---	---	ND	---	0.515
47	44/47/65	---	---	ND	---	0.618
48		---	---	ND	---	0.515

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IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.515
50	50/53	---	---	ND	---	0.515
51	45/51	---	---	ND	---	0.515
52		---	---	ND	---	0.515
53	50/53	---	---	ND	---	0.515
54		---	---	ND	---	0.515
55		---	---	ND	---	0.515
56		---	---	ND	---	0.515
57		---	---	ND	---	0.515
58		---	---	ND	---	0.515
59	59/62/75	---	---	ND	---	0.515
60		---	---	ND	---	0.515
61	61/70/74/76	---	---	ND	---	0.515
62	59/62/75	---	---	ND	---	0.515
63		---	---	ND	---	0.515
64		---	---	ND	---	0.515
65	44/47/65	---	---	ND	---	0.618
66		---	---	ND	---	0.515
67		---	---	ND	---	0.515
68		---	---	ND	---	0.515
69	49/69	---	---	ND	---	0.515
70	61/70/74/76	---	---	ND	---	0.515
71	40/41/71	---	---	ND	---	0.515
72		---	---	ND	---	0.515
73		---	---	ND	---	0.515
74	61/70/74/76	---	---	ND	---	0.515
75	59/62/75	---	---	ND	---	0.515
76	61/70/74/76	---	---	ND	---	0.515
77		---	---	ND	---	0.515
78		---	---	ND	---	0.515
79		---	---	ND	---	0.515
80		---	---	ND	---	0.515
81		---	---	ND	---	0.515
82		---	---	ND	---	0.515
83		---	---	ND	---	0.515
84		---	---	ND	---	0.515
85	85/116/117	---	---	ND	---	0.618
86	86/87/97/108/119/125	28.341	1.64	1.15	---	1.03
87	86/87/97/108/119/125	28.341	1.64	(1.15)	---	1.03
88	88/91	---	---	ND	---	0.515
89		---	---	ND	---	0.515
90	90/101/113	27.385	1.52	0.574	---	0.515
91	88/91	---	---	ND	---	0.515
92		---	---	ND	---	0.515
93	93/98/100/102	---	---	ND	---	0.773
94		---	---	ND	---	0.515
95		---	---	ND	---	0.515
96		---	---	ND	---	0.515
97	86/87/97/108/119/125	28.341	1.64	(1.15)	---	1.03
98	93/98/100/102	---	---	ND	---	0.773
99		---	---	ND	---	0.515
100	93/98/100/102	---	---	ND	---	0.773
101	90/101/113	27.385	1.52	(0.574)	---	0.515
102	93/98/100/102	---	---	ND	---	0.773
103		---	---	ND	---	0.515

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104		---	---	ND	---	0.515
105		---	---	ND	---	0.515
106		---	---	ND	---	0.515
107	107/124	---	---	ND	---	0.515
108	86/87/97/108/119/125	28.341	1.64	(1.15)	---	1.03
109		---	---	ND	---	0.515
110	110/115	29.481	1.63	0.583	---	0.515
111		---	---	ND	---	0.515
112		---	---	ND	---	0.515
113	90/101/113	27.385	1.52	(0.574)	---	0.515
114		---	---	ND	---	0.515
115	110/115	29.481	1.63	(0.583)	---	0.515
116	85/116/117	---	---	ND	---	0.618
117	85/116/117	---	---	ND	---	0.618
118		---	---	ND	---	0.515
119	86/87/97/108/119/125	28.341	1.64	(1.15)	---	1.03
120		---	---	ND	---	0.515
121		---	---	ND	---	0.515
122		---	---	ND	---	0.515
123		---	---	ND	---	0.515
124	107/124	---	---	ND	---	0.515
125	86/87/97/108/119/125	28.341	1.64	(1.15)	---	1.03
126		---	---	ND	---	0.515
127		---	---	ND	---	0.515
128	128/166	---	---	ND	---	1.03
129	129/138/163	36.021	1.15	1.33	---	0.515
130		---	---	ND	---	0.515
131		---	---	ND	---	0.515
132		---	---	ND	---	0.515
133		---	---	ND	---	0.515
134	134/143	---	---	ND	---	0.515
135	135/151	---	---	ND	---	0.526
136		---	---	ND	---	0.515
137		---	---	ND	---	0.515
138	129/138/163	36.021	1.15	(1.33)	---	0.515
139	139/140	---	---	ND	---	0.515
140	139/140	---	---	ND	---	0.515
141		---	---	ND	---	0.515
142		---	---	ND	---	0.515
143	134/143	---	---	ND	---	0.515
144		---	---	ND	---	0.515
145		---	---	ND	---	0.515
146		---	---	ND	---	0.515
147	147/149	31.493	1.28	0.818	---	0.515
148		---	---	ND	---	0.515
149	147/149	31.493	1.28	(0.818)	---	0.515
150		---	---	ND	---	0.515
151	135/151	---	---	ND	---	0.526
152		---	---	ND	---	0.515
153	153/168	34.746	1.14	1.03	---	0.618
154		---	---	ND	---	0.515
155		---	---	ND	---	0.515
156	156/157	---	---	ND	---	0.515
157	156/157	---	---	ND	---	0.515
158		---	---	ND	---	0.515

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159		---	---	ND	---	0.515
160		---	---	ND	---	0.515
161		---	---	ND	---	0.515
162		---	---	ND	---	0.515
163	129/138/163	36.021	1.15	(1.33)	---	0.515
164		---	---	ND	---	0.515
165		---	---	ND	---	0.515
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.515
168	153/168	34.746	1.14	(1.03)	---	0.618
169		---	---	ND	---	0.515
170		43.113	1.03	0.578	---	0.515
171	171/173	---	---	ND	---	0.515
172		---	---	ND	---	0.515
173	171/173	---	---	ND	---	0.515
174		---	---	ND	---	0.515
175		---	---	ND	---	0.515
176		---	---	ND	---	0.515
177		---	---	ND	---	0.515
178		---	---	ND	---	0.515
179		---	---	ND	---	0.515
180	180/193	41.856	0.94	1.12	---	0.515
181		---	---	ND	---	0.515
182		---	---	ND	---	0.515
183	183/185	---	---	ND	---	0.515
184		---	---	ND	---	0.515
185	183/185	---	---	ND	---	0.515
186		---	---	ND	---	0.515
187		---	---	ND	---	0.515
188		---	---	ND	---	0.515
189		---	---	ND	---	0.515
190		---	---	ND	---	0.515
191		---	---	ND	---	0.515
192		---	---	ND	---	0.515
193	180/193	41.856	0.94	(1.12)	---	0.515
194		---	---	ND	---	0.515
195		---	---	ND	---	0.515
196		---	---	ND	---	0.721
197	197/200	---	---	ND	---	2.58
198	198/199	---	---	ND	---	0.515
199	198/199	---	---	ND	---	0.515
200	197/200	---	---	ND	---	2.58
201		---	---	ND	---	0.515
202		---	---	ND	---	0.515
203		---	---	ND	---	0.515
204		---	---	ND	---	0.515
205		---	---	ND	---	0.515
206		---	---	ND	---	0.515
207		---	---	ND	---	0.515
208		---	---	ND	---	0.515
209		---	---	ND	---	0.515

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQL0652-08;FO071588
Lab Sample ID	1065292008
Filename	P80119A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	2.31
Total Hexachloro Biphenyls	3.18
Total Heptachloro Biphenyls	1.70
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	7.19

ND = Not Detected

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Minneapolis, MN 55414

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15298		
Filename	P80118A_09		
Injected By	SMT	Matrix	Water
Total Amount Extracted	1040 mL	Extracted	01/16/2008
ICAL Date	01/18/2008	Analyzed	01/18/2008 22:01
CCal Filename(s)	P80118A_04	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	4.704	2.52	2.0	0.0338	2	IP
13C-4-MoCB	3	6.680	2.97	2.0	0.0730	4	P
13C-2,2'-DiCB	4	6.896	1.48	2.0	0.0790	4	P
13C-4,4'-DiCB	15	13.988	1.54	2.0	0.437	22	P
13C-2,2',6-TrCB	19	10.538	0.99	2.0	0.218	11	P
13C-3,4,4'-TrCB	37	22.134	0.99	2.0	1.01	51	
13C-2,2',6,6'-TeCB	54	14.254	0.79	2.0	0.356	18	P
13C-3,4,4',5-TeCB	81	29.579	0.78	2.0	1.25	63	
13C-3,3',4,4'-TeCB	77	30.182	0.75	2.0	1.22	61	
13C-2,2',4,6,6'-PeCB	104	20.709	1.64	2.0	1.18	59	
13C-2,3,3',4,4'-PeCB	105	33.904	1.55	2.0	1.39	69	
13C-2,3,4,4',5-PeCB	114	33.217	1.62	2.0	1.31	65	
13C-2,3',4,4',5-PeCB	118	32.697	1.61	2.0	1.44	72	
13C-2,3',4,4',5'-PeCB	123	32.362	1.57	2.0	1.38	69	
13C-3,3',4,4',5-PeCB	126	37.190	1.64	2.0	1.39	69	
13C-2,2',4,4',6,6'-HxCB	155	27.097	1.23	2.0	1.75	88	
13C-HxCB (156/157)	156/157	40.342	1.25	4.0	3.50	88	
13C-2,3',4,4',5,5'-HxCB	167	39.186	1.29	2.0	1.73	86	
13C-3,3',4,4',5,5'-HxCB	169	43.746	1.29	2.0	1.66	83	
13C-2,2',3,4',5,6,6'-HpCB	188	33.234	1.05	2.0	2.19	110	
13C-2,3,3',4,4',5,5'-HpCB	189	46.354	1.04	2.0	1.94	97	
13C-2,2',3,3',5,5',6,6'-OcCB	202	38.884	0.92	2.0	2.09	105	
13C-2,3,3',4,4',5,5',6-OcCB	205	49.005	0.89	2.0	2.16	108	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	50.794	0.79	2.0	2.09	105	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	45.837	0.81	2.0	2.04	102	
13C--DeCB	209	52.431	0.70	2.0	2.40	120	
Cleanup Standards							
13C-2,4,4'-TrCB	28	17.574	1.10	2.0	0.899	45	
13C-2,3,3',5,5'-PeCB	111	30.316	1.58	2.0	1.54	77	
13C-2,2',3,3',5,5',6-HpCB	178	36.486	1.04	2.0	1.85	93	
Recovery Standards							
13C-2,5-DiCB	9	9.208	1.60	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	19.703	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	27.365	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	35.983	1.30	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	48.531	0.88	2.0	NA	NA	

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15298
Filename P80118A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.482
2		---	---	ND	---	0.482
3		---	---	ND	---	0.482
4		---	---	ND	---	0.482
5		---	---	ND	---	0.482
6		---	---	ND	---	0.482
7		---	---	ND	---	0.482
8		---	---	ND	---	0.482
9		---	---	ND	---	0.482
10		---	---	ND	---	0.482
11		---	---	ND	---	0.579
12	12/13	---	---	ND	---	0.482
13	12/13	---	---	ND	---	0.482
14		---	---	ND	---	0.482
15		---	---	ND	---	0.482
16		---	---	ND	---	0.482
17		---	---	ND	---	0.482
18	18/30	---	---	ND	---	0.482
19		---	---	ND	---	0.482
20	20/28	---	---	ND	---	0.579
21	21/33	---	---	ND	---	0.482
22		---	---	ND	---	0.482
23		---	---	ND	---	0.482
24		---	---	ND	---	0.482
25		---	---	ND	---	0.482
26	26/29	---	---	ND	---	0.482
27		---	---	ND	---	0.482
28	20/28	---	---	ND	---	0.579
29	26/29	---	---	ND	---	0.482
30	18/30	---	---	ND	---	0.482
31		---	---	ND	---	0.482
32		---	---	ND	---	0.482
33	21/33	---	---	ND	---	0.482
34		---	---	ND	---	0.482
35		---	---	ND	---	0.482
36		---	---	ND	---	0.482
37		---	---	ND	---	0.482
38		---	---	ND	---	0.482
39		---	---	ND	---	0.482
40	40/41/71	---	---	ND	---	0.482
41	40/41/71	---	---	ND	---	0.482
42		---	---	ND	---	0.482
43		---	---	ND	---	0.482
44	44/47/65	---	---	ND	---	0.579
45	45/51	---	---	ND	---	0.482

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15298
Filename P80118A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.482
47	44/47/65	---	---	ND	---	0.579
48		---	---	ND	---	0.482
49	49/69	---	---	ND	---	0.482
50	50/53	---	---	ND	---	0.482
51	45/51	---	---	ND	---	0.482
52		---	---	ND	---	0.482
53	50/53	---	---	ND	---	0.482
54		---	---	ND	---	0.482
55		---	---	ND	---	0.482
56		---	---	ND	---	0.482
57		---	---	ND	---	0.482
58		---	---	ND	---	0.482
59	59/62/75	---	---	ND	---	0.482
60		---	---	ND	---	0.482
61	61/70/74/76	---	---	ND	---	0.482
62	59/62/75	---	---	ND	---	0.482
63		---	---	ND	---	0.482
64		---	---	ND	---	0.482
65	44/47/65	---	---	ND	---	0.579
66		---	---	ND	---	0.482
67		---	---	ND	---	0.482
68		---	---	ND	---	0.482
69	49/69	---	---	ND	---	0.482
70	61/70/74/76	---	---	ND	---	0.482
71	40/41/71	---	---	ND	---	0.482
72		---	---	ND	---	0.482
73		---	---	ND	---	0.482
74	61/70/74/76	---	---	ND	---	0.482
75	59/62/75	---	---	ND	---	0.482
76	61/70/74/76	---	---	ND	---	0.482
77		---	---	ND	---	0.482
78		---	---	ND	---	0.482
79		---	---	ND	---	0.482
80		---	---	ND	---	0.482
81		---	---	ND	---	0.482
82		---	---	ND	---	0.482
83		---	---	ND	---	0.482
84		---	---	ND	---	0.482
85	85/116/117	---	---	ND	---	0.579
86	86/87/97/108/119/125	---	---	ND	---	0.965
87	86/87/97/108/119/125	---	---	ND	---	0.965
88	88/91	---	---	ND	---	0.482
89		---	---	ND	---	0.482
90	90/101/113	---	---	ND	---	0.482

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15298
Filename P80118A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.482
92		---	---	ND	---	0.482
93	93/98/100/102	---	---	ND	---	0.724
94		---	---	ND	---	0.482
95		---	---	ND	---	0.482
96		---	---	ND	---	0.482
97	86/87/97/108/119/125	---	---	ND	---	0.965
98	93/98/100/102	---	---	ND	---	0.724
99		---	---	ND	---	0.482
100	93/98/100/102	---	---	ND	---	0.724
101	90/101/113	---	---	ND	---	0.482
102	93/98/100/102	---	---	ND	---	0.724
103		---	---	ND	---	0.482
104		---	---	ND	---	0.482
105		---	---	ND	---	0.482
106		---	---	ND	---	0.482
107	107/124	---	---	ND	---	0.482
108	86/87/97/108/119/125	---	---	ND	---	0.965
109		---	---	ND	---	0.482
110	110/115	---	---	ND	---	0.482
111		---	---	ND	---	0.482
112		---	---	ND	---	0.482
113	90/101/113	---	---	ND	---	0.482
114		---	---	ND	---	0.482
115	110/115	---	---	ND	---	0.482
116	85/116/117	---	---	ND	---	0.579
117	85/116/117	---	---	ND	---	0.579
118		---	---	ND	---	0.482
119	86/87/97/108/119/125	---	---	ND	---	0.965
120		---	---	ND	---	0.482
121		---	---	ND	---	0.482
122		---	---	ND	---	0.482
123		---	---	ND	---	0.482
124	107/124	---	---	ND	---	0.482
125	86/87/97/108/119/125	---	---	ND	---	0.965
126		---	---	ND	---	0.482
127		---	---	ND	---	0.482
128	128/166	---	---	ND	---	0.965
129	129/138/163	---	---	ND	---	0.482
130		---	---	ND	---	0.482
131		---	---	ND	---	0.482
132		---	---	ND	---	0.482
133		---	---	ND	---	0.482
134	134/143	---	---	ND	---	0.482
135	135/151	---	---	ND	---	0.492

Conc = Concentration
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ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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! = Outside QC Limits
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15298
Filename P80118A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.482
137		---	---	ND	---	0.482
138	129/138/163	---	---	ND	---	0.482
139	139/140	---	---	ND	---	0.482
140	139/140	---	---	ND	---	0.482
141		---	---	ND	---	0.482
142		---	---	ND	---	0.482
143	134/143	---	---	ND	---	0.482
144		---	---	ND	---	0.482
145		---	---	ND	---	0.482
146		---	---	ND	---	0.482
147	147/149	---	---	ND	---	0.482
148		---	---	ND	---	0.482
149	147/149	---	---	ND	---	0.482
150		---	---	ND	---	0.482
151	135/151	---	---	ND	---	0.492
152		---	---	ND	---	0.482
153	153/168	---	---	ND	---	0.579
154		---	---	ND	---	0.482
155		---	---	ND	---	0.482
156	156/157	---	---	ND	---	0.482
157	156/157	---	---	ND	---	0.482
158		---	---	ND	---	0.482
159		---	---	ND	---	0.482
160		---	---	ND	---	0.482
161		---	---	ND	---	0.482
162		---	---	ND	---	0.482
163	129/138/163	---	---	ND	---	0.482
164		---	---	ND	---	0.482
165		---	---	ND	---	0.482
166	128/166	---	---	ND	---	0.965
167		---	---	ND	---	0.482
168	153/168	---	---	ND	---	0.579
169		---	---	ND	---	0.482
170		---	---	ND	---	0.482
171	171/173	---	---	ND	---	0.482
172		---	---	ND	---	0.482
173	171/173	---	---	ND	---	0.482
174		---	---	ND	---	0.482
175		---	---	ND	---	0.482
176		---	---	ND	---	0.482
177		---	---	ND	---	0.482
178		---	---	ND	---	0.482
179		---	---	ND	---	0.482
180	180/193	---	---	ND	---	0.482

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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A = Limit of Detection based on signal to noise
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15298
Filename P80118A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.482
182		---	---	ND	---	0.482
183	183/185	---	---	ND	---	0.482
184		---	---	ND	---	0.482
185	183/185	---	---	ND	---	0.482
186		---	---	ND	---	0.482
187		---	---	ND	---	0.482
188		---	---	ND	---	0.482
189		---	---	ND	---	0.482
190		---	---	ND	---	0.482
191		---	---	ND	---	0.482
192		---	---	ND	---	0.482
193	180/193	---	---	ND	---	0.482
194		---	---	ND	---	0.482
195		---	---	ND	---	0.482
196		---	---	ND	---	0.675
197	197/200	---	---	ND	---	2.41
198	198/199	---	---	ND	---	0.482
199	198/199	---	---	ND	---	0.482
200	197/200	---	---	ND	---	2.41
201		---	---	ND	---	0.482
202		---	---	ND	---	0.482
203		---	---	ND	---	0.482
204		---	---	ND	---	0.482
205		---	---	ND	---	0.482
206		---	---	ND	---	0.482
207		---	---	ND	---	0.482
208		---	---	ND	---	0.482
209		---	---	ND	---	0.482

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15298
Filename P80118A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15299		
Filename	P80118A_06	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL Date	01/18/2008	Extracted	01/16/2008
CCal Filename(s)	P80118A_04	Analyzed	01/18/2008 18:51
Method Blank ID	BLANK-15298	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	0.951	95	2.0	0.0630	3	P
3	1.0	0.993	99	2.0	0.109	5	P
4	1.0	0.991	99	2.0	0.122	6	P
15	1.0	1.04	104	2.0	0.410	21	P
19	1.0	0.924	92	2.0	0.272	14	P
37	1.0	1.01	101	2.0	1.08	54	
54	1.0	1.03	103	2.0	0.442	22	P
81	1.0	0.962	96	2.0	1.36	68	
77	1.0	1.01	101	2.0	1.30	65	
104	1.0	0.964	96	2.0	1.18	59	
105	1.0	0.931	93	2.0	1.45	72	
114	1.0	1.02	102	2.0	1.37	69	
118	1.0	0.974	97	2.0	1.51	76	
123	1.0	0.957	96	2.0	1.47	74	
126	1.0	0.910	91	2.0	1.44	72	
155	1.0	0.984	98	2.0	1.77	89	
156/157	2.0	1.87	94	4.0	3.43	86	
167	1.0	0.948	95	2.0	1.69	85	
169	1.0	0.996	100	2.0	1.55	78	
188	1.0	0.955	95	2.0	2.20	110	
189	1.0	1.00	100	2.0	2.03	102	
202	1.0	1.02	102	2.0	2.06	103	
205	1.0	0.932	93	2.0	2.12	106	
206	1.0	0.946	95	2.0	2.10	105	
208	1.0	1.01	101	2.0	2.22	111	
209	1.0	0.918	92	2.0	2.36	118	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15300		
Filename	P80118A_07	Matrix	Water
Total Amount Extracted	1030 mL	Dilution	NA
ICAL Date	01/18/2008	Extracted	01/16/2008
CCal Filename(s)	P80118A_04	Analyzed	01/18/2008 19:54
Method Blank ID	BLANK-15298	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	1.01	101	2.0	0.490	25	P
3	1.0	1.04	104	2.0	0.473	24	P
4	1.0	0.916	92	2.0	0.556	28	P
15	1.0	0.936	94	2.0	0.701	35	
19	1.0	0.969	97	2.0	0.635	32	
37	1.0	0.985	99	2.0	1.16	58	
54	1.0	1.12	112	2.0	0.677	34	
81	1.0	0.937	94	2.0	1.39	70	
77	1.0	1.01	101	2.0	1.33	66	
104	1.0	0.931	93	2.0	1.40	70	
105	1.0	0.973	97	2.0	1.44	72	
114	1.0	1.000	100	2.0	1.40	70	
118	1.0	1.32	132	2.0	1.55	78	
123	1.0	1.02	102	2.0	1.48	74	
126	1.0	0.940	94	2.0	1.37	68	
155	1.0	0.978	98	2.0	1.96	98	
156/157	2.0	2.25	112	4.0	3.47	87	
167	1.0	1.05	105	2.0	1.70	85	
169	1.0	0.995	99	2.0	1.61	80	
188	1.0	0.931	93	2.0	2.35	117	
189	1.0	1.10	110	2.0	1.82	91	
202	1.0	1.06	106	2.0	2.10	105	
205	1.0	0.915	92	2.0	2.16	108	
206	1.0	0.997	100	2.0	2.13	106	
208	1.0	0.991	99	2.0	2.00	100	
209	1.0	0.889	89	2.0	2.41	121	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15299	Spike 2 ID	LCSD-15300
Spike 1 Filename	P80118A_06	Spike 2 Filename	P80118A_07

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	95	101	6.1
4-MoCB	3	99	104	4.9
2,2'-DiCB	4	99	92	7.3
4,4'-DiCB	15	104	94	10.1
2,2',6-TrCB	19	92	97	5.3
3,4,4'-TrCB	37	101	99	2.0
2,2',6,6'-TeCB	54	103	112	8.4
3,3',4,4'-TeCB	77	101	101	0.0
3,4,4',5-TeCB	81	96	94	2.1
2,2',4,6,6'-PeCB	104	96	93	3.2
2,3,3',4,4'-PeCB	105	93	97	4.2
2,3,4,4',5-PeCB	114	102	100	2.0
2,3',4,4',5-PeCB	118	97	132	30.6
2,3',4,4',5'-PeCB	123	96	102	6.1
3,3',4,4',5-PeCB	126	91	94	3.2
2,2',4,4',6,6'-HxCB	155	98	98	0.0
(156/157)	156/157	94	112	17.5
2,3',4,4',5,5'-HxCB	167	95	105	10.0
3,3',4,4',5,5'-HxCB	169	100	99	1.0
2,2',3,4',5,6,6'-HpCB	188	95	93	2.1
2,3,3',4,4',5,5'-HpCB	189	100	110	9.5
2,2',3,3',5,5',6,6'-OcCB	202	102	106	3.8
2,3,3',4,4',5,5',6-OcCB	205	93	92	1.1
2,2',3,3',4,4',5,5',6-NoCB	206	95	100	5.1
2,2',3,3',4,5,5',6,6'-NoCB	208	101	99	2.0
Decachlorobiphenyl	209	92	89	3.3

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

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Attachment A5
Laboratory Reports and Data Review Memoranda

Part 2: 2008 Stormwater Grab Sampling

February 5, 2008
Sampling Event

GSI Water Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, OR 97204
P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
February 5, 2008 Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on February 5, 2008. Three stormwater samples were collected from Outfall Basins 45 (FO080221), 46 (FO080222), and 47 (FO080220) by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments

that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the laboratory QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. Di-n-butyl phthalate was detected in the method blank for the EPA 8270C analyses at a concentration that is significant relative to the results for samples FO080221 and FO080222. The results reported as detected in these samples are flagged "B" and are considered biased high.

Low concentrations of 20 PCB congeners (in 11 PCB congener coelution groups) were detected in the Pace method blank. These PCB congeners also were detected in one or more of the stormwater samples. These sample results are flagged "B". For sample FO080222, the detections are considered a result of laboratory contamination (detected concentrations less than or very similar to the blank concentrations); the reported total PCB concentration is likely biased significantly high. For sample FO080220, the sample results are less than the concentrations in the blank and/or less than 5 times the blank concentrations; the reported total PCB concentration

in this sample is considered biased significantly high. For sample FO080221, results for four of the congener coelutions were less than 5 times the blank concentrations; the total PCB concentration for this sample is considered biased slightly high.

Surrogate Recoveries

Surrogate recoveries were completed during the laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of five elevated values, which were flagged "P" on the sample specific quality control measurements results in the laboratory report. Pace Analytical reports that the data were automatically corrected for variation in recovery and accurate values were obtained. Refer to the Pace report for further discussion.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs. A matrix spike (MS) and laboratory control samples/duplicate laboratory control samples (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples. The percent recoveries for the batch matrix spike recoveries were all within laboratory limits.

Laboratory Control Samples/Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. All laboratory control sample recoveries were within laboratory control limits with two exceptions. CAS reports that the control criteria were exceeded for two SVOCs (4-chloroaniline and 3,3-dichlorobenzidine); however, no further corrective action was required because these compounds are not included in the subset of analytes used to control the analysis. The recovery information is reported for advisory purposes only.

The relative percent differences (RPD) for two analytes in the LCS/LCDS were outside of the control limits; however the corresponding results are not qualified because the detected concentrations in the LCS or the LCDS were not significantly greater than the MRL.

Other

The subcontracted laboratory reports for PAHs, phthalates, and SVOCs by EPA 8270C indicate that the method reporting limits are elevated in one or more samples due to relatively high concentrations of non-target background analytes. CAS indicates that it was necessary to perform a dilution due to the highly colored and viscous nature of the extract.

Pace indicates that some of the PCB congeners eluted partially or fully outside of the acquisition windows for these samples, but since the levels do not significantly impact the sample totals, no further action was taken.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/5/08
Page: 1 of 1
Collected By: MJS, AJA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080220	4299 N. Port Center Way	47-SW1	2/5/08	1401	G	●	●	●	●	●	●	7.4	31	6.7
FO 080221	N Essex & River	45-SW1	2/5/08	1420	G	●	●	●	●	●	●	7.5	59	7.1
FO 080222	Union Pacific Railyard	46-SW1	2/5/08	1445	G	●	●	●	●	●	●	7.4	116	7.1
4														
5														
6														
7														
8														
9														
10														

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1517	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/5/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature: Rona Kluch Time: 1517	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kluch Date: 2/5/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080220 **Sample Collected:** 02/05/08 14:01 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01270
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	31	µmhos/cm	1	SM 2510 B	02/05/08
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	02/05/08
TEMPERATURE	7.4	Deg. C	0.1	SM 2550 B	02/05/08
GENERAL					
TOTAL SUSPENDED SOLIDS	138	mg/L	2	SM 2540 D	02/06/08
METALS					
MERCURY	0.0031	µg/L	0.002	WPCLSOP M-10.02	02/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.17	µg/L	0.1	EPA 200.8	02/07/08
CADMIUM	0.56	µg/L	0.1	EPA 200.8	02/07/08
CHROMIUM	10.5	µg/L	0.4	EPA 200.8	02/07/08
COPPER	31.5	µg/L	0.2	EPA 200.8	02/07/08
LEAD	28.3	µg/L	0.1	EPA 200.8	02/07/08
NICKEL	7.77	µg/L	0.2	EPA 200.8	02/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	02/07/08
ZINC	244	µg/L	0.5	EPA 200.8	02/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/21/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Anthracene	0.0405	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Benzo(a)anthracene	0.103	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Benzo(a)pyrene	0.0909	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Benzo(b)fluoranthene	0.144	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Benzo(ghi)perylene	0.121	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Benzo(k)fluoranthene	0.0881	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Bis(2-ethylhexyl) phthalate	6.10	µg/L	1.94	EPA 8270M-SIM	02/08/08
Butyl benzyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	02/08/08
Chrysene	0.199	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Dibenzo(a,h)anthracene	0.0254	µg/L	0.0194	EPA 8270M-SIM	02/08/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080220 **Sample Collected:** 02/05/08 14:01 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01270
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	02/08/08
Dimethyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	02/08/08
Di-n-butyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	02/08/08
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	02/08/08
Fluoranthene	0.431	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Fluorene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Indeno(1,2,3-cd)pyrene	0.0620	µg/L	0.0194	EPA 8270M-SIM	02/08/08
Naphthalene	0.0391	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Phenanthrene	0.216	µg/L	0.0388	EPA 8270M-SIM	02/08/08
Pyrene	0.235	µg/L	0.0388	EPA 8270M-SIM	02/08/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
1,2-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
1,3-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
1,4-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
2,4,5-Trichlorophenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
2,4,6-Trichlorophenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
2,4-Dichlorophenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
2,4-Dimethylphenol	<21	µg/L	21	EPA 8270	02/11/08
2,4-Dinitrophenol	<21	µg/L	21	EPA 8270	02/11/08
2,4-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	02/11/08
2,6-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	02/11/08
2-Chloronaphthalene	<1.1	µg/L	1.1	EPA 8270	02/11/08
2-Chlorophenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270	02/11/08
2-Methylphenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
2-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	02/11/08
2-Nitrophenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270	02/11/08
3-Nitroaniline	<5.3	µg/L	5.3	EPA 8270	02/11/08
4,6-Dinitro-2-methylphenol	<11	µg/L	11	EPA 8270	02/11/08
4-Bromophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	02/11/08
4-Chloro-3-methylphenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
4-Chloroaniline	<1.1	µg/L	1.1	EPA 8270	02/11/08
4-Chlorophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080220 **Sample Collected:** 02/05/08 14:01 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01270
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
4-Nitroaniline	<5.3	µg/L	5.3	EPA 8270	02/11/08
4-Nitrophenol	<11	µg/L	11	EPA 8270	02/11/08
Acenaphthene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Acenaphthylene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Anthracene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzo(a)anthracene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzo(a)pyrene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzo(b)fluoranthene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzo(g,h,i)perylene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzo(k)fluoranthene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Benzoic acid	<27	µg/L	27	EPA 8270	02/11/08
Benzyl alcohol	<27	µg/L	27	EPA 8270	02/11/08
Bis(2-chloroethoxy) methane	<1.1	µg/L	1.1	EPA 8270	02/11/08
Bis(2-chloroethyl) ether	<1.1	µg/L	1.1	EPA 8270	02/11/08
Bis(2-chloroisopropyl) ether	<1.1	µg/L	1.1	EPA 8270	02/11/08
Bis(2-ethylhexyl) phthalate	12	µg/L	5.3	EPA 8270	02/11/08
Butyl benzyl phthalate	<1.1	µg/L	1.1	EPA 8270	02/11/08
Chrysene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Dibenzo(a,h)anthracene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Dibenzofuran	<1.1	µg/L	1.1	EPA 8270	02/11/08
Diethyl phthalate	<1.1	µg/L	1.1	EPA 8270	02/11/08
Dimethyl phthalate	<1.1	µg/L	1.1	EPA 8270	02/11/08
Di-n-butyl phthalate	<1.1	µg/L	1.1	EPA 8270	02/11/08
Di-n-octyl phthalate	<1.1	µg/L	1.1	EPA 8270	02/11/08
Fluoranthene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Fluorene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Hexachlorobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Hexachlorobutadiene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Hexachlorocyclopentadiene	<5.3	µg/L	5.3	EPA 8270	02/11/08
Hexachloroethane	<1.1	µg/L	1.1	EPA 8270	02/11/08
Indeno(1,2,3-cd)pyrene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Isophorone	<1.1	µg/L	1.1	EPA 8270	02/11/08
Naphthalene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Nitrobenzene	<1.1	µg/L	1.1	EPA 8270	02/11/08
N-Nitrosodi-n-propylamine	<1.1	µg/L	1.1	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080220 **Sample Collected:** 02/05/08 14:01 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-47-AAT620		
	4299 N PORT CENTER WAY-NEAR SWAN ISL PS	**System ID:**	AM01270
Sample Point Code:	47_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<1.1	µg/L	1.1	EPA 8270	02/11/08
Pentachlorophenol	<5.3	µg/L	5.3	EPA 8270	02/11/08
Phenanthrene	<1.1	µg/L	1.1	EPA 8270	02/11/08
Phenol	<2.7	µg/L	2.7	EPA 8270	02/11/08
Pyrene	<1.1	µg/L	1.1	EPA 8270	02/11/08

End of Report for Sample ID: FO080220

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080221 **Sample Collected:** 02/05/08 14:20 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01271
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	59	µmhos/cm	1	SM 2510 B	02/05/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	02/05/08
TEMPERATURE	7.5	Deg. C	0.1	SM 2550 B	02/05/08
GENERAL					
TOTAL SUSPENDED SOLIDS	459	mg/L	2	SM 2540 D	02/06/08
METALS					
MERCURY	0.0090	µg/L	0.002	WPCLSOP M-10.02	02/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	3.49	µg/L	0.1	EPA 200.8	02/07/08
CADMIUM	1.75	µg/L	0.1	EPA 200.8	02/07/08
CHROMIUM	46.7	µg/L	0.4	EPA 200.8	02/07/08
COPPER	74.8	µg/L	0.2	EPA 200.8	02/07/08
LEAD	95.6	µg/L	0.1	EPA 200.8	02/07/08
NICKEL	30.8	µg/L	0.2	EPA 200.8	02/07/08
SILVER	0.22	µg/L	0.1	EPA 200.8	02/07/08
ZINC	716	µg/L	0.5	EPA 200.8	02/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/21/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Acenaphthylene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Anthracene	0.0676	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Benzo(a)anthracene	0.0842	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Benzo(a)pyrene	0.0834	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Benzo(b)fluoranthene	0.145	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Benzo(ghi)perylene	0.121	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Benzo(k)fluoranthene	0.0691	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Bis(2-ethylhexyl) phthalate	28.3	µg/L	3.85	EPA 8270M-SIM	02/08/08
Butyl benzyl phthalate	<3.85	µg/L	3.85	EPA 8270M-SIM	02/08/08
Chrysene	0.187	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Dibenzo(a,h)anthracene	0.0262	µg/L	0.0192	EPA 8270M-SIM	02/08/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080221** **Sample Collected:** 02/05/08 14:20 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01271
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<3.85	µg/L	3.85	EPA 8270M-SIM	02/08/08
Dimethyl phthalate	<3.85	µg/L	3.85	EPA 8270M-SIM	02/08/08
Di-n-butyl phthalate	<3.85	µg/L	3.85	EPA 8270M-SIM	02/08/08
Di-n-octyl phthalate	<3.85	µg/L	3.85	EPA 8270M-SIM	02/08/08
Fluoranthene	0.346	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Fluorene	0.0425	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Indeno(1,2,3-cd)pyrene	0.0682	µg/L	0.0192	EPA 8270M-SIM	02/08/08
Naphthalene	0.0418	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Phenanthrene	0.173	µg/L	0.0385	EPA 8270M-SIM	02/08/08
Pyrene	0.206	µg/L	0.0385	EPA 8270M-SIM	02/08/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	02/11/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	02/11/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	02/11/08
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	02/11/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	02/11/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080221 **Sample Collected:** 02/05/08 14:20 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01271
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	02/11/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	02/11/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(b)fluoranthene	0.29	µg/L	0.20	EPA 8270	02/11/08
Benzo(g,h,i)perylene	0.25	µg/L	0.20	EPA 8270	02/11/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	02/11/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	02/11/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-ethylhexyl) phthalate	2.8	µg/L	0.98	EPA 8270	02/11/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	02/11/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Di-n-butyl phthalate	EST 0.29	µg/L	0.20	EPA 8270	02/11/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Fluoranthene	0.43	µg/L	0.20	EPA 8270	02/11/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	02/11/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	02/11/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	02/11/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080221 **Sample Collected:** 02/05/08 14:20 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01271
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	02/11/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	02/11/08
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	02/11/08
Phenanthrene	0.27	µg/L	0.20	EPA 8270	02/11/08
Phenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
Pyrene	0.55	µg/L	0.20	EPA 8270	02/11/08

End of Report for Sample ID: FO080221

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080222 **Sample Collected:** 02/05/08 14:45 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01272
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	116	µmhos/cm	1	SM 2510 B	02/05/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	02/05/08
TEMPERATURE	7.4	Deg. C	0.1	SM 2550 B	02/05/08
GENERAL					
TOTAL SUSPENDED SOLIDS	185	mg/L	2	SM 2540 D	02/06/08
METALS					
MERCURY	0.024	µg/L	0.002	WPCLSOP M-10.02	02/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.62	µg/L	0.1	EPA 200.8	02/07/08
CADMIUM	0.64	µg/L	0.1	EPA 200.8	02/07/08
CHROMIUM	11.1	µg/L	0.4	EPA 200.8	02/07/08
COPPER	37.6	µg/L	0.2	EPA 200.8	02/07/08
LEAD	23.7	µg/L	0.1	EPA 200.8	02/07/08
NICKEL	7.54	µg/L	0.2	EPA 200.8	02/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	02/07/08
ZINC	364	µg/L	0.5	EPA 200.8	02/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/21/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0396	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Acenaphthylene	0.0597	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Anthracene	0.141	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Benzo(a)anthracene	0.195	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Benzo(a)pyrene	0.157	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Benzo(b)fluoranthene	0.291	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Benzo(ghi)perylene	0.152	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Benzo(k)fluoranthene	0.145	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Bis(2-ethylhexyl) phthalate	2.99	µg/L	1.98	EPA 8270M-SIM	02/08/08
Butyl benzyl phthalate	<1.98	µg/L	1.98	EPA 8270M-SIM	02/08/08
Chrysene	0.359	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Dibenzo(a,h)anthracene	0.0355	µg/L	0.0198	EPA 8270M-SIM	02/08/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080222 **Sample Collected:** 02/05/08 14:45 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01272
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.98	µg/L	1.98	EPA 8270M-SIM	02/08/08
Dimethyl phthalate	<1.98	µg/L	1.98	EPA 8270M-SIM	02/08/08
Di-n-butyl phthalate	<1.98	µg/L	1.98	EPA 8270M-SIM	02/08/08
Di-n-octyl phthalate	<1.98	µg/L	1.98	EPA 8270M-SIM	02/08/08
Fluoranthene	0.770	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Fluorene	<0.0396	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Indeno(1,2,3-cd)pyrene	0.0860	µg/L	0.0198	EPA 8270M-SIM	02/08/08
Naphthalene	<0.0396	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Phenanthrene	0.178	µg/L	0.0396	EPA 8270M-SIM	02/08/08
Pyrene	0.320	µg/L	0.0396	EPA 8270M-SIM	02/08/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	02/11/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	02/11/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	02/11/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	02/11/08
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	02/11/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	02/11/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080222 **Sample Collected:** 02/05/08 14:45 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01272
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	02/11/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	02/11/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzo(b)fluoranthene	0.33	µg/L	0.20	EPA 8270	02/11/08
Benzo(g,h,i)perylene	0.23	µg/L	0.20	EPA 8270	02/11/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	02/11/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	02/11/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	02/11/08
Bis(2-ethylhexyl) phthalate	2.8	µg/L	0.98	EPA 8270	02/11/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Chrysene	0.35	µg/L	0.20	EPA 8270	02/11/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	02/11/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Di-n-butyl phthalate	EST 0.29	µg/L	0.20	EPA 8270	02/11/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	02/11/08
Fluoranthene	0.54	µg/L	0.20	EPA 8270	02/11/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	02/11/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	02/11/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	02/11/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	02/11/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080222 **Sample Collected:** 02/05/08 14:45 **Sample Received:** 02/05/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM01272
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	02/11/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	02/11/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	02/11/08
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	02/11/08
Phenanthrene	0.21	µg/L	0.20	EPA 8270	02/11/08
Phenol	<0.49	µg/L	0.49	EPA 8270	02/11/08
Pyrene	0.56	µg/L	0.20	EPA 8270	02/11/08

End of Report for Sample ID: FO080222

Report Date: 03/12/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

March 6, 2008 Analytical Report for Service Request No: K0801040

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Samp.

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on February 06, 2008. For your reference, these analyses have been assigned our service request number K0801040.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/DD

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Received:**	02/06/2008
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Three water samples were received for analysis at Columbia Analytical Services on 02/06/2008. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Method Blank Exceptions:
The Method Blank KWG0801375-4 contained low levels of Di-n-butyl Phthalate above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank is flagged as estimated.

Lab Control Sample (LCS) Exceptions:
The advisory criterion was exceeded for 4-Chloroaniline, 3,3'-Dichlorobenzidine in LCS KWG0801375-2. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for the replicate analysis of 4-Chloroaniline in the replicate Laboratory Control Samples (LCS/DLCS) KWG0801375-2 and KWG0801375-3 is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A MS and Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples.

Approved by _____ **Date** 3/7/08

Elevated Method Reporting Limits:
The reporting limit is elevated in sample FO080220. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semiquantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.

No other anomalies associated with the analysis of these samples were observed.

Approved by LV **Date** 3/8/08

Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K0801040

PAGE 1 OF 1 COC #

PROJECT NAME: Portland Harbor Stormwater Samp
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL- City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVEL SVOCs EPA 8270 C	PAH + Phthalates EPA 8270C-SIM			REMARKS
FD080220	2/5/08	1401		Storm-water	1															X					
FD080221	〃	1420		〃	1															X					
FD080222	〃	1445		〃	1															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for Low level analysis of full Semi-vol 8270 list. Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 2/6/08 0945	Date/Time: 2/6/08 9:45	Date/Time: 2/6/08 12:00	Date/Time: 2/6/08 1200
Printed Name: Rona Klueh	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland BES	Firm:	Firm:	Firm: CAS

PC Loan

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Portland Service Request *K08* 1040

Received: 2/6/08 Opened: 2/6/08 By: TBal

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ (NA)
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	cord			
Temperature Blank (°C):				
6. If applicable, list Chain of Custody Numbers:				

7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* n/a
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? ~~NA~~ 7.8 (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/05/2008
Sample Matrix:	Water	**Date Received:**	02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080220	**Units:**	ug/L
Lab Code:	K0801040-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Phenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
2-Chlorophenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Benzyl Alcohol	ND	U	27	5	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
2-Methylphenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
Hexachloroethane	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Methylphenol†	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
Nitrobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Isophorone	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
2-Nitrophenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
2,4-Dimethylphenol	ND	U	21	5	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
2,4-Dichlorophenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
Benzoic Acid	ND	U	27	5	02/11/08	02/27/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Naphthalene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Chloroaniline	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Hexachlorobutadiene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
2-Methylnaphthalene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	5.3	5	02/11/08	02/27/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	2.7	5	02/11/08	02/27/08	KWG0801375	
2-Chloronaphthalene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
2-Nitroaniline	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Acenaphthylene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Dimethyl Phthalate	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: 02/05/2008
Date Received: 02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080220
Lab Code: K0801040-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
3-Nitroaniline	ND	U	5.3	5	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrophenol	ND	U	21	5	02/11/08	02/27/08	KWG0801375	
Dibenzofuran	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Nitrophenol	ND	U	11	5	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Fluorene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Diethyl Phthalate	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Nitroaniline	ND	U	5.3	5	02/11/08	02/27/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	11	5	02/11/08	02/27/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Hexachlorobenzene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Pentachlorophenol	ND	U	5.3	5	02/11/08	02/27/08	KWG0801375	
Phenanthrene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Anthracene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Di-n-butyl Phthalate	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Fluoranthene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Pyrene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	11	5	02/11/08	02/27/08	KWG0801375	
Benz(a)anthracene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Chrysene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	**12**	D	5.3	5	02/11/08	02/27/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Benzo(b)fluoranthene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Benzo(a)pyrene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	
Benzo(g,h,i)perylene	ND	U	1.1	5	02/11/08	02/27/08	KWG0801375	

Comments:

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/05/2008
Sample Matrix:	Water	**Date Received:**	02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080220	**Units:**	ug/L
Lab Code:	K0801040-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	02/27/08	Acceptable
Phenol-d6	67	25-118	02/27/08	Acceptable
Nitrobenzene-d5	62	24-131	02/27/08	Acceptable
2-Fluorobiphenyl	64	26-114	02/27/08	Acceptable
2,4,6-Tribromophenol	100	22-148	02/27/08	Acceptable
Terphenyl-d14	83	28-144	02/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: 02/05/2008
Date Received: 02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080221
Lab Code: K0801040-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Phenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
2-Chlorophenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Benzyl Alcohol	ND	U	4.9	1	02/11/08	02/29/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
2-Methylphenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
Hexachloroethane	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Methylphenol†	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
Nitrobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Isophorone	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
2-Nitrophenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
2,4-Dimethylphenol	ND	U	3.9	1	02/11/08	02/29/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
2,4-Dichlorophenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
Benzoic Acid	ND	U	4.9	1	02/11/08	02/29/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Naphthalene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Chloroaniline	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Hexachlorobutadiene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
2-Methylnaphthalene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	0.98	1	02/11/08	02/29/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	0.49	1	02/11/08	02/29/08	KWG0801375	
2-Chloronaphthalene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
2-Nitroaniline	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Acenaphthylene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Dimethyl Phthalate	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	

Comments:

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/05/2008
Sample Matrix:	Water	**Date Received:**	02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080221	**Units:**	ug/L
Lab Code:	K0801040-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
3-Nitroaniline	ND	U	0.98	1	02/11/08	02/29/08	KWG0801375	
2,4-Dinitrophenol	ND	U	3.9	1	02/11/08	02/29/08	KWG0801375	
Dibenzofuran	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Nitrophenol	ND	U	2.0	1	02/11/08	02/29/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Fluorene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Diethyl Phthalate	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Nitroaniline	ND	U	0.98	1	02/11/08	02/29/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	02/11/08	02/29/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Hexachlorobenzene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Pentachlorophenol	ND	U	0.98	1	02/11/08	02/29/08	KWG0801375	
Phenanthrene	**0.27**		0.20	1	02/11/08	02/29/08	KWG0801375	
Anthracene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Di-n-butyl Phthalate	**0.29**	B	0.20	1	02/11/08	02/29/08	KWG0801375	
Fluoranthene	**0.43**		0.20	1	02/11/08	02/29/08	KWG0801375	
Pyrene	**0.55**		0.20	1	02/11/08	02/29/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	2.0	1	02/11/08	02/29/08	KWG0801375	
Benz(a)anthracene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Chrysene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	**2.8**		0.98	1	02/11/08	02/29/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Benzo(b)fluoranthene	**0.29**		0.20	1	02/11/08	02/29/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Benzo(a)pyrene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	0.20	1	02/11/08	02/29/08	KWG0801375	
Benzo(g,h,i)perylene	**0.25**		0.20	1	02/11/08	02/29/08	KWG0801375	

Comments:

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/05/2008
Sample Matrix:	Water	**Date Received:**	02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080221	**Units:**	ug/L
Lab Code:	K0801040-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	67	16-122	02/29/08	Acceptable
Phenol-d6	70	25-118	02/29/08	Acceptable
Nitrobenzene-d5	68	24-131	02/29/08	Acceptable
2-Fluorobiphenyl	58	26-114	02/29/08	Acceptable
2,4,6-Tribromophenol	97	22-148	02/29/08	Acceptable
Terphenyl-d14	63	28-144	02/29/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: 02/05/2008
Date Received: 02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080222
Lab Code: K0801040-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Phenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
2-Chlorophenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Benzyl Alcohol	ND	U	4.9	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
2-Methylphenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
Hexachloroethane	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Methylphenol†	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
Nitrobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Isophorone	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
2-Nitrophenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
2,4-Dimethylphenol	ND	U	3.9	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
2,4-Dichlorophenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
Benzoic Acid	ND	U	4.9	1	02/11/08	02/27/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Naphthalene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Chloroaniline	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobutadiene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
2-Methylnaphthalene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	0.98	1	02/11/08	02/27/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	0.49	1	02/11/08	02/27/08	KWG0801375	
2-Chloronaphthalene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
2-Nitroaniline	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Acenaphthylene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Dimethyl Phthalate	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/05/2008
Sample Matrix:	Water	**Date Received:**	02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080222	**Units:**	ug/L
Lab Code:	K0801040-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
3-Nitroaniline	ND	U	0.98	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrophenol	ND	U	3.9	1	02/11/08	02/27/08	KWG0801375	
Dibenzofuran	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Nitrophenol	ND	U	2.0	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Fluorene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Diethyl Phthalate	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Nitroaniline	ND	U	0.98	1	02/11/08	02/27/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobenzene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Pentachlorophenol	ND	U	0.98	1	02/11/08	02/27/08	KWG0801375	
Phenanthrene	**0.21**		0.20	1	02/11/08	02/27/08	KWG0801375	
Anthracene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Di-n-butyl Phthalate	**0.29**	B	0.20	1	02/11/08	02/27/08	KWG0801375	
Fluoranthene	**0.54**		0.20	1	02/11/08	02/27/08	KWG0801375	
Pyrene	**0.56**		0.20	1	02/11/08	02/27/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	2.0	1	02/11/08	02/27/08	KWG0801375	
Benz(a)anthracene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Chrysene	**0.35**		0.20	1	02/11/08	02/27/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	**2.8**		0.98	1	02/11/08	02/27/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Benzo(b)fluoranthene	**0.33**		0.20	1	02/11/08	02/27/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Benzo(a)pyrene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	0.20	1	02/11/08	02/27/08	KWG0801375	
Benzo(g,h,i)perylene	**0.23**		0.20	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: 02/05/2008
Date Received: 02/06/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080222
Lab Code: K0801040-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	71	16-122	02/27/08	Acceptable
Phenol-d6	78	25-118	02/27/08	Acceptable
Nitrobenzene-d5	74	24-131	02/27/08	Acceptable
2-Fluorobiphenyl	48	26-114	02/27/08	Acceptable
2,4,6-Tribromophenol	94	22-148	02/27/08	Acceptable
Terphenyl-d14	58	28-144	02/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Phenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzyl Alcohol	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Hexachloroethane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Methylphenol†	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Nitrobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Isophorone	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitrophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4-Dimethylphenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,4-Dichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Benzoic Acid	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Naphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobutadiene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Methylnaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chloronaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Acenaphthylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dimethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrophenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Dibenzofuran	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Fluorene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Diethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Pentachlorophenol	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
Phenanthrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Di-n-butyl Phthalate	**0.23**		0.19	1	02/11/08	02/27/08	KWG0801375	
Fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
Benz(a)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Chrysene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(b)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(a)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(g,h,i)perylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	02/27/08	Acceptable
Phenol-d6	65	25-118	02/27/08	Acceptable
Nitrobenzene-d5	71	24-131	02/27/08	Acceptable
2-Fluorobiphenyl	60	26-114	02/27/08	Acceptable
2,4,6-Tribromophenol	58	22-148	02/27/08	Acceptable
Terphenyl-d14	89	28-144	02/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080220	K0801040-001	59 D	67 D	62 D	64 D	100 D	83 D
FO 080221	K0801040-002	67	70	68	58	97	63
FO 080222	K0801040-003	71	78	74	48	94	58
Method Blank	KWG0801375-4	59	65	71	60	58	89
Batch QC	K0801183-002	72	52	75	71	93	81
Batch QCMS	KWG0801375-1	73	75	76	70	92	81
Lab Control Sample	KWG0801375-2	72	73	72	66	84	84
Duplicate Lab Control Sample	KWG0801375-3	73	73	70	61	80	83

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client:	Portland, City of	**Service Request:**	K0801040
Project:	Portland Harbor Stormwater Samp.	**Date Extracted:**	02/11/2008
Sample Matrix:	Water	**Date Analyzed:**	02/27/2008

Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K0801183-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C	**Extraction Lot:**	KWG0801375

Batch QCMS
KWG0801375-1

Analyte Name	Sample Result	Matrix Spike Result	Matrix Spike Expected	Matrix Spike %Rec	%Rec Limits
Phenol	ND	3.52	5.10	69	10-145
2-Chlorophenol	ND	3.56	5.10	70	27-115
1,4-Dichlorobenzene	ND	2.02	5.10	40	10-72
N-Nitrosodi-n-propylamine	ND	3.50	5.10	69	30-119
1,2,4-Trichlorobenzene	ND	2.14	5.10	42	15-83
4-Chloro-3-methylphenol	ND	3.99	5.10	78	12-141
Acenaphthene	ND	3.18	5.10	62	24-114
4-Nitrophenol	ND	4.40	5.10	86	43-140
2,4-Dinitrotoluene	ND	4.12	5.10	81	28-136
Pentachlorophenol	ND	4.27	5.10	84	30-148
Pyrene	ND	3.17	5.10	62	25-140

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Extracted: 02/11/2008
Date Analyzed: 02/27/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801375

	Lab Control Sample KWG0801375-2 Lab Control Spike				Duplicate Lab Control Sample KWG0801375-3 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.10	5.00	62		3.12	5.00	62	30-125	1	30
Phenol	3.20	5.00	64		3.23	5.00	65	32-117	1	30
2-Chlorophenol	3.20	5.00	64		3.21	5.00	64	32-117	0	30
1,3-Dichlorobenzene	1.53	5.00	31		1.62	5.00	32	10-79	6	30
1,4-Dichlorobenzene	1.63	5.00	33		1.67	5.00	33	10-81	3	30
1,2-Dichlorobenzene	1.79	5.00	36		1.88	5.00	38	15-86	5	30
Benzyl Alcohol	3.15	5.00	63		3.07	5.00	61	33-119	3	30
Bis(2-chloroisopropyl) Ether	2.91	5.00	58		2.91	5.00	58	29-116	0	30
2-Methylphenol	2.90	5.00	58		2.84	5.00	57	29-115	2	30
Hexachloroethane	1.12	5.00	22		1.23	5.00	25	10-76	9	30
N-Nitrosodi-n-propylamine	3.06	5.00	61		3.10	5.00	62	35-119	1	30
4-Methylphenol	2.93	5.00	59		2.98	5.00	60	30-116	2	30
Nitrobenzene	3.16	5.00	63		3.05	5.00	61	34-122	3	30
Isophorone	3.09	5.00	62		3.05	5.00	61	33-121	1	30
2-Nitrophenol	3.41	5.00	68		3.33	5.00	67	33-120	2	30
2,4-Dimethylphenol	1.56	5.00	31		1.82	5.00	36	10-116	15	30
Bis(2-chloroethoxy)methane	3.13	5.00	63		3.10	5.00	62	34-119	1	30
2,4-Dichlorophenol	3.33	5.00	67		3.30	5.00	66	33-120	1	30
Benzoic Acid	8.83	15.0	59		6.73	15.0	45	10-118	27	30
1,2,4-Trichlorobenzene	1.83	5.00	37		1.88	5.00	38	14-88	2	30
Naphthalene	2.64	5.00	53		2.63	5.00	53	27-103	0	30
4-Chloroaniline	0.161	5.00	3	*	2.31	5.00	46	10-110	174	* 30
Hexachlorobutadiene	1.04	5.00	21		1.12	5.00	22	10-75	8	30
4-Chloro-3-methylphenol	3.19	5.00	64		3.15	5.00	63	37-120	1	30
2-Methylnaphthalene	2.51	5.00	50		2.47	5.00	49	27-99	1	30
Hexachlorocyclopentadiene	0.617	5.00	12		0.680	5.00	14	10-54	10	30
2,4,6-Trichlorophenol	3.19	5.00	64		3.00	5.00	60	34-118	6	30
2,4,5-Trichlorophenol	3.25	5.00	65		3.13	5.00	63	36-119	4	30
2-Chloronaphthalene	2.50	5.00	50		2.46	5.00	49	30-108	2	30
2-Nitroaniline	3.35	5.00	67		3.14	5.00	63	35-122	6	30
Acenaphthylene	2.87	5.00	57		2.75	5.00	55	39-116	4	30
Dimethyl Phthalate	3.40	5.00	68		3.18	5.00	64	43-116	7	30
2,6-Dinitrotoluene	3.49	5.00	70		3.27	5.00	65	42-120	6	30
Acenaphthene	2.94	5.00	59		2.79	5.00	56	36-108	5	30
3-Nitroaniline	1.53	5.00	31		3.12	5.00	62	24-115	69	* 30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801040
Date Extracted: 02/11/2008
Date Analyzed: 02/27/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801375

	Lab Control Sample KWG0801375-2 Lab Control Spike				Duplicate Lab Control Sample KWG0801375-3 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	2.83	5.00	57		2.50	5.00	50	10-121	12	30
Dibenzofuran	3.04	5.00	61		2.86	5.00	57	36-108	6	30
4-Nitrophenol	3.61	5.00	72		3.29	5.00	66	33-136	9	30
2,4-Dinitrotoluene	3.61	5.00	72		3.49	5.00	70	43-124	3	30
Fluorene	3.05	5.00	61		2.94	5.00	59	37-113	4	30
4-Chlorophenyl Phenyl Ether	2.97	5.00	59		2.76	5.00	55	36-112	7	30
Diethyl Phthalate	3.48	5.00	70		3.29	5.00	66	42-120	6	30
4-Nitroaniline	3.04	5.00	61		3.22	5.00	64	23-120	6	30
2-Methyl-4,6-dinitrophenol	3.31	5.00	66		3.14	5.00	63	24-123	5	30
N-Nitrosodiphenylamine	3.38	5.00	68		3.26	5.00	65	30-115	4	30
4-Bromophenyl Phenyl Ether	3.21	5.00	64		3.05	5.00	61	40-113	5	30
Hexachlorobenzene	3.11	5.00	62		3.02	5.00	60	40-114	3	30
Pentachlorophenol	3.46	5.00	69		3.36	5.00	67	24-123	3	30
Phenanthrene	3.16	5.00	63		3.11	5.00	62	42-113	2	30
Anthracene	3.05	5.00	61		2.87	5.00	57	40-113	6	30
Di-n-butyl Phthalate	3.79	5.00	76		3.65	5.00	73	46-119	4	30
Fluoranthene	3.28	5.00	66		3.22	5.00	64	44-116	2	30
Pyrene	3.21	5.00	64		3.08	5.00	62	42-121	4	30
Butyl Benzyl Phthalate	3.46	5.00	69		3.40	5.00	68	43-121	2	30
3,3'-Dichlorobenzidine	ND	5.00	0	*	1.47	5.00	29	10-101		30
Benz(a)anthracene	3.23	5.00	65		3.18	5.00	64	43-121	2	30
Chrysene	3.30	5.00	66		3.19	5.00	64	45-119	3	30
Bis(2-ethylhexyl) Phthalate	3.49	5.00	70		3.40	5.00	68	34-136	3	30
Di-n-octyl Phthalate	3.51	5.00	70		3.51	5.00	70	39-123	0	30
Benzo(b)fluoranthene	3.28	5.00	66		3.32	5.00	66	42-119	1	30
Benzo(k)fluoranthene	3.26	5.00	65		3.28	5.00	66	43-120	1	30
Benzo(a)pyrene	3.14	5.00	63		3.10	5.00	62	39-116	1	30
Indeno(1,2,3-cd)pyrene	3.36	5.00	67		3.31	5.00	66	42-123	1	30
Dibenz(a,h)anthracene	3.28	5.00	66		3.34	5.00	67	38-130	2	30
Benzo(g,h,i)perylene	3.40	5.00	68		3.45	5.00	69	38-125	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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February 29, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 02/06/08 12:10. The following list is a summary of the Work Orders contained in this report, generated on 02/29/08 08:31.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRB0153	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO080220	PRB0153-01	Water	02/05/08 14:01	02/06/08 12:10
FO080221	PRB0153-02	Water	02/05/08 14:20	02/06/08 12:10
FO080222	PRB0153-03	Water	02/05/08 14:45	02/06/08 12:10

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRB0153-01 (FO080220)		**Water**			**Sampled: 02/05/08 14:01**					**RL3**
Acenaphthene	EPA 8270m	ND	*0.0388*	0.0388	ug/l	2x	8020234	02/08/08 15:35	02/20/08 21:58	
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	
Anthracene	"	**0.0405**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (a) anthracene	"	**0.103**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0909**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.144**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.121**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0881**	*0.0194*	0.0194	"	"	"	"	"	
Chrysene	"	**0.199**	*0.0194*	0.0194	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0254**	*0.0194*	0.0194	"	"	"	"	"	
Fluoranthene	"	**0.431**	*0.0388*	0.0388	"	"	"	"	"	
Fluorene	"	ND	*0.0388*	0.0388	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0620**	*0.0194*	0.0194	"	"	"	"	"	
Naphthalene	"	**0.0391**	*0.0388*	0.0388	"	"	"	"	"	
Phenanthrene	"	**0.216**	*0.0388*	0.0388	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**6.10**	*1.02*	1.94	"	"	"	"	02/18/08 23:57	
Butyl benzyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	
Diethyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	
Dimethyl phthalate	"	ND	*1.02*	1.94	"	"	"	"	"	
Pyrene	"	**0.235**	*0.0388*	0.0388	"	"	"	"	02/20/08 21:58	
Surrogate(s): Fluorene-d10			*62.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*41.0%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*51.1%*		*10 - 125 %*	"			"	
PRB0153-02 (FO080221)		**Water**			**Sampled: 02/05/08 14:20**					**RL3**
Acenaphthene	EPA 8270m	ND	*0.0385*	0.0385	ug/l	2x	8020234	02/08/08 15:35	02/20/08 22:29	
Acenaphthylene	"	ND	*0.0385*	0.0385	"	"	"	"	"	
Anthracene	"	**0.0676**	*0.0385*	0.0385	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0842**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0834**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.145**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.121**	*0.0385*	0.0385	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0691**	*0.0192*	0.0192	"	"	"	"	"	
Chrysene	"	**0.187**	*0.0192*	0.0192	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0262**	*0.0192*	0.0192	"	"	"	"	"	
Fluoranthene	"	**0.346**	*0.0385*	0.0385	"	"	"	"	"	
Fluorene	"	**0.0425**	*0.0385*	0.0385	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0682**	*0.0192*	0.0192	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 08:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRB0153-02 (FO080221)		**Water**			**Sampled: 02/05/08 14:20**					**RL3**
Naphthalene	EPA 8270m	**0.0418**	*0.0385*	0.0385	ug/l	2x	8020234	02/08/08 15:35	02/20/08 22:29	
Phenanthrene	"	**0.173**	*0.0385*	0.0385	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**28.3**	*2.02*	3.85	"	4x	"	"	02/25/08 15:49	
Butyl benzyl phthalate	"	ND	*2.02*	3.85	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*2.02*	3.85	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*2.02*	3.85	"	"	"	"	"	
Diethyl phthalate	"	ND	*2.02*	3.85	"	"	"	"	"	
Dimethyl phthalate	"	ND	*2.02*	3.85	"	"	"	"	"	
Pyrene	"	**0.206**	*0.0385*	0.0385	"	2x	"	"	02/20/08 22:29	
Surrogate(s): Fluorene-d10			*60.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*38.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*44.3%*		*10 - 125 %*	"			"	
PRB0153-03 (FO080222)		**Water**			**Sampled: 02/05/08 14:45**					**RL3**
Acenaphthene	EPA 8270m	ND	*0.0396*	0.0396	ug/l	2x	8020234	02/08/08 15:35	02/20/08 23:00	
Acenaphthylene	"	**0.0597**	*0.0396*	0.0396	"	"	"	"	"	
Anthracene	"	**0.141**	*0.0396*	0.0396	"	"	"	"	"	
Benzo (a) anthracene	"	**0.195**	*0.0198*	0.0198	"	"	"	"	"	
Benzo (a) pyrene	"	**0.157**	*0.0198*	0.0198	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.291**	*0.0198*	0.0198	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.152**	*0.0396*	0.0396	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.145**	*0.0198*	0.0198	"	"	"	"	"	
Chrysene	"	**0.359**	*0.0198*	0.0198	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0355**	*0.0198*	0.0198	"	"	"	"	"	
Fluoranthene	"	**0.770**	*0.0396*	0.0396	"	"	"	"	"	
Fluorene	"	ND	*0.0396*	0.0396	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0860**	*0.0198*	0.0198	"	"	"	"	"	
Naphthalene	"	ND	*0.0396*	0.0396	"	"	"	"	"	
Phenanthrene	"	**0.178**	*0.0396*	0.0396	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**2.99**	*1.04*	1.98	"	"	"	"	02/25/08 16:22	
Butyl benzyl phthalate	"	ND	*1.04*	1.98	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*1.04*	1.98	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.04*	1.98	"	"	"	"	"	
Diethyl phthalate	"	ND	*1.04*	1.98	"	"	"	"	"	
Dimethyl phthalate	"	ND	*1.04*	1.98	"	"	"	"	"	
Pyrene	"	**0.320**	*0.0396*	0.0396	"	"	"	"	02/20/08 23:00	
Surrogate(s): Fluorene-d10			*55.0%*		*25 - 125 %*	"			"	
Pyrene-d10			*40.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*62.2%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
02/29/08 08:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020234 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8020234-BLK1)									**Extracted: 02/08/08 15:35**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	02/18/08 23:57	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	02/14/08 14:05	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	02/18/08 23:57	
Surrogate(s): Fluorene-d10		*Recovery: 73.7%*			*Limits: 25-125%*	"							*02/18/08 23:57*	
Pyrene-d10		*77.1%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*63.4%*			*10-125%*	"							"	
LCS (8020234-BS1)									**Extracted: 02/08/08 15:35**					
Acenaphthene	EPA 8270m	1.74	0.0400	0.0400	ug/l	2x	--	2.50	69.7%	(35-120)	--	--	02/19/08 02:03	
Acenaphthylene	"	1.70	0.0400	0.0400	"	"	--	"	68.0%	(34-116)	--	--	"	
Anthracene	"	1.57	0.0400	0.0400	"	"	--	"	62.9%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.73	0.0200	0.0200	"	"	--	"	69.2%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.68	0.0200	0.0200	"	"	--	"	67.4%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.01	0.0200	0.0200	"	"	--	"	80.4%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	1.77	0.0400	0.0400	"	"	--	"	70.8%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.80	0.0200	0.0200	"	"	--	"	71.9%	(18-145)	--	--	"	
Chrysene	"	1.72	0.0200	0.0200	"	"	--	"	68.8%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.81	0.0200	0.0200	"	"	--	"	72.2%	(20-141)	--	--	"	
Fluoranthene	"	1.79	0.0400	0.0400	"	"	--	"	71.6%	(31-125)	--	--	"	
Fluorene	"	1.71	0.0400	0.0400	"	"	--	"	68.5%	(27-124)	--	--	"	

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Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 08:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020234 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8020234-BS1)									**Extracted: 02/08/08 15:35**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	1.81	0.0200	0.0200	ug/l	2x	--	2.50	72.3%	(30-135)	--	--	02/19/08 02:03	
Naphthalene	"	1.73	0.0400	0.0400	"	"	--	"	69.3%	(30-113)	--	--	"	
Phenanthrene	"	1.57	0.0400	0.0400	"	"	--	"	62.7%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.02	1.05	2.00	"	"	--	4.00	75.6%	(20-150)	--	--	02/14/08 15:44	
Butyl benzyl phthalate	"	3.02	1.05	2.00	"	"	--	"	75.5%	"	--	--	"	
Di-n-butyl phthalate	"	2.58	1.05	2.00	"	"	--	"	64.6%	"	--	--	"	
Di-n-octyl phthalate	"	3.13	1.05	2.00	"	"	--	"	78.3%	"	--	--	"	
Diethyl phthalate	"	2.45	1.05	2.00	"	"	--	"	61.2%	"	--	--	"	
Dimethyl phthalate	"	2.47	1.05	2.00	"	"	--	"	61.9%	"	--	--	"	
Pyrene	"	1.47	0.0400	0.0400	"	"	--	2.50	58.9%	(21-141)	--	--	02/19/08 02:03	
Surrogate(s): Fluorene-d10		*Recovery: 63.2%*			*Limits: 25-125%*	"							*02/19/08 02:03*	
Pyrene-d10		*65.3%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*65.5%*			*10-125%*	"							"	
LCS Dup (8020234-BSD1)									**Extracted: 02/08/08 15:35**					
Acenaphthene	EPA 8270m	1.79	0.0400	0.0400	ug/l	2x	--	2.50	71.5%	(35-120)	2.60%	(35)	02/19/08 07:47	
Acenaphthylene	"	1.73	0.0400	0.0400	"	"	--	"	69.3%	(34-116)	1.97%	"	"	
Anthracene	"	1.63	0.0400	0.0400	"	"	--	"	65.3%	(24-119)	3.75%	"	"	
Benzo (a) anthracene	"	1.73	0.0200	0.0200	"	"	--	"	69.1%	(36-128)	0.184%	"	"	
Benzo (a) pyrene	"	1.69	0.0200	0.0200	"	"	--	"	67.6%	(17-128)	0.300%	"	"	
Benzo (b) fluoranthene	"	1.87	0.0200	0.0200	"	"	--	"	74.7%	(37-131)	7.38%	"	"	
Benzo (ghi) perylene	"	1.78	0.0400	0.0400	"	"	--	"	71.1%	(26-126)	0.387%	"	"	
Benzo (k) fluoranthene	"	1.97	0.0200	0.0200	"	"	--	"	79.0%	(18-145)	9.35%	"	"	
Chrysene	"	1.72	0.0200	0.0200	"	"	--	"	68.7%	(16-137)	0.258%	"	"	
Dibenzo (a,h) anthracene	"	1.82	0.0200	0.0200	"	"	--	"	72.7%	(20-141)	0.688%	"	"	
Fluoranthene	"	1.78	0.0400	0.0400	"	"	--	"	71.2%	(31-125)	0.520%	"	"	
Fluorene	"	1.75	0.0400	0.0400	"	"	--	"	70.0%	(27-124)	2.19%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.83	0.0200	0.0200	"	"	--	"	73.4%	(30-135)	1.43%	"	"	
Naphthalene	"	1.75	0.0400	0.0400	"	"	--	"	69.8%	(30-113)	0.744%	"	"	
Phenanthrene	"	1.49	0.0400	0.0400	"	"	--	"	59.6%	(34-126)	5.04%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.16	1.05	2.00	"	"	--	4.00	79.0%	(20-150)	4.39%	(50)	02/14/08 16:17	
Butyl benzyl phthalate	"	2.94	1.05	2.00	"	"	--	"	73.5%	"	2.69%	"	"	
Di-n-butyl phthalate	"	2.60	1.05	2.00	"	"	--	"	64.9%	"	0.492%	"	"	
Di-n-octyl phthalate	"	2.97	1.05	2.00	"	"	--	"	74.2%	"	5.32%	"	"	
Diethyl phthalate	"	2.47	1.05	2.00	"	"	--	"	61.7%	"	0.782%	"	"	
Dimethyl phthalate	"	2.59	1.05	2.00	"	"	--	"	64.8%	"	4.69%	"	"	
Pyrene	"	1.47	0.0400	0.0400	"	"	--	2.50	58.9%	(21-141)	0.0733%	(35)	02/19/08 07:47	
Surrogate(s): Fluorene-d10		*Recovery: 62.6%*			*Limits: 25-125%*	"							*02/19/08 07:47*	
Pyrene-d10		*63.5%*			*23-150%*	"							"	

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020234 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8020234-BSD1)													**Extracted: 02/08/08 15:35**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 64.2%*			*Limits: 10-125%*	*2x*							*02/19/08 07:47*	

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:31

Notes and Definitions

Report Specific Notes:

RL3 - Reporting limit raised due to high concentrations of non-target analytes.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-563-9200 FAX [illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PRB0153

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: ~~10~~ STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	PAH + phthalates 8270 SIM (*)	PCBs 209 Congeners (*)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO 080220	2/5/08	1401	X	X	W	2		
2	FO 080221	"	1420	X	X	W	2		
3	FO 080222	"	1445	X	X	W	2		
4									
5									
6									
7									
8									
9									
10									

PRESERVATIVE:
REQUESTED ANALYSES:

RELEASED BY:	[signature]	DATE: 2/6/08	RECEIVED BY:	[signature]	DATE: 2/6/08
PRINT NAME:	Rona Klugh	FIRM: City of Portland	TIME: 1105	PRINT NAME:	Scott Stimble	FIRM: Seneca	TIME: 1105
RELEASED BY:	[signature]	DATE: 2-6-08	RECEIVED BY:	[signature]	DATE: 2/6/08
PRINT NAME:	Scott Stimble	FIRM: Seneca	TIME: 12:10	PRINT NAME:	Peggy Siegfried	FIRM: TAP	TIME: 1210

ADDITIONAL REMARKS: (*) PAH + phthalates as for UIC project w/ Low DLs,

TEMP: 2.8 | PAGE 1 OF 1

COC_RTV 09 2004

(*)(*) PCB 209 Congeners to Pace Analytical, please. Thanks!

TestAmerica Sample Receipt Checklist

Cooler ID(s):

Received by: *(section A)* Date: 2/6/08 Time: 1216 Initials: JS

Unpacked by: *(section B)* Date: 2/6/08 initials: JH

Logged-in by: Date: 2-6-08 initials: MP

Work Order No.: PRB0153

Client: COP

Project: Portland Harbor

Temperature out of range.

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 2.8 °C plastic (glass) NA *(oil/air samples, ESI client)* Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____
X None

Container Type:
1 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
____Gel Ice
X Loose Ice
____None

Packing Material:
____Bubble Bags
X Styrofoam Cubbies
____None (X Other: card board)

Received from:
____TA Courier
X Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:
_____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? Y N
Containers Match COC? Y N none given
IDs Match COC? Y N

For Analyses Requested:
Correct Type & Preservation? Y N
Adequate Volume? Y N
Within Hold Time? Y N

Volatiles/ Oil Quality:
VOAs/ Syringes free of Headspace? Y N NA
TB on COC? not provided Y N NA

Metals:
HNO3 Preserved? Y N NA
Dissolved Metals Filtered? Y N NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

PM Reviewed (Initial/Date)

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

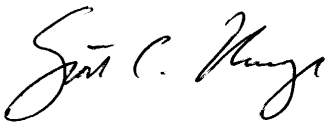
Pace Project #: 1067742
Sample Receipt Date: 02/07/2008
Client Project #: PRB0153
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
February 28, 2008

Report of Laboratory Analysis

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on three samples submitted by a representative of Test America-Portland. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 parts per trillion and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 26-279%. With the exceptions of five elevated values, which were flagged "P" on the results tables, the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. The elevated recoveries appear to be related to ionization efficiency variations during the analyses. These broad changes affected some congeners more than others. However, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Selected analtyes eluted partially or fully outside of the acquisition windows for these samples, but could be visually examined. Since these levels do not significantly impact the sample totals, no further action was taken. The affected analytes and estimated values were as follows:

Sample PRB0153-01; congener 15 cut, estimated <EML, congener 187 cut, estimated 0.6 ng/L, congeners 144 and 182 missed, estimated < EML
Sample PRB0153-02; congener 144 cut, estimated 0.8 ng/L
Sample PRB0153-03; congener 144 cut, estimated <EML

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain background levels of selected PCB congeners. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background. Due to the slightly elevated background levels seen in the blank and the similarities to some sample levels (especially sample PRB0153-03), the sample analyses can be repeated at no additional charge if replacement samples are submitted within 30 days.

Laboratory spike samples were also prepared with the sample batch using a reference matrix that had been fortified with native standards. The results show that the spiked native compounds were recovered at 86-116%, with relative percent differences of

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1700 Elm Street
Minneapolis, MN 55414
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Fax: 612.607.6444

DISCUSSION

1.0-9.3%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

SUBCONTRACT ORDER

TestAmerica Portland

PRB0153 1067742

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Run MS/MSD when extra volume is submitted.
15 Day TAT Email results to Jennifer & Peter.
MDL report

Analysis	Units	Due	Expires	Comments
Sample ID: PRB0153-01	**Water**		Sampled: **02/05/08 14:01**	001
1668 Coplanar PCBs - SUB	ug/l	02/19/08	08/03/08 14:01	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRB0153-02	**Water**		Sampled: **02/05/08 14:20**	002
1668 Coplanar PCBs - SUB	ug/l	02/19/08	08/03/08 14:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRB0153-03	**Water**		Sampled: **02/05/08 14:45**	003
1668 Coplanar PCBs - SUB	ug/l	02/19/08	08/03/08 14:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

T=4.4°C

Released By	2/6/08 15:58 Date/Time	Received By PACE	2/7/08 1020 Date/Time
Released By	Date/Time	Received By	Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: TEST AMERICA Project # 1067742

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z1AE5870198295986

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals Intact: ☒ yes ☐ no

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 230194010, ~~72310129~~ Type of Ice: (Wet) (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 2/7/08

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☒N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☒No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 02/07/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRB0153-01		
Lab Sample ID	1067742001		
Filename	P80226A_05		
Injected By	SMT		
Total Amount Extracted	1030 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/05/2008
ICAL ID	P80226A02	Received	02/07/2008
CCal Filename(s)	P80226A_01	Extracted	02/21/2008
Method Blank ID	BLANK-15578	Analyzed	02/26/2008 23:46

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	9.097	3.54	2.0	0.959	48	
13C-4-MoCB	3	12.596	3.19	2.0	1.05	53	
13C-2,2'-DiCB	4	12.967	1.57	2.0	0.864	43	
13C-4,4'-DiCB	15	21.403	1.56	2.0	0.527	26	
13C-2,2',6-TrCB	19	17.605	1.07	2.0	1.38	69	
13C-3,4,4'-TrCB	37	30.189	1.06	2.0	1.48	74	
13C-2,2',6,6'-TeCB	54	21.837	0.81	2.0	1.32	66	
13C-3,4,4',5-TeCB	81	37.954	0.78	2.0	1.25	62	
13C-3,3',4,4'-TeCB	77	38.575	0.79	2.0	1.25	62	
13C-2,2',4,6,6'-PeCB	104	28.747	1.62	2.0	1.79	90	
13C-2,3,3',4,4'-PeCB	105	42.433	1.66	2.0	1.12	56	
13C-2,3,4,4',5-PeCB	114	41.745	1.63	2.0	1.06	53	
13C-2,3',4,4',5-PeCB	118	41.175	1.62	2.0	1.24	62	
13C-2,3',4,4',5'-PeCB	123	40.806	1.58	2.0	1.24	62	
13C-3,3',4,4',5-PeCB	126	45.820	1.63	2.0	0.892	45	
13C-2,2',4,4',6,6'-HxCB	155	35.372	1.30	2.0	2.68	134	
13C-HxCB (156/157)	156/157	49.074	1.28	4.0	2.45	61	
13C-2,3',4,4',5,5'-HxCB	167	47.867	1.29	2.0	1.32	66	
13C-3,3',4,4',5,5'-HxCB	169	52.580	1.30	2.0	0.923	46	
13C-2,2',3,4',5,6,6'-HpCB	188	41.728	1.06	2.0	4.14	207	P
13C-2,3,3',4,4',5,5'-HpCB	189	55.248	1.08	2.0	1.75	87	
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.548	0.92	2.0	2.88	144	
13C-2,3,3',4,4',5,5',6-OcCB	205	57.921	0.88	2.0	1.67	84	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.710	0.80	2.0	1.81	90	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.666	0.78	2.0	2.06	103	
13C--DeCB	209	61.349	0.74	2.0	1.98	99	
Cleanup Standards							
13C-2,4,4'-TrCB	28	25.376	1.05	2.0	1.68	84	
13C-2,3,3',5,5'-PeCB	111	38.659	1.56	2.0	1.43	72	
13C-2,2',3,3',5,5',6-HpCB	178	45.049	1.06	2.0	1.68	84	
Recovery Standards							
13C-2,5-DiCB	9	16.011	1.59	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	27.623	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	35.623	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	44.563	1.26	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	57.426	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
1		---	---	ND		---	0.487
2		---	---	ND		---	0.487
3		---	---	ND		---	0.487
4		---	---	ND		---	0.487
5		---	---	ND		---	0.487
6		---	---	ND		---	0.487
7		---	---	ND		---	0.487
8		17.233	1.65	0.840		---	0.487
9		---	---	ND		---	0.487
10		---	---	ND		---	0.487
11		20.673	1.55	3.02	B	---	0.584
12	12/13	---	---	ND		---	0.487
13	12/13	---	---	ND		---	0.487
14		---	---	ND		---	0.487
15		---	---	ND		---	0.487
16		---	---	ND		---	0.487
17		---	---	ND		---	0.487
18	18/30	20.265	1.06	0.711		---	0.487
19		---	---	ND		---	0.487
20	20/28	25.393	1.04	1.43		---	0.584
21	21/33	25.678	1.06	0.974		---	0.487
22		26.147	1.02	0.558		---	0.487
23		---	---	ND		---	0.487
24		---	---	ND		---	0.487
25		---	---	ND		---	0.487
26	26/29	---	---	ND		---	0.487
27		---	---	ND		---	0.487
28	20/28	25.393	1.04	(1.43)		---	0.584
29	26/29	---	---	ND		---	0.487
30	18/30	20.265	1.06	(0.711)		---	0.487
31		25.024	1.03	1.17		---	0.487
32		---	---	ND		---	0.487
33	21/33	25.678	1.06	(0.974)		---	0.487
34		---	---	ND		---	0.487
35		---	---	ND		---	0.487
36		---	---	ND		---	0.487
37		---	---	ND		---	0.487
38		---	---	ND		---	0.487
39		---	---	ND		---	0.487
40	40/41/71	29.971	0.76	0.787		---	0.487
41	40/41/71	29.971	0.76	(0.787)		---	0.487
42		---	---	ND		---	0.487
43		---	---	ND		---	0.487
44	44/47/65	28.814	0.77	1.44		---	0.584
45	45/51	---	---	ND		---	0.487
46		---	---	ND		---	0.487
47	44/47/65	28.814	0.77	(1.44)		---	0.584
48		---	---	ND		---	0.487

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
49	49/69	28.244	0.77	0.728		---	0.487
50	50/53	---	---	ND		---	0.487
51	45/51	---	---	ND		---	0.487
52		27.640	0.80	1.18		---	0.487
53	50/53	---	---	ND		---	0.487
54		---	---	ND		---	0.487
55		---	---	ND		---	0.487
56		---	---	ND		---	0.487
57		---	---	ND		---	0.487
58		---	---	ND		---	0.487
59	59/62/75	---	---	ND		---	0.487
60		---	---	ND		---	0.487
61	61/70/74/76	33.292	0.78	1.78		---	0.487
62	59/62/75	---	---	ND		---	0.487
63		---	---	ND		---	0.487
64		30.273	0.83	0.635		---	0.487
65	44/47/65	28.814	0.77	(1.44)		---	0.584
66		33.627	0.79	0.895		---	0.487
67		---	---	ND		---	0.487
68		---	---	ND		---	0.487
69	49/69	28.244	0.77	(0.728)		---	0.487
70	61/70/74/76	33.292	0.78	(1.78)		---	0.487
71	40/41/71	29.971	0.76	(0.787)		---	0.487
72		---	---	ND		---	0.487
73		---	---	ND		---	0.487
74	61/70/74/76	33.292	0.78	(1.78)		---	0.487
75	59/62/75	---	---	ND		---	0.487
76	61/70/74/76	33.292	0.78	(1.78)		---	0.487
77		---	---	ND		---	0.487
78		---	---	ND		---	0.487
79		---	---	ND		---	0.487
80		---	---	ND		---	0.487
81		---	---	ND		---	0.487
82		---	---	ND		---	0.487
83		---	---	ND		---	0.487
84		---	---	ND		---	0.487
85	85/116/117	---	---	ND		---	0.584
86	86/87/97/108/119/125	---	---	ND		---	0.973
87	86/87/97/108/119/125	---	---	ND		---	0.973
88	88/91	---	---	ND		---	0.487
89		---	---	ND		---	0.487
90	90/101/113	35.657	1.56	1.34	B	---	0.487
91	88/91	---	---	ND		---	0.487
92		---	---	ND		---	0.487
93	93/98/100/102	---	---	ND		---	0.730
94		---	---	ND		---	0.487
95		32.252	1.57	1.14		---	0.487
96		---	---	ND		---	0.487

Conc = Concentration
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND		---	0.973
98	93/98/100/102	---	---	ND		---	0.730
99		36.311	1.55	0.493		---	0.487
100	93/98/100/102	---	---	ND		---	0.730
101	90/101/113	35.657	1.56	(1.34)	B	---	0.487
102	93/98/100/102	---	---	ND		---	0.730
103		---	---	ND		---	0.487
104		---	---	ND		---	0.487
105		---	---	ND		---	0.487
106		---	---	ND		---	0.487
107	107/124	---	---	ND		---	0.487
108	86/87/97/108/119/125	---	---	ND		---	0.973
109		---	---	ND		---	0.487
110	110/115	37.820	1.60	1.40		---	0.487
111		---	---	ND		---	0.487
112		---	---	ND		---	0.487
113	90/101/113	35.657	1.56	(1.34)	B	---	0.487
114		---	---	ND		---	0.487
115	110/115	37.820	1.60	(1.40)		---	0.487
116	85/116/117	---	---	ND		---	0.584
117	85/116/117	---	---	ND		---	0.584
118		41.191	1.58	0.961		---	0.487
119	86/87/97/108/119/125	---	---	ND		---	0.973
120		---	---	ND		---	0.487
121		---	---	ND		---	0.487
122		---	---	ND		---	0.487
123		---	---	ND		---	0.487
124	107/124	---	---	ND		---	0.487
125	86/87/97/108/119/125	---	---	ND		---	0.973
126		---	---	ND		---	0.487
127		---	---	ND		---	0.487
128	128/166	---	---	ND		---	0.973
129	129/138/163	44.596	1.25	1.34	B	---	0.487
130		---	---	ND		---	0.487
131		---	---	ND		---	0.487
132		41.259	1.33	0.535		---	0.487
133		---	---	ND		---	0.487
134	134/143	---	---	ND		---	0.487
135	135/151	---	---	ND		---	0.496
136		---	---	ND		---	0.487
137		---	---	ND		---	0.487
138	129/138/163	44.596	1.25	(1.34)	B	---	0.487
139	139/140	---	---	ND		---	0.487
140	139/140	---	---	ND		---	0.487
141		---	---	ND		---	0.487
142		---	---	ND		---	0.487
143	134/143	---	---	ND		---	0.487
144		---	---	ND		---	0.487

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
145		---	---	ND		---	0.487
146		---	---	ND		---	0.487
147	147/149	39.900	1.24	1.33	B	---	0.487
148		---	---	ND		---	0.487
149	147/149	39.900	1.24	(1.33)	B	---	0.487
150		---	---	ND		---	0.487
151	135/151	---	---	ND		---	0.496
152		---	---	ND		---	0.487
153	153/168	43.288	1.30	1.38	B	---	0.584
154		---	---	ND		---	0.487
155		---	---	ND		---	0.487
156	156/157	---	---	ND		---	0.487
157	156/157	---	---	ND		---	0.487
158		---	---	ND		---	0.487
159		---	---	ND		---	0.487
160		---	---	ND		---	0.487
161		---	---	ND		---	0.487
162		---	---	ND		---	0.487
163	129/138/163	44.596	1.25	(1.34)	B	---	0.487
164		---	---	ND		---	0.487
165		---	---	ND		---	0.487
166	128/166	---	---	ND		---	0.973
167		---	---	ND		---	0.487
168	153/168	43.288	1.30	(1.38)	B	---	0.584
169		---	---	ND		---	0.487
170		---	---	ND		---	0.487
171	171/173	---	---	ND		---	0.487
172		---	---	ND		---	0.487
173	171/173	---	---	ND		---	0.487
174		---	---	ND		---	0.487
175		---	---	ND		---	0.487
176		---	---	ND		---	0.487
177		---	---	ND		---	0.487
178		---	---	ND		---	0.487
179		---	---	ND		---	0.487
180	180/193	50.584	1.04	0.720	B	---	0.487
181		---	---	ND		---	0.487
182		---	---	ND		---	0.487
183	183/185	---	---	ND		---	0.487
184		---	---	ND		---	0.487
185	183/185	---	---	ND		---	0.487
186		---	---	ND		---	0.487
187		---	---	ND		---	0.487
188		---	---	ND		---	0.487
189		---	---	ND		---	0.487
190		---	---	ND		---	0.487
191		---	---	ND		---	0.487
192		---	---	ND		---	0.487

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	50.584	1.04	(0.720) B	---	0.487
194		---	---	ND	---	0.487
195		---	---	ND	---	0.487
196		---	---	ND	---	0.681
197	197/200	---	---	ND	---	2.43
198	198/199	---	---	ND	---	0.487
199	198/199	---	---	ND	---	0.487
200	197/200	---	---	ND	---	2.43
201		---	---	ND	---	0.487
202		---	---	ND	---	0.487
203		---	---	ND	---	0.487
204		---	---	ND	---	0.487
205		---	---	ND	---	0.487
206		---	---	ND	---	0.487
207		---	---	ND	---	0.487
208		---	---	ND	---	0.487
209		---	---	ND	---	0.487

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-01
Lab Sample ID	1067742001
Filename	P80226A_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	3.86
Total Trichloro Biphenyls	4.85
Total Tetrachloro Biphenyls	7.44
Total Pentachloro Biphenyls	5.33
Total Hexachloro Biphenyls	4.60
Total Heptachloro Biphenyls	0.720
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	26.8

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRB0153-02		
Lab Sample ID	1067742002		
Filename	P80226A_06		
Injected By	SMT		
Total Amount Extracted	1030 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/05/2008
ICAL ID	P80226A02	Received	02/07/2008
CCal Filename(s)	P80226A_01	Extracted	02/21/2008
Method Blank ID	BLANK-15578	Analyzed	02/27/2008 00:55

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	9.061	3.52	2.0	0.861	43	
13C-4-MoCB	3	12.524	3.43	2.0	0.954	48	
13C-2,2'-DiCB	4	12.895	1.60	2.0	0.868	43	
13C-4,4'-DiCB	15	21.283	1.57	2.0	1.60	80	
13C-2,2',6-TrCB	19	17.473	1.08	2.0	1.49	74	
13C-3,4,4'-TrCB	37	30.004	1.08	2.0	1.67	84	
13C-2,2',6,6'-TeCB	54	21.652	0.80	2.0	1.40	70	
13C-3,4,4',5-TeCB	81	37.736	0.79	2.0	1.50	75	
13C-3,3',4,4'-TeCB	77	38.357	0.80	2.0	1.43	72	
13C-2,2',4,6,6'-PeCB	104	28.562	1.58	2.0	1.65	83	
13C-2,3,3',4,4'-PeCB	105	42.231	1.59	2.0	1.20	60	
13C-2,3,4,4',5-PeCB	114	41.543	1.60	2.0	1.15	57	
13C-2,3',4,4',5-PeCB	118	40.973	1.59	2.0	1.34	67	
13C-2,3',4,4',5'-PeCB	123	40.604	1.58	2.0	1.32	66	
13C-3,3',4,4',5-PeCB	126	45.619	1.59	2.0	0.937	47	
13C-2,2',4,4',6,6'-HxCB	155	35.187	1.27	2.0	2.53	126	
13C-HxCB (156/157)	156/157	48.872	1.27	4.0	2.41	60	
13C-2,3',4,4',5,5'-HxCB	167	47.648	1.29	2.0	1.27	64	
13C-3,3',4,4',5,5'-HxCB	169	52.378	1.34	2.0	0.857	43	
13C-2,2',3,4',5,6,6'-HpCB	188	41.527	1.07	2.0	4.93	247	P
13C-2,3,3',4,4',5,5'-HpCB	189	55.053	1.03	2.0	1.89	94	
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.346	0.92	2.0	3.34	167	P
13C-2,3,3',4,4',5,5',6-OcCB	205	57.770	0.93	2.0	1.72	86	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.581	0.80	2.0	1.71	85	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.493	0.80	2.0	2.22	111	
13C--DeCB	209	61.262	0.71	2.0	1.73	86	
Cleanup Standards							
13C-2,4,4'-TrCB	28	25.191	1.05	2.0	1.74	87	
13C-2,3,3',5,5'-PeCB	111	38.457	1.63	2.0	1.54	77	
13C-2,2',3,3',5,5',6-HpCB	178	44.847	1.07	2.0	1.66	83	
Recovery Standards							
13C-2,5-DiCB	9	15.879	1.58	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	27.438	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	35.422	1.62	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	44.361	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	57.252	0.93	2.0	NA	NA	

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.484
2		---	---	ND	---	0.484
3		---	---	ND	---	0.484
4		---	---	ND	---	0.484
5		---	---	ND	---	0.484
6		---	---	ND	---	0.484
7		---	---	ND	---	0.484
8		---	---	ND	---	0.484
9		---	---	ND	---	0.484
10		---	---	ND	---	0.484
11		20.504	1.58	1.20 B	---	0.581
12	12/13	---	---	ND	---	0.484
13	12/13	---	---	ND	---	0.484
14		---	---	ND	---	0.484
15		---	---	ND	---	0.484
16		---	---	ND	---	0.484
17		---	---	ND	---	0.484
18	18/30	---	---	ND	---	0.484
19		---	---	ND	---	0.484
20	20/28	25.208	1.03	0.983	---	0.581
21	21/33	25.493	1.05	0.540	---	0.484
22		---	---	ND	---	0.484
23		---	---	ND	---	0.484
24		---	---	ND	---	0.484
25		---	---	ND	---	0.484
26	26/29	---	---	ND	---	0.484
27		---	---	ND	---	0.484
28	20/28	25.208	1.03	(0.983)	---	0.581
29	26/29	---	---	ND	---	0.484
30	18/30	---	---	ND	---	0.484
31		24.839	1.03	0.792	---	0.484
32		---	---	ND	---	0.484
33	21/33	25.493	1.05	(0.540)	---	0.484
34		---	---	ND	---	0.484
35		---	---	ND	---	0.484
36		---	---	ND	---	0.484
37		---	---	ND	---	0.484
38		---	---	ND	---	0.484
39		---	---	ND	---	0.484
40	40/41/71	29.820	0.78	0.752	---	0.484
41	40/41/71	29.820	0.78	(0.752)	---	0.484
42		---	---	ND	---	0.484
43		---	---	ND	---	0.484
44	44/47/65	28.629	0.80	1.21	---	0.581
45	45/51	---	---	ND	---	0.484
46		---	---	ND	---	0.484
47	44/47/65	28.629	0.80	(1.21)	---	0.581
48		---	---	ND	---	0.484

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
49	49/69	28.059	0.79	0.674		---	0.484
50	50/53	---	---	ND		---	0.484
51	45/51	---	---	ND		---	0.484
52		27.472	0.79	1.52		---	0.484
53	50/53	---	---	ND		---	0.484
54		---	---	ND		---	0.484
55		---	---	ND		---	0.484
56		34.197	0.78	0.561		---	0.484
57		---	---	ND		---	0.484
58		---	---	ND		---	0.484
59	59/62/75	---	---	ND		---	0.484
60		---	---	ND		---	0.484
61	61/70/74/76	33.090	0.80	2.11		---	0.484
62	59/62/75	---	---	ND		---	0.484
63		---	---	ND		---	0.484
64		30.105	0.77	0.572		---	0.484
65	44/47/65	28.629	0.80	(1.21)		---	0.581
66		33.459	0.77	1.07		---	0.484
67		---	---	ND		---	0.484
68		---	---	ND		---	0.484
69	49/69	28.059	0.79	(0.674)		---	0.484
70	61/70/74/76	33.090	0.80	(2.11)		---	0.484
71	40/41/71	29.820	0.78	(0.752)		---	0.484
72		---	---	ND		---	0.484
73		---	---	ND		---	0.484
74	61/70/74/76	33.090	0.80	(2.11)		---	0.484
75	59/62/75	---	---	ND		---	0.484
76	61/70/74/76	33.090	0.80	(2.11)		---	0.484
77		---	---	ND		---	0.484
78		---	---	ND		---	0.484
79		---	---	ND		---	0.484
80		---	---	ND		---	0.484
81		---	---	ND		---	0.484
82		---	---	ND		---	0.484
83		---	---	ND		---	0.484
84		33.292	1.60	1.56		---	0.484
85	85/116/117	37.451	1.65	0.670		---	0.581
86	86/87/97/108/119/125	36.713	1.56	2.46		---	0.968
87	86/87/97/108/119/125	36.713	1.56	(2.46)		---	0.968
88	88/91	33.057	1.56	0.814		---	0.484
89		---	---	ND		---	0.484
90	90/101/113	35.455	1.59	4.40	B	---	0.484
91	88/91	33.057	1.56	(0.814)		---	0.484
92		34.784	1.57	0.817		---	0.484
93	93/98/100/102	---	---	ND		---	0.726
94		---	---	ND		---	0.484
95		32.067	1.57	5.34		---	0.484
96		---	---	ND		---	0.484

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	36.713	1.56	(2.46)		---	0.968
98	93/98/100/102	---	---	ND		---	0.726
99		36.109	1.62	1.25		---	0.484
100	93/98/100/102	---	---	ND		---	0.726
101	90/101/113	35.455	1.59	(4.40)	B	---	0.484
102	93/98/100/102	---	---	ND		---	0.726
103		---	---	ND		---	0.484
104		---	---	ND		---	0.484
105		42.265	1.59	1.12		---	0.484
106		---	---	ND		---	0.484
107	107/124	---	---	ND		---	0.484
108	86/87/97/108/119/125	36.713	1.56	(2.46)		---	0.968
109		---	---	ND		---	0.484
110	110/115	37.636	1.59	6.50		---	0.484
111		---	---	ND		---	0.484
112		---	---	ND		---	0.484
113	90/101/113	35.455	1.59	(4.40)	B	---	0.484
114		---	---	ND		---	0.484
115	110/115	37.636	1.59	(6.50)		---	0.484
116	85/116/117	37.451	1.65	(0.670)		---	0.581
117	85/116/117	37.451	1.65	(0.670)		---	0.581
118		40.990	1.59	2.46		---	0.484
119	86/87/97/108/119/125	36.713	1.56	(2.46)		---	0.968
120		---	---	ND		---	0.484
121		---	---	ND		---	0.484
122		---	---	ND		---	0.484
123		---	---	ND		---	0.484
124	107/124	---	---	ND		---	0.484
125	86/87/97/108/119/125	36.713	1.56	(2.46)		---	0.968
126		---	---	ND		---	0.484
127		---	---	ND		---	0.484
128	128/166	45.736	1.30	1.40		---	0.968
129	129/138/163	44.395	1.26	11.8	B	---	0.484
130		43.673	1.23	0.634		---	0.484
131		---	---	ND		---	0.484
132		41.074	1.25	5.22		---	0.484
133		---	---	ND		---	0.484
134	134/143	39.917	1.26	0.701		---	0.484
135	135/151	38.675	1.28	6.21	B	---	0.494
136		35.958	1.26	2.48		---	0.484
137		---	---	ND		---	0.484
138	129/138/163	44.395	1.26	(11.8)	B	---	0.484
139	139/140	---	---	ND		---	0.484
140	139/140	---	---	ND		---	0.484
141		43.254	1.26	2.77		---	0.484
142		---	---	ND		---	0.484
143	134/143	39.917	1.26	(0.701)		---	0.484
144		---	---	ND		---	0.484

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
145		---	---	ND		---	0.484
146		42.382	1.26	1.79		---	0.484
147	147/149	39.699	1.26	14.5	B	---	0.484
148		---	---	ND		---	0.484
149	147/149	39.699	1.26	(14.5)	B	---	0.484
150		---	---	ND		---	0.484
151	135/151	38.675	1.28	(6.21)	B	---	0.494
152		---	---	ND		---	0.484
153	153/168	43.053	1.27	10.7	B	---	0.581
154		---	---	ND		---	0.484
155		---	---	ND		---	0.484
156	156/157	48.872	1.28	0.787		---	0.484
157	156/157	48.872	1.28	(0.787)		---	0.484
158		44.814	1.27	1.11		---	0.484
159		---	---	ND		---	0.484
160		---	---	ND		---	0.484
161		---	---	ND		---	0.484
162		---	---	ND		---	0.484
163	129/138/163	44.395	1.26	(11.8)	B	---	0.484
164		44.059	1.29	0.940		---	0.484
165		---	---	ND		---	0.484
166	128/166	45.736	1.30	(1.40)		---	0.968
167		---	---	ND		---	0.484
168	153/168	43.053	1.27	(10.7)	B	---	0.581
169		---	---	ND		---	0.484
170		51.707	1.05	3.72	B	---	0.484
171	171/173	47.917	1.06	1.39		---	0.484
172		49.694	1.04	0.714		---	0.484
173	171/173	47.917	1.06	(1.39)		---	0.484
174		46.759	1.06	5.37	B	---	0.484
175		---	---	ND		---	0.484
176		42.868	1.04	0.753		---	0.484
177		47.229	1.03	2.69		---	0.484
178		44.881	1.04	1.04		---	0.484
179		41.896	1.06	2.66		---	0.484
180	180/193	50.382	1.05	9.28	B	---	0.484
181		---	---	ND		---	0.484
182		---	---	ND		---	0.484
183	183/185	46.541	1.06	3.83	B	---	0.484
184		---	---	ND		---	0.484
185	183/185	46.541	1.06	(3.83)	B	---	0.484
186		---	---	ND		---	0.484
187		45.870	1.04	6.02	B	---	0.484
188		---	---	ND		---	0.484
189		---	---	ND		---	0.484
190		52.294	1.06	0.740		---	0.484
191		---	---	ND		---	0.484
192		---	---	ND		---	0.484

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	50.382	1.05	(9.28) B	---	0.484
194		57.295	0.90	2.05	---	0.484
195		54.773	0.84	0.887	---	0.484
196		53.166	0.87	1.26	---	0.678
197	197/200	---	---	ND	---	2.42
198	198/199	52.462	0.90	2.70	---	0.484
199	198/199	52.462	0.90	(2.70)	---	0.484
200	197/200	---	---	ND	---	2.42
201		---	---	ND	---	0.484
202		47.380	0.90	0.492	---	0.484
203		53.384	0.90	1.56	---	0.484
204		---	---	ND	---	0.484
205		---	---	ND	---	0.484
206		59.602	0.78	0.907	---	0.484
207		---	---	ND	---	0.484
208		---	---	ND	---	0.484
209		---	---	ND	---	0.484

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRB0153-02
Lab Sample ID	1067742002
Filename	P80226A_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	1.20
Total Trichloro Biphenyls	2.32
Total Tetrachloro Biphenyls	8.46
Total Pentachloro Biphenyls	27.4
Total Hexachloro Biphenyls	61.0
Total Heptachloro Biphenyls	38.2
Total Octachloro Biphenyls	8.94
Total Nonachloro Biphenyls	0.907
Decachloro Biphenyls	ND
Total PCBs	148

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRB0153-03		
Lab Sample ID	1067742003		
Filename	P80226A_07		
Injected By	SMT		
Total Amount Extracted	1030 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/05/2008
ICAL ID	P80226A02	Received	02/07/2008
CCal Filename(s)	P80226A_01	Extracted	02/21/2008
Method Blank ID	BLANK-15578	Analyzed	02/27/2008 02:03

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	9.073	3.52	2.0	0.809	40	
13C-4-MoCB	3	12.548	3.28	2.0	0.972	49	
13C-2,2'-DiCB	4	12.919	1.68	2.0	0.873	44	
13C-4,4'-DiCB	15	21.308	1.59	2.0	1.65	83	
13C-2,2',6-TrCB	19	17.497	1.07	2.0	1.55	78	
13C-3,4,4'-TrCB	37	30.022	1.07	2.0	1.79	89	
13C-2,2',6,6'-TeCB	54	21.686	0.79	2.0	1.46	73	
13C-3,4,4',5-TeCB	81	37.754	0.79	2.0	1.65	83	
13C-3,3',4,4'-TeCB	77	38.375	0.80	2.0	1.58	79	
13C-2,2',4,6,6'-PeCB	104	28.580	1.58	2.0	1.74	87	
13C-2,3,3',4,4'-PeCB	105	42.249	1.61	2.0	1.30	65	
13C-2,3,4,4',5-PeCB	114	41.544	1.58	2.0	1.24	62	
13C-2,3',4,4',5-PeCB	118	40.974	1.59	2.0	1.43	72	
13C-2,3',4,4',5'-PeCB	123	40.622	1.60	2.0	1.46	73	
13C-3,3',4,4',5-PeCB	126	45.637	1.56	2.0	1.02	51	
13C-2,2',4,4',6,6'-HxCB	155	35.205	1.28	2.0	2.65	132	
13C-HxCB (156/157)	156/157	48.874	1.26	4.0	2.53	63	
13C-2,3',4,4',5,5'-HxCB	167	47.649	1.26	2.0	1.37	68	
13C-3,3',4,4',5,5'-HxCB	169	52.363	1.26	2.0	0.826	41	
13C-2,2',3,4',5,6,6'-HpCB	188	41.544	1.06	2.0	5.58	279	P
13C-2,3,3',4,4',5,5'-HpCB	189	55.055	1.05	2.0	2.02	101	
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.364	0.90	2.0	3.68	184	P
13C-2,3,3',4,4',5,5',6-OcCB	205	57.771	0.90	2.0	1.86	93	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.582	0.80	2.0	1.82	91	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.495	0.80	2.0	2.34	117	
13C--DeCB	209	61.264	0.70	2.0	1.79	90	
Cleanup Standards							
13C-2,4,4'-TrCB	28	25.208	1.05	2.0	1.72	86	
13C-2,3,3',5,5'-PeCB	111	38.475	1.59	2.0	1.59	80	
13C-2,2',3,3',5,5',6-HpCB	178	44.865	1.06	2.0	1.70	85	
Recovery Standards							
13C-2,5-DiCB	9	15.903	1.60	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	27.456	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	35.439	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	44.362	1.26	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	57.254	0.90	2.0	NA	NA	

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.485
2		---	---	ND	---	0.485
3		---	---	ND	---	0.485
4		---	---	ND	---	0.485
5		---	---	ND	---	0.485
6		---	---	ND	---	0.485
7		---	---	ND	---	0.485
8		---	---	ND	---	0.485
9		---	---	ND	---	0.485
10		---	---	ND	---	0.485
11		20.529	1.55	0.852 B	---	0.582
12	12/13	---	---	ND	---	0.485
13	12/13	---	---	ND	---	0.485
14		---	---	ND	---	0.485
15		---	---	ND	---	0.485
16		---	---	ND	---	0.485
17		---	---	ND	---	0.485
18	18/30	---	---	ND	---	0.485
19		---	---	ND	---	0.485
20	20/28	---	---	ND	---	0.582
21	21/33	---	---	ND	---	0.485
22		---	---	ND	---	0.485
23		---	---	ND	---	0.485
24		---	---	ND	---	0.485
25		---	---	ND	---	0.485
26	26/29	---	---	ND	---	0.485
27		---	---	ND	---	0.485
28	20/28	---	---	ND	---	0.582
29	26/29	---	---	ND	---	0.485
30	18/30	---	---	ND	---	0.485
31		---	---	ND	---	0.485
32		---	---	ND	---	0.485
33	21/33	---	---	ND	---	0.485
34		---	---	ND	---	0.485
35		---	---	ND	---	0.485
36		---	---	ND	---	0.485
37		---	---	ND	---	0.485
38		---	---	ND	---	0.485
39		---	---	ND	---	0.485
40	40/41/71	---	---	ND	---	0.485
41	40/41/71	---	---	ND	---	0.485
42		---	---	ND	---	0.485
43		---	---	ND	---	0.485
44	44/47/65	---	---	ND	---	0.582
45	45/51	---	---	ND	---	0.485
46		---	---	ND	---	0.485
47	44/47/65	---	---	ND	---	0.582
48		---	---	ND	---	0.485

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
49	49/69	---	---	ND		---	0.485
50	50/53	---	---	ND		---	0.485
51	45/51	---	---	ND		---	0.485
52		27.489	0.79	0.547		---	0.485
53	50/53	---	---	ND		---	0.485
54		---	---	ND		---	0.485
55		---	---	ND		---	0.485
56		---	---	ND		---	0.485
57		---	---	ND		---	0.485
58		---	---	ND		---	0.485
59	59/62/75	---	---	ND		---	0.485
60		---	---	ND		---	0.485
61	61/70/74/76	33.108	0.78	0.836		---	0.485
62	59/62/75	---	---	ND		---	0.485
63		---	---	ND		---	0.485
64		---	---	ND		---	0.485
65	44/47/65	---	---	ND		---	0.582
66		---	---	ND		---	0.485
67		---	---	ND		---	0.485
68		---	---	ND		---	0.485
69	49/69	---	---	ND		---	0.485
70	61/70/74/76	33.108	0.78	(0.836)		---	0.485
71	40/41/71	---	---	ND		---	0.485
72		---	---	ND		---	0.485
73		---	---	ND		---	0.485
74	61/70/74/76	33.108	0.78	(0.836)		---	0.485
75	59/62/75	---	---	ND		---	0.485
76	61/70/74/76	33.108	0.78	(0.836)		---	0.485
77		---	---	ND		---	0.485
78		---	---	ND		---	0.485
79		---	---	ND		---	0.485
80		---	---	ND		---	0.485
81		---	---	ND		---	0.485
82		---	---	ND		---	0.485
83		---	---	ND		---	0.485
84		---	---	ND		---	0.485
85	85/116/117	---	---	ND		---	0.582
86	86/87/97/108/119/125	---	---	ND		---	0.970
87	86/87/97/108/119/125	---	---	ND		---	0.970
88	88/91	---	---	ND		---	0.485
89		---	---	ND		---	0.485
90	90/101/113	35.473	1.55	0.962	B	---	0.485
91	88/91	---	---	ND		---	0.485
92		---	---	ND		---	0.485
93	93/98/100/102	---	---	ND		---	0.727
94		---	---	ND		---	0.485
95		32.085	1.58	0.706		---	0.485
96		---	---	ND		---	0.485

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND		---	0.970
98	93/98/100/102	---	---	ND		---	0.727
99		---	---	ND		---	0.485
100	93/98/100/102	---	---	ND		---	0.727
101	90/101/113	35.473	1.55	(0.962)	B	---	0.485
102	93/98/100/102	---	---	ND		---	0.727
103		---	---	ND		---	0.485
104		---	---	ND		---	0.485
105		---	---	ND		---	0.485
106		---	---	ND		---	0.485
107	107/124	---	---	ND		---	0.485
108	86/87/97/108/119/125	---	---	ND		---	0.970
109		---	---	ND		---	0.485
110	110/115	37.653	1.65	1.03		---	0.485
111		---	---	ND		---	0.485
112		---	---	ND		---	0.485
113	90/101/113	35.473	1.55	(0.962)	B	---	0.485
114		---	---	ND		---	0.485
115	110/115	37.653	1.65	(1.03)		---	0.485
116	85/116/117	---	---	ND		---	0.582
117	85/116/117	---	---	ND		---	0.582
118		41.008	1.58	0.647		---	0.485
119	86/87/97/108/119/125	---	---	ND		---	0.970
120		---	---	ND		---	0.485
121		---	---	ND		---	0.485
122		---	---	ND		---	0.485
123		---	---	ND		---	0.485
124	107/124	---	---	ND		---	0.485
125	86/87/97/108/119/125	---	---	ND		---	0.970
126		---	---	ND		---	0.485
127		---	---	ND		---	0.485
128	128/166	---	---	ND		---	0.970
129	129/138/163	44.396	1.27	1.64	B	---	0.485
130		---	---	ND		---	0.485
131		---	---	ND		---	0.485
132		41.091	1.24	0.558		---	0.485
133		---	---	ND		---	0.485
134	134/143	---	---	ND		---	0.485
135	135/151	38.693	1.26	0.636	B	---	0.495
136		---	---	ND		---	0.485
137		---	---	ND		---	0.485
138	129/138/163	44.396	1.27	(1.64)	B	---	0.485
139	139/140	---	---	ND		---	0.485
140	139/140	---	---	ND		---	0.485
141		---	---	ND		---	0.485
142		---	---	ND		---	0.485
143	134/143	---	---	ND		---	0.485
144		---	---	ND		---	0.485

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
145		---	---	ND		---	0.485
146		---	---	ND		---	0.485
147	147/149	39.716	1.28	1.56	B	---	0.485
148		---	---	ND		---	0.485
149	147/149	39.716	1.28	(1.56)	B	---	0.485
150		---	---	ND		---	0.485
151	135/151	38.693	1.26	(0.636)	B	---	0.495
152		---	---	ND		---	0.485
153	153/168	43.071	1.27	1.50	B	---	0.582
154		---	---	ND		---	0.485
155		---	---	ND		---	0.485
156	156/157	---	---	ND		---	0.485
157	156/157	---	---	ND		---	0.485
158		---	---	ND		---	0.485
159		---	---	ND		---	0.485
160		---	---	ND		---	0.485
161		---	---	ND		---	0.485
162		---	---	ND		---	0.485
163	129/138/163	44.396	1.27	(1.64)	B	---	0.485
164		---	---	ND		---	0.485
165		---	---	ND		---	0.485
166	128/166	---	---	ND		---	0.970
167		---	---	ND		---	0.485
168	153/168	43.071	1.27	(1.50)	B	---	0.582
169		---	---	ND		---	0.485
170		---	---	ND		---	0.485
171	171/173	---	---	ND		---	0.485
172		---	---	ND		---	0.485
173	171/173	---	---	ND		---	0.485
174		46.777	1.04	0.539	B	---	0.485
175		---	---	ND		---	0.485
176		---	---	ND		---	0.485
177		---	---	ND		---	0.485
178		---	---	ND		---	0.485
179		---	---	ND		---	0.485
180	180/193	50.400	1.03	1.06	B	---	0.485
181		---	---	ND		---	0.485
182		---	---	ND		---	0.485
183	183/185	---	---	ND		---	0.485
184		---	---	ND		---	0.485
185	183/185	---	---	ND		---	0.485
186		---	---	ND		---	0.485
187		45.872	1.01	0.645	B	---	0.485
188		---	---	ND		---	0.485
189		---	---	ND		---	0.485
190		---	---	ND		---	0.485
191		---	---	ND		---	0.485
192		---	---	ND		---	0.485

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	50.400	1.03	(1.06) B	---	0.485
194		---	---	ND	---	0.485
195		---	---	ND	---	0.485
196		---	---	ND	---	0.679
197	197/200	---	---	ND	---	2.42
198	198/199	---	---	ND	---	0.485
199	198/199	---	---	ND	---	0.485
200	197/200	---	---	ND	---	2.42
201		---	---	ND	---	0.485
202		---	---	ND	---	0.485
203		---	---	ND	---	0.485
204		---	---	ND	---	0.485
205		---	---	ND	---	0.485
206		---	---	ND	---	0.485
207		---	---	ND	---	0.485
208		---	---	ND	---	0.485
209		---	---	ND	---	0.485

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRB0153-03
Lab Sample ID	1067742003
Filename	P80226A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.852
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.38
Total Pentachloro Biphenyls	3.35
Total Hexachloro Biphenyls	5.89
Total Heptachloro Biphenyls	2.25
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	13.7

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15578		
Filename	P80225B_07		
Injected By	SMT	Matrix	Water
Total Amount Extracted	987 mL	Extracted	02/21/2008
ICAL ID	P80225B02	Analyzed	02/26/2008 11:12
CCal Filename(s)	P80225B_01	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.061	3.47	2.0	0.550	27
13C-4-MoCB	3	12.488	3.55	2.0	0.626	31
13C-2,2'-DiCB	4	12.872	1.58	2.0	0.586	29
13C-4,4'-DiCB	15	21.201	1.58	2.0	1.15	58
13C-2,2',6-TrCB	19	17.426	1.07	2.0	0.986	49
13C-3,4,4'-TrCB	37	29.871	1.06	2.0	1.33	67
13C-2,2',6,6'-TeCB	54	21.586	0.79	2.0	0.888	44
13C-3,4,4',5-TeCB	81	37.536	0.79	2.0	1.58	79
13C-3,3',4,4'-TeCB	77	38.156	0.80	2.0	1.55	77
13C-2,2',4,6,6'-PeCB	104	28.446	1.59	2.0	1.05	53
13C-2,3,3',4,4'-PeCB	105	41.997	1.60	2.0	1.52	76
13C-2,3,4,4',5-PeCB	114	41.309	1.58	2.0	1.37	68
13C-2,3',4,4',5-PeCB	118	40.739	1.58	2.0	1.52	76
13C-2,3',4,4',5'-PeCB	123	40.370	1.57	2.0	1.50	75
13C-3,3',4,4',5-PeCB	126	45.318	1.60	2.0	1.45	73
13C-2,2',4,4',6,6'-HxCB	155	35.037	1.28	2.0	1.21	61
13C-HxCB (156/157)	156/157	48.555	1.27	4.0	2.84	71
13C-2,3',4,4',5,5'-HxCB	167	47.347	1.27	2.0	1.43	71
13C-3,3',4,4',5,5'-HxCB	169	51.993	1.28	2.0	1.27	64
13C-2,2',3,4',5,6,6'-HpCB	188	41.326	1.05	2.0	2.01	101
13C-2,3,3',4,4',5,5'-HpCB	189	54.667	1.04	2.0	1.67	83
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.096	0.91	2.0	2.04	102
13C-2,3,3',4,4',5,5',6-OcCB	205	57.383	0.90	2.0	1.75	87
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.215	0.78	2.0	1.75	87
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.171	0.80	2.0	1.90	95
13C--DeCB	209	60.897	0.71	2.0	1.85	93
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.091	1.07	2.0	1.47	74
13C-2,3,3',5,5'-PeCB	111	38.240	1.59	2.0	1.71	85
13C-2,2',3,3',5,5',6-HpCB	178	44.597	1.06	2.0	1.67	84
Recovery Standards						
13C-2,5-DiCB	9	15.844	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.322	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.255	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.110	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	56.887	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.507
2		---	---	ND	---	0.507
3		---	---	ND	---	0.507
4		---	---	ND	---	0.507
5		---	---	ND	---	0.507
6		---	---	ND	---	0.507
7		---	---	ND	---	0.507
8		---	---	ND	---	0.507
9		---	---	ND	---	0.507
10		---	---	ND	---	0.507
11		20.422	1.57	0.704	---	0.608
12	12/13	---	---	ND	---	0.507
13	12/13	---	---	ND	---	0.507
14		---	---	ND	---	0.507
15		---	---	ND	---	0.507
16		---	---	ND	---	0.507
17		---	---	ND	---	0.507
18	18/30	---	---	ND	---	0.507
19		---	---	ND	---	0.507
20	20/28	---	---	ND	---	0.608
21	21/33	---	---	ND	---	0.507
22		---	---	ND	---	0.507
23		---	---	ND	---	0.507
24		---	---	ND	---	0.507
25		---	---	ND	---	0.507
26	26/29	---	---	ND	---	0.507
27		---	---	ND	---	0.507
28	20/28	---	---	ND	---	0.608
29	26/29	---	---	ND	---	0.507
30	18/30	---	---	ND	---	0.507
31		---	---	ND	---	0.507
32		---	---	ND	---	0.507
33	21/33	---	---	ND	---	0.507
34		---	---	ND	---	0.507
35		---	---	ND	---	0.507
36		---	---	ND	---	0.507
37		---	---	ND	---	0.507
38		---	---	ND	---	0.507
39		---	---	ND	---	0.507
40	40/41/71	---	---	ND	---	0.507
41	40/41/71	---	---	ND	---	0.507
42		---	---	ND	---	0.507
43		---	---	ND	---	0.507
44	44/47/65	---	---	ND	---	0.608
45	45/51	---	---	ND	---	0.507

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.507
47	44/47/65	---	---	ND	---	0.608
48		---	---	ND	---	0.507
49	49/69	---	---	ND	---	0.507
50	50/53	---	---	ND	---	0.507
51	45/51	---	---	ND	---	0.507
52		---	---	ND	---	0.507
53	50/53	---	---	ND	---	0.507
54		---	---	ND	---	0.507
55		---	---	ND	---	0.507
56		---	---	ND	---	0.507
57		---	---	ND	---	0.507
58		---	---	ND	---	0.507
59	59/62/75	---	---	ND	---	0.507
60		---	---	ND	---	0.507
61	61/70/74/76	---	---	ND	---	0.507
62	59/62/75	---	---	ND	---	0.507
63		---	---	ND	---	0.507
64		---	---	ND	---	0.507
65	44/47/65	---	---	ND	---	0.608
66		---	---	ND	---	0.507
67		---	---	ND	---	0.507
68		---	---	ND	---	0.507
69	49/69	---	---	ND	---	0.507
70	61/70/74/76	---	---	ND	---	0.507
71	40/41/71	---	---	ND	---	0.507
72		---	---	ND	---	0.507
73		---	---	ND	---	0.507
74	61/70/74/76	---	---	ND	---	0.507
75	59/62/75	---	---	ND	---	0.507
76	61/70/74/76	---	---	ND	---	0.507
77		---	---	ND	---	0.507
78		---	---	ND	---	0.507
79		---	---	ND	---	0.507
80		---	---	ND	---	0.507
81		---	---	ND	---	0.507
82		---	---	ND	---	0.507
83		---	---	ND	---	0.507
84		---	---	ND	---	0.507
85	85/116/117	---	---	ND	---	0.608
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.507
89		---	---	ND	---	0.507
90	90/101/113	35.288	1.57	0.679	---	0.507

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.507
92		---	---	ND	---	0.507
93	93/98/100/102	---	---	ND	---	0.760
94		---	---	ND	---	0.507
95		---	---	ND	---	0.507
96		---	---	ND	---	0.507
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.760
99		---	---	ND	---	0.507
100	93/98/100/102	---	---	ND	---	0.760
101	90/101/113	35.288	1.57	(0.679)	---	0.507
102	93/98/100/102	---	---	ND	---	0.760
103		---	---	ND	---	0.507
104		---	---	ND	---	0.507
105		---	---	ND	---	0.507
106		---	---	ND	---	0.507
107	107/124	---	---	ND	---	0.507
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.507
110	110/115	---	---	ND	---	0.507
111		---	---	ND	---	0.507
112		---	---	ND	---	0.507
113	90/101/113	35.288	1.57	(0.679)	---	0.507
114		---	---	ND	---	0.507
115	110/115	---	---	ND	---	0.507
116	85/116/117	---	---	ND	---	0.608
117	85/116/117	---	---	ND	---	0.608
118		---	---	ND	---	0.507
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.507
121		---	---	ND	---	0.507
122		---	---	ND	---	0.507
123		---	---	ND	---	0.507
124	107/124	---	---	ND	---	0.507
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.507
127		---	---	ND	---	0.507
128	128/166	---	---	ND	---	1.01
129	129/138/163	44.127	1.24	2.22	---	0.507
130		---	---	ND	---	0.507
131		---	---	ND	---	0.507
132		---	---	ND	---	0.507
133		---	---	ND	---	0.507
134	134/143	---	---	ND	---	0.507
135	135/151	38.492	1.31	0.622	---	0.517

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.507
137		---	---	ND	---	0.507
138	129/138/163	44.127	1.24	(2.22)	---	0.507
139	139/140	---	---	ND	---	0.507
140	139/140	---	---	ND	---	0.507
141		---	---	ND	---	0.507
142		---	---	ND	---	0.507
143	134/143	---	---	ND	---	0.507
144		---	---	ND	---	0.507
145		---	---	ND	---	0.507
146		---	---	ND	---	0.507
147	147/149	39.515	1.24	1.52	---	0.507
148		---	---	ND	---	0.507
149	147/149	39.515	1.24	(1.52)	---	0.507
150		---	---	ND	---	0.507
151	135/151	38.492	1.31	(0.622)	---	0.517
152		---	---	ND	---	0.507
153	153/168	42.802	1.27	2.54	---	0.608
154		---	---	ND	---	0.507
155		---	---	ND	---	0.507
156	156/157	---	---	ND	---	0.507
157	156/157	---	---	ND	---	0.507
158		---	---	ND	---	0.507
159		---	---	ND	---	0.507
160		---	---	ND	---	0.507
161		---	---	ND	---	0.507
162		---	---	ND	---	0.507
163	129/138/163	44.127	1.24	(2.22)	---	0.507
164		---	---	ND	---	0.507
165		---	---	ND	---	0.507
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.507
168	153/168	42.802	1.27	(2.54)	---	0.608
169		---	---	ND	---	0.507
170		51.389	1.06	0.939	---	0.507
171	171/173	---	---	ND	---	0.507
172		---	---	ND	---	0.507
173	171/173	---	---	ND	---	0.507
174		46.509	1.05	0.668	---	0.507
175		---	---	ND	---	0.507
176		---	---	ND	---	0.507
177		---	---	ND	---	0.507
178		---	---	ND	---	0.507
179		---	---	ND	---	0.507
180	180/193	50.064	1.06	2.14	---	0.507

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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A = Limit of Detection based on signal to noise
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.507
182		---	---	ND	---	0.507
183	183/185	46.274	1.07	0.668	---	0.507
184		---	---	ND	---	0.507
185	183/185	46.274	1.07	(0.668)	---	0.507
186		---	---	ND	---	0.507
187		45.603	1.05	0.806	---	0.507
188		---	---	ND	---	0.507
189		---	---	ND	---	0.507
190		---	---	ND	---	0.507
191		---	---	ND	---	0.507
192		---	---	ND	---	0.507
193	180/193	50.064	1.06	(2.14)	---	0.507
194		---	---	ND	---	0.507
195		---	---	ND	---	0.507
196		---	---	ND	---	0.709
197	197/200	---	---	ND	---	2.53
198	198/199	---	---	ND	---	0.507
199	198/199	---	---	ND	---	0.507
200	197/200	---	---	ND	---	2.53
201		---	---	ND	---	0.507
202		---	---	ND	---	0.507
203		---	---	ND	---	0.507
204		---	---	ND	---	0.507
205		---	---	ND	---	0.507
206		---	---	ND	---	0.507
207		---	---	ND	---	0.507
208		---	---	ND	---	0.507
209		---	---	ND	---	0.507

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15578
Filename P80225B_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.704
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	0.679
Total Hexachloro Biphenyls	6.90
Total Heptachloro Biphenyls	5.22
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	13.5

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15579		
Filename	P80225B_03	Matrix	Water
Total Amount Extracted	917 mL	Dilution	NA
ICAL ID	P80225B02	Extracted	02/21/2008
CCal Filename(s)	P80225B_01	Analyzed	02/26/2008 06:38
Method Blank ID	BLANK-15578	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.01	101	2.0	0.845	42
3	1.0	1.05	105	2.0	0.892	45
4	1.0	0.857	86	2.0	0.813	41
15	1.0	1.02	102	2.0	1.42	71
19	1.0	0.953	95	2.0	1.36	68
37	1.0	1.02	102	2.0	1.42	71
54	1.0	1.01	101	2.0	1.20	60
81	1.0	1.02	102	2.0	1.59	79
77	1.0	1.06	106	2.0	1.55	78
104	1.0	0.966	97	2.0	1.35	67
105	1.0	1.01	101	2.0	1.51	75
114	1.0	1.01	101	2.0	1.38	69
118	1.0	0.972	97	2.0	1.57	78
123	1.0	0.993	99	2.0	1.51	75
126	1.0	0.982	98	2.0	1.44	72
155	1.0	0.992	99	2.0	1.43	71
156/157	2.0	1.97	98	4.0	2.81	70
167	1.0	1.02	102	2.0	1.41	71
169	1.0	1.05	105	2.0	1.23	61
188	1.0	0.986	99	2.0	2.17	109
189	1.0	1.12	112	2.0	1.67	84
202	1.0	1.06	106	2.0	2.10	105
205	1.0	0.989	99	2.0	1.73	87
206	1.0	1.05	105	2.0	1.75	87
208	1.0	1.06	106	2.0	1.90	95
209	1.0	1.03	103	2.0	1.80	90

P = Recovery outside of method
1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15580		
Filename	P80225B_04	Matrix	Water
Total Amount Extracted	890 mL	Dilution	NA
ICAL ID	P80225B02	Extracted	02/21/2008
CCal Filename(s)	P80225B_02	Analyzed	02/26/2008 07:47
Method Blank ID	BLANK-15578	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.10	110	2.0	0.893	45
3	1.0	1.09	109	2.0	0.956	48
4	1.0	0.889	89	2.0	0.919	46
15	1.0	1.06	106	2.0	1.56	78
19	1.0	1.02	102	2.0	1.49	75
37	1.0	1.12	112	2.0	1.59	80
54	1.0	1.05	105	2.0	1.33	66
81	1.0	1.06	106	2.0	1.79	89
77	1.0	1.10	110	2.0	1.74	87
104	1.0	0.976	98	2.0	1.50	75
105	1.0	1.05	105	2.0	1.69	84
114	1.0	1.07	107	2.0	1.54	77
118	1.0	1.03	103	2.0	1.73	86
123	1.0	1.02	102	2.0	1.70	85
126	1.0	1.02	102	2.0	1.60	80
155	1.0	1.05	105	2.0	1.51	76
156/157	2.0	2.06	103	4.0	3.08	77
167	1.0	1.06	106	2.0	1.54	77
169	1.0	1.10	110	2.0	1.36	68
188	1.0	1.03	103	2.0	2.30	115
189	1.0	1.16	116	2.0	1.81	90
202	1.0	1.10	110	2.0	2.20	110
205	1.0	1.04	104	2.0	1.85	93
206	1.0	1.07	107	2.0	1.87	93
208	1.0	1.10	110	2.0	2.02	101
209	1.0	1.09	109	2.0	1.85	92

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15579	Spike 2 ID	LCSD-15580
Spike 1 Filename	P80225B_03	Spike 2 Filename	P80225B_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	101	110	8.5
4-MoCB	3	105	109	3.7
2,2'-DiCB	4	86	89	3.4
4,4'-DiCB	15	102	106	3.8
2,2',6-TrCB	19	95	102	7.1
3,4,4'-TrCB	37	102	112	9.3
2,2',6,6'-TeCB	54	101	105	3.9
3,3',4,4'-TeCB	77	106	110	3.7
3,4,4',5-TeCB	81	102	106	3.8
2,2',4,6,6'-PeCB	104	97	98	1.0
2,3,3',4,4'-PeCB	105	101	105	3.9
2,3,4,4',5-PeCB	114	101	107	5.8
2,3',4,4',5-PeCB	118	97	103	6.0
2,3',4,4',5'-PeCB	123	99	102	3.0
3,3',4,4',5-PeCB	126	98	102	4.0
2,2',4,4',6,6'-HxCB	155	99	105	5.9
(156/157)	156/157	98	103	5.0
2,3',4,4',5,5'-HxCB	167	102	106	3.8
3,3',4,4',5,5'-HxCB	169	105	110	4.7
2,2',3,4',5,6,6'-HpCB	188	99	103	4.0
2,3,3',4,4',5,5'-HpCB	189	112	116	3.5
2,2',3,3',5,5',6,6'-OcCB	202	106	110	3.7
2,3,3',4,4',5,5',6-OcCB	205	99	104	4.9
2,2',3,3',4,4',5,5',6-NoCB	206	105	107	1.9
2,2',3,3',4,5,5',6,6'-NoCB	208	106	110	3.7
Decachlorobiphenyl	209	103	109	5.7

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

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February 29, 2008
Sampling Event

GSI Water Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, OR 97204
P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
February 29, 2008 Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on February 29, 2008. Eight stormwater samples were collected from Outfall Basins 22C, 22D, 45, 46, 47, and 53A and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected were in the method blank.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of six elevated values, which are flagged “P” on the sample specific quality control measurements results in the laboratory report. Pace Analytical reports that the data were automatically corrected for variation in recovery and accurate values were obtained. Refer to the Pace report for further discussion.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs. A laboratory control sample/duplicate laboratory control sample (LCS/ DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB Congeners. All laboratory control sample recoveries were within laboratory control limits.

Other

The laboratory reports for PAHs, phthalates, and SVOCs indicate that the method reporting limits were elevated in one or more samples due to relatively high concentrations of non-target background analytes.

A field decontamination blank (FDB) was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCBs. BEHP was detected by EPA 8270M-SIM in the FDB at a concentration of 1.12 ug/L. For samples FO080319, FO080316 and FO080320, the detections of BEHP are considered a result of field decontamination procedures (less than the concentration detected in the FDB). For samples FO080317 and FO080313, BEHP results are considered biased high (less than 10 times the concentration detected in the FDB).

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/29/08
Page: 1 of 1
Collected By: JTM, WCR

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

*Samples placed in sample receiving fridge @ 1937 2/29/08

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080313	4299 N Portland Rd	47-SW1	2/29/08	1704	G	•	•	•	•	•	•	12.1	32.4	6.7
FO 080314	13939 N Rivergate Blvd	53A-SW1	2/29/08	1745	G	•	•	•	•	•	•	10.8	179	7.4
FO 080315	6330 Front Ave.	22C-SW2	2/29/08	1810	G	•	•	•	•	•	•	9.5	147	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: WILL ROMAHN Date: 2/29/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1. Signature: Time: 0630	**Received By:** 2. Signature: Time:	**Received By:** 3. Signature: Time:	**Received By:** 4. Signature: Time:
Printed Name: Daniel L. Van Metre Date: 3/1/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/29/08
Page: 1 of 1
Collected By: MS, KHE

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 **Matrix:** STORMWTR

* Samples placed in sample receiving fridge @ 1941 2/29/08

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080316	NE Esser + River	45_SW	2/29/08	1712	G	●	●	●	●	●	●	11.7	56	6.7
FO 080317	Union Pacific Railyard	46_SW	2/29/08	1738	G	●	●	●	●	●	●	11.5	74	7.1
FO 080318	1030 NW St. Helens Rd	22D_SW	2/29/08	1820	G	●	●	●	●	●	●	8.5	97	7.1
FO 080319	Duplicate	DUP	2/29/08	—	G	●	●	●	●	●	●	—	—	—
FO 080320	Field Decon Blank	FDB	2/29/08	1834	G	●	●	●	●	●	●	—	—	—

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1941	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/29/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 0630	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Daniel L Van Ulden Date: 3/1/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080313** **Sample Collected:** 02/29/08 17:04 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM02087
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	32.4	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	12.1	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	56	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.012	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.62	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	0.31	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	3.86	µg/L	0.4	EPA 200.8	03/05/08
COPPER	16.2	µg/L	0.2	EPA 200.8	03/05/08
LEAD	7.60	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	2.84	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	99.2	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Anthracene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	0.0235	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	0.0140	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	0.0264	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	0.0253	µg/L	0.020	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	0.0199	µg/L	0.010	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	1.76	µg/L	1.00	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Chrysene	0.0470	µg/L	0.010	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	<0.0100	µg/L	0.010	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080313 **Sample Collected:** 02/29/08 17:04 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02087
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Fluoranthene	0.0905	µg/L	0.020	EPA 8270M-SIM	03/04/08
Fluorene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	0.0127	µg/L	0.010	EPA 8270M-SIM	03/04/08
Naphthalene	0.0297	µg/L	0.020	EPA 8270M-SIM	03/04/08
Phenanthrene	0.0892	µg/L	0.020	EPA 8270M-SIM	03/04/08
Pyrene	0.0730	µg/L	0.020	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
2,4-Dichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
2,4-Dimethylphenol	<8.1	µg/L	8.1	EPA 8270	03/06/08
2,4-Dinitrophenol	<8.1	µg/L	8.1	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/06/08
2-Chloronaphthalene	<0.41	µg/L	0.41	EPA 8270	03/06/08
2-Chlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
2-Methylnaphthalene	<0.41	µg/L	0.41	EPA 8270	03/06/08
2-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
2-Nitroaniline	<0.41	µg/L	0.41	EPA 8270	03/06/08
2-Nitrophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<4.1	µg/L	4.1	EPA 8270	03/06/08
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<4.1	µg/L	4.1	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
4-Chloroaniline	<0.41	µg/L	0.41	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080313** **Sample Collected:** 02/29/08 17:04 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02087
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/06/08
4-Nitrophenol	<4.1	µg/L	4.1	EPA 8270	03/06/08
Acenaphthene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Acenaphthylene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Anthracene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzo(a)anthracene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzo(a)pyrene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Benzoic acid	<11	µg/L	11	EPA 8270	03/06/08
Benzyl alcohol	<11	µg/L	11	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.41	µg/L	0.41	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.41	µg/L	0.41	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.41	µg/L	0.41	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	4.3	µg/L	2.1	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/06/08
Chrysene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Dibenzofuran	<0.41	µg/L	0.41	EPA 8270	03/06/08
Diethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/06/08
Dimethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/06/08
Fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Fluorene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Hexachlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Hexachlorobutadiene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<2.1	µg/L	2.1	EPA 8270	03/06/08
Hexachloroethane	<0.41	µg/L	0.41	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Isophorone	<0.41	µg/L	0.41	EPA 8270	03/06/08
Naphthalene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Nitrobenzene	<0.41	µg/L	0.41	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.41	µg/L	0.41	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080313**

Sample Collected: 02/29/08 17:04
Sample Received: 02/29/08

Sample Status: COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-47-AAT620		
	4299 N PORT CENTER WAY-NEAR SWAN ISL PS	**System ID:**	AM02087
Sample Point Code:	47_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.41	µg/L	0.41	EPA 8270	03/06/08
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
Phenanthrene	<0.41	µg/L	0.41	EPA 8270	03/06/08
Phenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
Pyrene	<0.41	µg/L	0.41	EPA 8270	03/06/08

End of Report for Sample ID: FO080313

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080314** **Sample Collected:** 02/29/08 17:45 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02088
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	129	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	7.4	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	10.8	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	106	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.044	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	3.07	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	0.56	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	73.6	µg/L	0.4	EPA 200.8	03/05/08
COPPER	29.8	µg/L	0.2	EPA 200.8	03/05/08
LEAD	33.6	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	7.39	µg/L	0.2	EPA 200.8	03/05/08
SILVER	0.17	µg/L	0.1	EPA 200.8	03/05/08
ZINC	516	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0565	µg/L	0.020	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Anthracene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	0.0162	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	0.0131	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	0.0238	µg/L	0.010	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	0.0207	µg/L	0.020	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	0.0164	µg/L	0.010	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Chrysene	0.0398	µg/L	0.010	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	<0.0100	µg/L	0.010	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080314 **Sample Collected:** 02/29/08 17:45 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02088
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/04/08
Fluoranthene	0.0909	µg/L	0.020	EPA 8270M-SIM	03/04/08
Fluorene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	0.0113	µg/L	0.010	EPA 8270M-SIM	03/04/08
Naphthalene	<0.0200	µg/L	0.020	EPA 8270M-SIM	03/04/08
Phenanthrene	0.0572	µg/L	0.020	EPA 8270M-SIM	03/04/08
Pyrene	0.0735	µg/L	0.020	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	03/06/08
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	03/06/08
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080314** **Sample Collected:** 02/29/08 17:45 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02088
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	03/06/08
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	03/06/08
Butyl benzyl phthalate	0.26	µg/L	0.21	EPA 8270	03/06/08
Chrysene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	03/06/08
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluorene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	03/06/08
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Isophorone	<0.21	µg/L	0.21	EPA 8270	03/06/08
Naphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080314 **Sample Collected:** 02/29/08 17:45 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-53A-AAA170		
	13939 N RIVERGATE BLVD	**System ID:**	AM02088
Sample Point Code:	53A_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Phenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
Pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08

End of Report for Sample ID: FO080314

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080315** **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02089
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	147	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	9.5	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	4	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.0039	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.98	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	0.59	µg/L	0.4	EPA 200.8	03/05/08
COPPER	1.35	µg/L	0.2	EPA 200.8	03/05/08
LEAD	0.29	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	0.68	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	3.47	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	1.50	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080315** **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02089
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Fluoranthene	0.0724	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Fluorene	0.218	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Naphthalene	0.0358	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Pyrene	0.0793	µg/L	0.0194	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,2-Dichlorobenzene	0.23	µg/L	0.21	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2,4-Dimethylphenol	<4.2	µg/L	4.2	EPA 8270	03/06/08
2,4-Dinitrophenol	<4.2	µg/L	4.2	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chlorophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Nitrophenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	03/06/08
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080315** **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02089
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
Acenaphthene	0.71	µg/L	0.21	EPA 8270	03/06/08
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzoic acid	<5.2	µg/L	5.2	EPA 8270	03/06/08
Benzyl alcohol	<5.2	µg/L	5.2	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Chrysene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	03/06/08
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluorene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	03/06/08
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Isophorone	<0.21	µg/L	0.21	EPA 8270	03/06/08
Naphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080315 **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02089
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/WCR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Phenol	<0.52	µg/L	0.52	EPA 8270	03/06/08
Pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08

End of Report for Sample ID: FO080315

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080316 **Sample Collected:** 02/29/08 17:12 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-45-ABC319		
	N ESSEX & RIVER	**System ID:**	AM02090
Sample Point Code:	45_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	56	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	6.7	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	11.7	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	146	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.092	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.36	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	0.62	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	14.4	µg/L	0.4	EPA 200.8	03/05/08
COPPER	29.8	µg/L	0.2	EPA 200.8	03/05/08
LEAD	15.1	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	13.5	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	391	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	03/04/08
Anthracene	0.0322	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	0.0382	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	0.0383	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	0.0659	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	0.0551	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	0.0309	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	1.11	µg/L	0.971	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Chrysene	0.0978	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	0.0133	µg/L	0.00971	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080316** **Sample Collected:** 02/29/08 17:12 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02090
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Fluoranthene	0.196	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Fluorene	0.0230	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	0.0323	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Naphthalene	0.0422	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Phenanthrene	0.109	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Pyrene	0.147	µg/L	0.0194	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	03/06/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/06/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080316** **Sample Collected:** 02/29/08 17:12 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02090
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	03/06/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	03/06/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	3.2	µg/L	1.0	EPA 8270	03/06/08
Butyl benzyl phthalate	0.32	µg/L	0.20	EPA 8270	03/06/08
Chrysene	0.24	µg/L	0.20	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/06/08
Diethyl phthalate	0.22	µg/L	0.20	EPA 8270	03/06/08
Dimethyl phthalate	0.22	µg/L	0.20	EPA 8270	03/06/08
Di-n-butyl phthalate	0.22	µg/L	0.20	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Fluoranthene	0.32	µg/L	0.20	EPA 8270	03/06/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	03/06/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/06/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080316**
Sample Collected: 02/29/08 17:12
Sample Received: 02/29/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM02090
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	03/06/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Phenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
Pyrene	0.33	µg/L	0.20	EPA 8270	03/06/08

End of Report for Sample ID: FO080316

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080317** **Sample Collected:** 02/29/08 17:38 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-46-AMR809		
	UNION PACIFIC RAILYARD	**System ID:**	AM02091
Sample Point Code:	46_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	74	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	11.5	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	186	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.022	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.30	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	0.59	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	10.0	µg/L	0.4	EPA 200.8	03/05/08
COPPER	44.3	µg/L	0.2	EPA 200.8	03/05/08
LEAD	18.5	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	6.46	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	363	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Anthracene	0.0427	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	0.102	µg/L	0.0962	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	0.0784	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	0.150	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	0.143	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	0.0843	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	3.43	µg/L	0.962	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Chrysene	0.285	µg/L	0.0962	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	0.0297	µg/L	0.0192	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: FO080317 **Sample Collected:** 02/29/08 17:38 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02091
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	1.06	µg/L	0.962	EPA 8270M-SIM	03/04/08
Fluoranthene	0.455	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Fluorene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	0.0605	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Naphthalene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Phenanthrene	0.235	µg/L	0.0385	EPA 8270M-SIM	03/04/08
Pyrene	0.309	µg/L	0.192	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
2,4-Dichlorophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
2,4-Dimethylphenol	<16	µg/L	16	EPA 8270	03/06/08
2,4-Dinitrophenol	<16	µg/L	16	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.79	µg/L	0.79	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.79	µg/L	0.79	EPA 8270	03/06/08
2-Chloronaphthalene	<0.79	µg/L	0.79	EPA 8270	03/06/08
2-Chlorophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
2-Methylnaphthalene	<0.79	µg/L	0.79	EPA 8270	03/06/08
2-Methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
2-Nitroaniline	<0.79	µg/L	0.79	EPA 8270	03/06/08
2-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<7.9	µg/L	7.9	EPA 8270	03/06/08
3-Nitroaniline	<4.0	µg/L	4.0	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<7.9	µg/L	7.9	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.79	µg/L	0.79	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
4-Chloroaniline	<0.79	µg/L	0.79	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.79	µg/L	0.79	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080317** **Sample Collected:** 02/29/08 17:38 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02091
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
4-Nitroaniline	<4.0	µg/L	4.0	EPA 8270	03/06/08
4-Nitrophenol	<7.9	µg/L	7.9	EPA 8270	03/06/08
Acenaphthene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Acenaphthylene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Anthracene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzo(a)anthracene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzo(a)pyrene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Benzoic acid	<20	µg/L	20	EPA 8270	03/06/08
Benzyl alcohol	<20	µg/L	20	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.79	µg/L	0.79	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.79	µg/L	0.79	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.79	µg/L	0.79	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	4.5	µg/L	4.0	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.79	µg/L	0.79	EPA 8270	03/06/08
Chrysene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Dibenzofuran	<0.79	µg/L	0.79	EPA 8270	03/06/08
Diethyl phthalate	<0.79	µg/L	0.79	EPA 8270	03/06/08
Dimethyl phthalate	<0.79	µg/L	0.79	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.79	µg/L	0.79	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.79	µg/L	0.79	EPA 8270	03/06/08
Fluoranthene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Fluorene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Hexachlorobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Hexachlorobutadiene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<4.0	µg/L	4.0	EPA 8270	03/06/08
Hexachloroethane	<0.79	µg/L	0.79	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Isophorone	<0.79	µg/L	0.79	EPA 8270	03/06/08
Naphthalene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Nitrobenzene	<0.79	µg/L	0.79	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.79	µg/L	0.79	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080317** **Sample Collected:** 02/29/08 17:38 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-46-AMR809		
	UNION PACIFIC RAILYARD	**System ID:**	AM02091
Sample Point Code:	46_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.79	µg/L	0.79	EPA 8270	03/06/08
Pentachlorophenol	<4.0	µg/L	4.0	EPA 8270	03/06/08
Phenanthrene	<0.79	µg/L	0.79	EPA 8270	03/06/08
Phenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
Pyrene	<0.79	µg/L	0.79	EPA 8270	03/06/08

End of Report for Sample ID: FO080317

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080318** **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-22D-AAE396		
	9030 NW ST HELENS RD	**System ID:**	AM02092
Sample Point Code:	22D_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	97	µmhos/cm	1	SM 2510 B	02/29/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	02/29/08
TEMPERATURE	8.5	Deg. C	0.1	SM 2550 B	02/29/08
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.0045	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.23	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	1.34	µg/L	0.4	EPA 200.8	03/05/08
COPPER	2.79	µg/L	0.2	EPA 200.8	03/05/08
LEAD	1.35	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	0.79	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	18.6	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Chrysene	0.0128	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080318 **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02092
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Fluoranthene	0.0242	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Phenanthrene	0.0204	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Pyrene	0.0316	µg/L	0.0194	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
2,4-Dimethylphenol	<4.1	µg/L	4.1	EPA 8270	03/06/08
2,4-Dinitrophenol	<4.1	µg/L	4.1	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chloronaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Chlorophenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
2-Methylnaphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Methylphenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
2-Nitroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
2-Nitrophenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.1	µg/L	2.1	EPA 8270	03/06/08
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
4-Chloroaniline	<0.21	µg/L	0.21	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080318** **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02092
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/06/08
4-Nitrophenol	<2.1	µg/L	2.1	EPA 8270	03/06/08
Acenaphthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Acenaphthylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Benzoic acid	<5.1	µg/L	5.1	EPA 8270	03/06/08
Benzyl alcohol	<5.1	µg/L	5.1	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.21	µg/L	0.21	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	<1.1	µg/L	1.1	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Chrysene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dibenzofuran	<0.21	µg/L	0.21	EPA 8270	03/06/08
Diethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Dimethyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluoranthene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Fluorene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorobutadiene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	03/06/08
Hexachloroethane	<0.21	µg/L	0.21	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Isophorone	<0.21	µg/L	0.21	EPA 8270	03/06/08
Naphthalene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Nitrobenzene	<0.21	µg/L	0.21	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080318 **Sample Collected:** 02/29/08 18:20 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-22D-AAE396		
	9030 NW ST HELENS RD	**System ID:**	AM02092
Sample Point Code:	22D_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.21	µg/L	0.21	EPA 8270	03/06/08
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	03/06/08
Phenanthrene	<0.21	µg/L	0.21	EPA 8270	03/06/08
Phenol	<0.51	µg/L	0.51	EPA 8270	03/06/08
Pyrene	<0.21	µg/L	0.21	EPA 8270	03/06/08

End of Report for Sample ID: FO080318

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080319 **Sample Collected:** 02/29/08 00:00 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

System ID: AM02093
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	0.0036	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.22	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	1.54	µg/L	0.4	EPA 200.8	03/05/08
COPPER	2.71	µg/L	0.2	EPA 200.8	03/05/08
LEAD	1.42	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	0.76	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	18.4	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	0.0193	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	0.0152	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	0.0187	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	0.0236	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	0.0189	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Chrysene	0.0286	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	0.0150	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/04/08
Fluoranthene	0.0306	µg/L	0.0194	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080319 **Sample Collected:** 02/29/08 00:00 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02093
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	0.0169	µg/L	0.00971	EPA 8270M-SIM	03/04/08
Naphthalene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Phenanthrene	0.0214	µg/L	0.0194	EPA 8270M-SIM	03/04/08
Pyrene	0.0362	µg/L	0.0194	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	03/06/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/06/08
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	03/06/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080319 **Sample Collected:** 02/29/08 00:00 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02093
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	03/06/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	<0.99	µg/L	0.99	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/06/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	03/06/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/06/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	03/06/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Phenol	<0.50	µg/L	0.50	EPA 8270	03/06/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080319**

Sample Collected: 02/29/08 00:00
Sample Received: 02/29/08

Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 4 of 4

System ID: AM02093
Sample Point Code: DUP
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: STORMWTR
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO080319

Report Date: 04/08/08

Validated By:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080320** **Sample Collected:** 02/29/08 18:34 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 1 of 4

System ID: AM02094
Sample Point Code: FDBLANK
EID File # : 1020.005
Sample Type: GRAB
LocCode: PORTHASW
Sample Matrix: DIWTR
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	02/29/08
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-10.02	03/05/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	03/05/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	03/05/08
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	03/05/08
COPPER	<0.20	µg/L	0.2	EPA 200.8	03/05/08
LEAD	<0.10	µg/L	0.1	EPA 200.8	03/05/08
NICKEL	<0.20	µg/L	0.2	EPA 200.8	03/05/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/05/08
ZINC	<0.50	µg/L	0.5	EPA 200.8	03/05/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Acenaphthylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Anthracene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Benzo(a)anthracene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Benzo(a)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Benzo(b)fluoranthene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Benzo(ghi)perylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Benzo(k)fluoranthene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Bis(2-ethylhexyl) phthalate	1.12	µg/L	0.962	EPA 8270M-SIM	03/04/08
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Chrysene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Dibenzo(a,h)anthracene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Di-n-octyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	03/04/08
Fluoranthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080320 **Sample Collected:** 02/29/08 18:34 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

System ID: AM02094
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Indeno(1,2,3-cd)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	03/04/08
Naphthalene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Phenanthrene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
Pyrene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	03/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	03/06/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	03/06/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/06/08
3-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	03/06/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
4-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	03/06/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/06/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080320** **Sample Collected:** 02/29/08 18:34 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 3 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AM02094
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	03/06/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	03/06/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/06/08
Bis(2-ethylhexyl) phthalate	<0.97	µg/L	0.97	EPA 8270	03/06/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/06/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/06/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270	03/06/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/06/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/06/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/06/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/06/08
Pentachlorophenol	<0.97	µg/L	0.97	EPA 8270	03/06/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/06/08
Phenol	<0.49	µg/L	0.49	EPA 8270	03/06/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/06/08

Report Date: 04/08/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080320 **Sample Collected:** 02/29/08 18:34 **Sample Received:** 02/29/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AM02094
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/KHF

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO080320

Report Date: 04/08/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

March 31, 2008 Analytical Report for Service Request No: K0801766

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Sump

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on March 03, 2008. For your reference, these analyses have been assigned our service request number K0801766.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Received:**	03/03/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 03/03/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Elevated Method Reporting Limits:
The reporting limits are elevated for samples FO 080313 and FO 080317. The sample extracts were diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extracts was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilutions. Semi-quantitative screens were performed prior to final analysis. The results of the screening indicated the need to perform dilutions.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 4/1/08

Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K0801764

PAGE 1 OF 1 COC #

PROJECT NAME: Portland Harbor Stormwater Samp
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVEL 5 VOC's EPA 8270 c	PAH + Phthalates EPA 8270C-SIM			REMARKS
FA 080313	2/29/08	1704		Storm Water	1															X				
314		1745			1															X				
315		1820			1															X				
316		1712			1															X				
317		1738			1															X				
318		1820			1															X				
319		—			1															X				
320		1834			1															X				

REPORT REQUIREMENTS

URGENT

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #:
Bill To:

TURNAROUND REQUIREMENTS

- ____ 24 hr. ____ 48 hr.
- ____ 5 Day
- ____ Standard (10-15 working days)
- ____ Provide FAX Results

Requested Report Date:

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for Low Level analysis of full semi-vol 8270 list. Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 3/3/07 0940	Date/Time: 3/3/07 0940	Date/Time:	Date/Time: 3/3/08 1520
Printed Name: Ron Klinch	Printed Name:	Printed Name:	Printed Name: Tracy Black
Firm: City of Portland BES	Firm: CAS	Firm:	Firm: CAS

PC nv

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: City of Portland Service Request K08 01766

Received: 3/3/08 Opened: 3/3/08 By: ll

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	9.1			
Temperature Blank (°C):				
6. If applicable, list Chain of Custody Numbers:				

7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* NONE
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. *See sample receiving SOP (SMO-GEN).*

Additional Notes, Discrepancies, & Resolutions: _____

URGENT

Semi-Volatile Organic Compounds
EPA Method 8270C

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080313	**Units:**	ug/L
Lab Code:	K0801766-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	11	2	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	8.1	2	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	11	2	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	2.1	2	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	1.1	2	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Collected: 02/29/2008
Date Received: 03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080313
Lab Code: K0801766-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	2.1	2	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	8.1	2	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	4.1	2	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	2.1	2	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	4.1	2	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	2.1	2	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	4.1	2	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	**4.3**	D	2.1	2	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
ndeno(1,2,3-cd)pyrene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.41	2	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080313	**Units:**	ug/L
Lab Code:	K0801766-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	50	16-122	03/21/08	Acceptable
Phenol-d6	78	25-118	03/21/08	Acceptable
Nitrobenzene-d5	109	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	65	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	92	22-148	03/21/08	Acceptable
Terphenyl-d14	59	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080314	**Units:**	ug/L
Lab Code:	K0801766-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Phenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
2-Chlorophenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Benzyl Alcohol	ND	U	5.2	1	03/06/08	03/27/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
2-Methylphenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
Hexachloroethane	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Methylphenol†	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
Nitrobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Isophorone	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
2-Nitrophenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
2,4-Dimethylphenol	ND	U	4.2	1	03/06/08	03/27/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
Benzoic Acid	ND	U	5.2	1	03/06/08	03/27/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Naphthalene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Chloroaniline	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	1.1	1	03/06/08	03/27/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.52	1	03/06/08	03/27/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
2-Nitroaniline	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Acenaphthylene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Acenaphthene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080314	**Units:**	ug/L
Lab Code:	K0801766-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	1.1	1	03/06/08	03/27/08	KWG0802036	
2,4-Dinitrophenol	ND	U	4.2	1	03/06/08	03/27/08	KWG0802036	
Dibenzofuran	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Nitrophenol	ND	U	2.1	1	03/06/08	03/27/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Fluorene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Diethyl Phthalate	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Nitroaniline	ND	U	1.1	1	03/06/08	03/27/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	03/06/08	03/27/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Hexachlorobenzene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Pentachlorophenol	ND	U	1.1	1	03/06/08	03/27/08	KWG0802036	
Phenanthrene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Anthracene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Fluoranthene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Pyrene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Butyl Benzyl Phthalate	**0.26**		0.21	1	03/06/08	03/27/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.1	1	03/06/08	03/27/08	KWG0802036	
Benz(a)anthracene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Chrysene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	03/06/08	03/27/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.21	1	03/06/08	03/27/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080314	**Units:**	ug/L
Lab Code:	K0801766-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	16-122	03/27/08	Acceptable
Phenol-d6	71	25-118	03/27/08	Acceptable
Nitrobenzene-d5	69	24-131	03/27/08	Acceptable
2-Fluorobiphenyl	67	26-114	03/27/08	Acceptable
2,4,6-Tribromophenol	90	22-148	03/27/08	Acceptable
Terphenyl-d14	67	28-144	03/27/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080315	**Units:**	ug/L
Lab Code:	K0801766-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	**0.23**		0.21	1	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	5.2	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	4.2	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	5.2	1	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.52	1	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Acenaphthene	**0.71**		0.21	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Collected: 02/29/2008
Date Received: 03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080315
Lab Code: K0801766-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	4.2	1	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080315	**Units:**	ug/L
Lab Code:	K0801766-003	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	58	16-122	03/21/08	Acceptable
Phenol-d6	84	25-118	03/21/08	Acceptable
Nitrobenzene-d5	98	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	57	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	89	22-148	03/21/08	Acceptable
Terphenyl-d14	78	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080316	**Units:**	ug/L
Lab Code:	K0801766-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Phenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
2-Chlorophenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Benzyl Alcohol	ND	U	5.0	1	03/06/08	03/27/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
2-Methylphenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
Hexachloroethane	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Methylphenol†	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
Nitrobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Isophorone	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
2-Nitrophenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
2,4-Dimethylphenol	ND	U	4.0	1	03/06/08	03/27/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
Benzoic Acid	ND	U	5.0	1	03/06/08	03/27/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Naphthalene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Chloroaniline	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	1.0	1	03/06/08	03/27/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.50	1	03/06/08	03/27/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
2-Nitroaniline	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Acenaphthylene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Dimethyl Phthalate	**0.22**		0.20	1	03/06/08	03/27/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Acenaphthene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080316	**Units:**	ug/L
Lab Code:	K0801766-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	1.0	1	03/06/08	03/27/08	KWG0802036	
2,4-Dinitrophenol	ND	U	4.0	1	03/06/08	03/27/08	KWG0802036	
Dibenzofuran	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Nitrophenol	ND	U	2.0	1	03/06/08	03/27/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Fluorene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Diethyl Phthalate	**0.22**		0.20	1	03/06/08	03/27/08	KWG0802036	
4-Nitroaniline	ND	U	1.0	1	03/06/08	03/27/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/06/08	03/27/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Hexachlorobenzene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Pentachlorophenol	ND	U	1.0	1	03/06/08	03/27/08	KWG0802036	
Phenanthrene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Anthracene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Di-n-butyl Phthalate	**0.22**		0.20	1	03/06/08	03/27/08	KWG0802036	
Fluoranthene	**0.32**		0.20	1	03/06/08	03/27/08	KWG0802036	
Pyrene	**0.33**		0.20	1	03/06/08	03/27/08	KWG0802036	
Butyl Benzyl Phthalate	**0.32**		0.20	1	03/06/08	03/27/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/06/08	03/27/08	KWG0802036	
Benz(a)anthracene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Chrysene	**0.24**		0.20	1	03/06/08	03/27/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	**3.2**		1.0	1	03/06/08	03/27/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/06/08	03/27/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080316	**Units:**	ug/L
Lab Code:	K0801766-004	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	79	16-122	03/27/08	Acceptable
Phenol-d6	83	25-118	03/27/08	Acceptable
Nitrobenzene-d5	78	24-131	03/27/08	Acceptable
2-Fluorobiphenyl	67	26-114	03/27/08	Acceptable
2,4,6-Tribromophenol	102	22-148	03/27/08	Acceptable
Terphenyl-d14	61	28-144	03/27/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080317	**Units:**	ug/L
Lab Code:	K0801766-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	20	4	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	16	4	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	20	4	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	4.0	4	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	2.0	4	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Collected: 02/29/2008
Date Received: 03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080317
Lab Code: K0801766-005

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	4.0	4	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	16	4	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	7.9	4	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	4.0	4	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	7.9	4	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	4.0	4	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	7.9	4	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	**4.5**	D	4.0	4	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
ndeno(1,2,3-cd)pyrene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.79	4	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080317	**Units:**	ug/L
Lab Code:	K0801766-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	16-122	03/21/08	Acceptable
Phenol-d6	89	25-118	03/21/08	Acceptable
Nitrobenzene-d5	98	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	63	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	88	22-148	03/21/08	Acceptable
Terphenyl-d14	61	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080318	**Units:**	ug/L
Lab Code:	K0801766-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	5.1	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	4.1	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	5.1	1	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.51	1	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080318	**Units:**	ug/L
Lab Code:	K0801766-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	4.1	1	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.1	1	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	1.1	1	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.21	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080318	**Units:**	ug/L
Lab Code:	K0801766-006	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	54	16-122	03/21/08	Acceptable
Phenol-d6	79	25-118	03/21/08	Acceptable
Nitrobenzene-d5	89	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	58	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	85	22-148	03/21/08	Acceptable
Terphenyl-d14	81	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080319	**Units:**	ug/L
Lab Code:	K0801766-007	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	5.0	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	4.0	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	5.0	1	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	0.99	1	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.50	1	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080319	**Units:**	ug/L
Lab Code:	K0801766-007	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	0.99	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	4.0	1	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	0.99	1	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	0.99	1	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080319	**Units:**	ug/L
Lab Code:	K0801766-007	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	62	16-122	03/21/08	Acceptable
Phenol-d6	83	25-118	03/21/08	Acceptable
Nitrobenzene-d5	94	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	67	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	87	22-148	03/21/08	Acceptable
Terphenyl-d14	69	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Collected: 02/29/2008
Date Received: 03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080320
Lab Code: K0801766-008

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Phenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	4.9	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	3.9	1	03/06/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	4.9	1	03/06/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	0.97	1	03/06/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.49	1	03/06/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080320	**Units:**	ug/L
Lab Code:	K0801766-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	0.97	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	3.9	1	03/06/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	0.97	1	03/06/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	0.97	1	03/06/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/06/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	0.97	1	03/06/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/06/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	02/29/2008
Sample Matrix:	Water	**Date Received:**	03/03/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080320	**Units:**	ug/L
Lab Code:	K0801766-008	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	63	16-122	03/21/08	Acceptable
Phenol-d6	83	25-118	03/21/08	Acceptable
Nitrobenzene-d5	93	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	70	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	71	22-148	03/21/08	Acceptable
Terphenyl-d14	83	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802036-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Phenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
2-Chlorophenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
1,3-Dichlorobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
1,4-Dichlorobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
1,2-Dichlorobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Benzyl Alcohol	ND	U	4.8	1	03/05/08	03/21/08	KWG0802036	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
2-Methylphenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
Hexachloroethane	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Methylphenol†	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
Nitrobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Isophorone	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
2-Nitrophenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
2,4-Dimethylphenol	ND	U	3.9	1	03/05/08	03/21/08	KWG0802036	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
2,4-Dichlorophenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
Benzoic Acid	ND	U	4.8	1	03/05/08	03/21/08	KWG0802036	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Naphthalene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Chloroaniline	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Hexachlorobutadiene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Chloro-3-methylphenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
2-Methylnaphthalene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Hexachlorocyclopentadiene	ND	U	0.96	1	03/05/08	03/21/08	KWG0802036	
2,4,6-Trichlorophenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
2,4,5-Trichlorophenol	ND	U	0.48	1	03/05/08	03/21/08	KWG0802036	
2-Chloronaphthalene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
2-Nitroaniline	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Acenaphthylene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Dimethyl Phthalate	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
2,6-Dinitrotoluene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Acenaphthene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802036-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
3-Nitroaniline	ND	U	0.96	1	03/05/08	03/21/08	KWG0802036	
2,4-Dinitrophenol	ND	U	3.9	1	03/05/08	03/21/08	KWG0802036	
Dibenzofuran	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Nitrophenol	ND	U	2.0	1	03/05/08	03/21/08	KWG0802036	
2,4-Dinitrotoluene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Fluorene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Diethyl Phthalate	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Nitroaniline	ND	U	0.96	1	03/05/08	03/21/08	KWG0802036	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/05/08	03/21/08	KWG0802036	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Hexachlorobenzene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Pentachlorophenol	ND	U	0.96	1	03/05/08	03/21/08	KWG0802036	
Phenanthrene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Anthracene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Di-n-butyl Phthalate	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Fluoranthene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Pyrene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/05/08	03/21/08	KWG0802036	
Benz(a)anthracene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Chrysene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Bis(2-ethylhexyl) Phthalate	ND	U	0.96	1	03/05/08	03/21/08	KWG0802036	
Di-n-octyl Phthalate	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Benzo(b)fluoranthene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Benzo(k)fluoranthene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Benzo(a)pyrene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/05/08	03/21/08	KWG0802036	

Comments:

Client:	Portland, City of	**Service Request:**	K0801766
Project:	Portland Harbor Stormwater Sump	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802036-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	43	16-122	03/21/08	Acceptable
Phenol-d6	54	25-118	03/21/08	Acceptable
Nitrobenzene-d5	64	24-131	03/21/08	Acceptable
2-Fluorobiphenyl	54	26-114	03/21/08	Acceptable
2,4,6-Tribromophenol	44	22-148	03/21/08	Acceptable
Terphenyl-d14	66	28-144	03/21/08	Acceptable

Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080313	K0801766-001	50 D	78 D	109 D	65 D	92 D	59 D
FO 080314	K0801766-002	65	71	69	67	90	67
FO 080315	K0801766-003	58	84	98	57	89	78
FO 080316	K0801766-004	79	83	78	67	102	61
FO 080317	K0801766-005	66 D	89 D	98 D	63 D	88 D	61 D
FO 080318	K0801766-006	54	79	89	58	85	81
FO 080319	K0801766-007	62	83	94	67	87	69
FO 080320	K0801766-008	63	83	93	70	71	83
Method Blank	KWG0802036-3	43	54	64	54	44	66
Lab Control Sample	KWG0802036-1	64	74	82	75	90	75
Duplicate Lab Control Sample	KWG0802036-2	59	79	84	68	93	82

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Extracted: 03/05/2008
Date Analyzed: 03/21/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802036

	Lab Control Sample KWG0802036-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802036-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.19	5.00	64	3.25	5.00	65	30-125	2	30
Phenol	3.30	5.00	66	3.41	5.00	68	32-117	3	30
2-Chlorophenol	3.28	5.00	66	3.32	5.00	66	32-117	1	30
1,3-Dichlorobenzene	2.01	5.00	40	1.97	5.00	39	10-79	2	30
1,4-Dichlorobenzene	2.16	5.00	43	2.05	5.00	41	10-81	5	30
1,2-Dichlorobenzene	2.42	5.00	48	2.40	5.00	48	15-86	1	30
Benzyl Alcohol	3.94	5.00	79	3.94	5.00	79	33-119	0	30
Bis(2-chloroisopropyl) Ether	3.29	5.00	66	3.35	5.00	67	29-116	2	30
2-Methylphenol	3.45	5.00	69	3.42	5.00	68	29-115	1	30
Hexachloroethane	1.77	5.00	35	1.71	5.00	34	10-76	3	30
N-Nitrosodi-n-propylamine	3.94	5.00	79	3.61	5.00	72	35-119	9	30
4-Methylphenol	3.67	5.00	73	3.43	5.00	69	30-116	7	30
Nitrobenzene	3.81	5.00	76	3.80	5.00	76	34-122	0	30
Isophorone	3.31	5.00	66	3.24	5.00	65	33-121	2	30
2-Nitrophenol	3.38	5.00	68	3.45	5.00	69	33-120	2	30
2,4-Dimethylphenol	1.96	5.00	39	1.58	5.00	32	10-116	22	30
Bis(2-chloroethoxy)methane	3.38	5.00	68	3.38	5.00	68	34-119	0	30
2,4-Dichlorophenol	3.51	5.00	70	3.43	5.00	69	33-120	2	30
Benzoic Acid	2.56	15.0	17	3.30	15.0	22	10-118	25	30
1,2,4-Trichlorobenzene	2.32	5.00	46	2.31	5.00	46	14-88	0	30
Naphthalene	3.03	5.00	61	3.05	5.00	61	27-103	1	30
4-Chloroaniline	2.93	5.00	59	3.02	5.00	60	10-110	3	30
Hexachlorobutadiene	1.51	5.00	30	1.47	5.00	29	10-75	3	30
4-Chloro-3-methylphenol	3.17	5.00	63	3.42	5.00	68	37-120	8	30
2-Methylnaphthalene	2.80	5.00	56	3.01	5.00	60	27-99	7	30
Hexachlorocyclopentadiene	0.640	5.00	13	0.582	5.00	12	10-54	9	30
2,4,6-Trichlorophenol	3.98	5.00	80	3.44	5.00	69	34-118	14	30
2,4,5-Trichlorophenol	3.92	5.00	78	3.61	5.00	72	36-119	8	30
2-Chloronaphthalene	3.43	5.00	69	3.02	5.00	60	30-108	13	30
2-Nitroaniline	3.47	5.00	69	3.35	5.00	67	35-122	3	30
Acenaphthylene	3.33	5.00	67	3.17	5.00	63	39-116	5	30
Dimethyl Phthalate	3.47	5.00	69	3.45	5.00	69	43-116	1	30
2,6-Dinitrotoluene	3.57	5.00	71	3.48	5.00	70	42-120	3	30
Acenaphthene	3.25	5.00	65	3.11	5.00	62	36-108	4	30
3-Nitroaniline	3.27	5.00	65	3.37	5.00	67	24-115	3	30
2,4-Dinitrophenol	2.12	5.00	42	2.25	5.00	45	10-121	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Sump
Sample Matrix: Water

Service Request: K0801766
Date Extracted: 03/05/2008
Date Analyzed: 03/21/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802036

	Lab Control Sample KWG0802036-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802036-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dibenzofuran	3.13	5.00	63	3.22	5.00	64	36-108	3	30
4-Nitrophenol	3.29	5.00	66	3.37	5.00	67	33-136	3	30
2,4-Dinitrotoluene	3.48	5.00	70	3.52	5.00	70	43-124	1	30
Fluorene	2.90	5.00	58	3.16	5.00	63	37-113	8	30
4-Chlorophenyl Phenyl Ether	2.81	5.00	56	3.04	5.00	61	36-112	8	30
Diethyl Phthalate	3.11	5.00	62	3.28	5.00	66	42-120	5	30
4-Nitroaniline	2.98	5.00	60	3.12	5.00	62	23-120	5	30
2-Methyl-4,6-dinitrophenol	2.59	5.00	52	2.91	5.00	58	24-123	12	30
N-Nitrosodiphenylamine	3.01	5.00	60	3.33	5.00	67	30-115	10	30
4-Bromophenyl Phenyl Ether	3.44	5.00	69	3.60	5.00	72	40-113	4	30
Hexachlorobenzene	3.37	5.00	67	3.45	5.00	69	40-114	2	30
Pentachlorophenol	3.21	5.00	64	3.17	5.00	63	24-123	1	30
Phenanthrene	3.38	5.00	68	3.31	5.00	66	42-113	2	30
Anthracene	3.26	5.00	65	3.21	5.00	64	40-113	2	30
Di-n-butyl Phthalate	4.14	5.00	83	3.49	5.00	70	46-119	17	30
Fluoranthene	3.95	5.00	79	3.20	5.00	64	44-116	21	30
Pyrene	3.31	5.00	66	3.46	5.00	69	42-121	4	30
Butyl Benzyl Phthalate	3.48	5.00	70	3.53	5.00	71	43-121	1	30
3,3'-Dichlorobenzidine	3.01	5.00	60	2.90	5.00	58	10-101	4	30
Benz(a)anthracene	3.46	5.00	69	3.47	5.00	69	43-121	0	30
Chrysene	3.57	5.00	71	3.49	5.00	70	45-119	2	30
Bis(2-ethylhexyl) Phthalate	3.84	5.00	77	3.63	5.00	73	34-136	6	30
Di-n-octyl Phthalate	3.39	5.00	68	3.40	5.00	68	39-123	0	30
Benzo(b)fluoranthene	3.39	5.00	68	3.39	5.00	68	42-119	0	30
Benzo(k)fluoranthene	3.38	5.00	68	3.39	5.00	68	43-120	0	30
Benzo(a)pyrene	3.26	5.00	65	3.27	5.00	65	39-116	0	30
Indeno(1,2,3-cd)pyrene	3.68	5.00	74	3.76	5.00	75	42-123	2	30
Dibenz(a,h)anthracene	3.64	5.00	73	3.66	5.00	73	38-130	1	30
Benzo(g,h,i)perylene	3.67	5.00	73	3.79	5.00	76	38-125	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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March 20, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 03/03/08 10:00. The following list is a summary of the Work Orders contained in this report, generated on 03/20/08 15:21.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRC0016	Portland Harbor	36238

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080313	PRC0016-01	Water	02/29/08 17:04	03/03/08 10:00
FO 080314	PRC0016-02	Water	02/29/08 17:45	03/03/08 10:00
FO 080315	PRC0016-03	Water	02/29/08 18:20	03/03/08 10:00
FO 080316	PRC0016-04	Water	02/29/08 17:12	03/03/08 10:00
FO 080317	PRC0016-05	Water	02/29/08 17:38	03/03/08 10:00
FO 080318	PRC0016-06	Water	02/29/08 18:20	03/03/08 10:00
FO 080319	PRC0016-07	Water	02/29/08 00:00	03/03/08 10:00
FO 080320	PRC0016-08	Water	02/29/08 18:34	03/03/08 10:00

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-01 (FO 080313)		**Water**			**Sampled: 02/29/08 17:04**					
Acenaphthene	EPA 8270m	ND	*0.0200*	0.0200	ug/l	1x	8030061	03/04/08 10:50	03/07/08 15:17	
Acenaphthylene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Anthracene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0235**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0140**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0264**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0253**	*0.0200*	0.0200	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0199**	*0.0100*	0.0100	"	"	"	"	"	
Chrysene	"	**0.0470**	*0.0100*	0.0100	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0100*	0.0100	"	"	"	"	"	
Fluoranthene	"	**0.0905**	*0.0200*	0.0200	"	"	"	"	"	
Fluorene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0127**	*0.0100*	0.0100	"	"	"	"	"	
Naphthalene	"	**0.0297**	*0.0200*	0.0200	"	"	"	"	"	
Phenanthrene	"	**0.0892**	*0.0200*	0.0200	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.76**	*0.526*	1.00	"	"	"	"	03/10/08 17:11	
Butyl benzyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Pyrene	"	**0.0730**	*0.0200*	0.0200	"	"	"	"	03/07/08 15:17	
Surrogate(s): Fluorene-d10			*69.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*66.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*54.3%*		*10 - 125 %*	"			"	
PRC0016-02 (FO 080314)		**Water**			**Sampled: 02/29/08 17:45**					
Acenaphthene	EPA 8270m	**0.0565**	*0.0200*	0.0200	ug/l	1x	8030061	03/04/08 10:50	03/07/08 15:48	
Acenaphthylene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Anthracene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0162**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0131**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0238**	*0.0100*	0.0100	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0207**	*0.0200*	0.0200	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0164**	*0.0100*	0.0100	"	"	"	"	"	
Chrysene	"	**0.0398**	*0.0100*	0.0100	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0100*	0.0100	"	"	"	"	"	
Fluoranthene	"	**0.0909**	*0.0200*	0.0200	"	"	"	"	"	
Fluorene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0113**	*0.0100*	0.0100	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-02 (FO 080314)			**Water**			**Sampled: 02/29/08 17:45**				
Naphthalene	EPA 8270m	ND	*0.0200*	0.0200	ug/l	1x	8030061	03/04/08 10:50	03/07/08 15:48	
Phenanthrene	"	**0.0572**	*0.0200*	0.0200	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.618**	*0.526*	1.00	"	"	"	"	03/10/08 17:44	**J**
Butyl benzyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Pyrene	"	**0.0735**	*0.0200*	0.0200	"	"	"	"	03/07/08 15:48	
Surrogate(s): Fluorene-d10			*74.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*74.9%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*74.9%*		*10 - 125 %*	"			"	
PRC0016-03 (FO 080315)			**Water**			**Sampled: 02/29/08 18:20**				
Acenaphthene	EPA 8270m	**1.50**	*0.0194*	0.0194	ug/l	1x	8030061	03/04/08 10:50	03/07/08 16:19	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0724**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.218**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0358**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	03/10/08 18:17	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0793**	*0.0194*	0.0194	"	"	"	"	03/07/08 16:19	
Surrogate(s): Fluorene-d10			*83.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*93.5%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*84.4%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-04 (FO 080316)		**Water**			**Sampled: 02/29/08 17:12**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	8030061	03/04/08 10:50	03/07/08 19:52	
Acenaphthylene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**
Anthracene	"	**0.0322**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0382**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0383**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0659**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0551**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0309**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0978**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0133**	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.196**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0230**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0323**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0422**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.109**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.11**	*0.511*	0.971	"	"	"	"	03/10/08 18:50	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.147**	*0.0194*	0.0194	"	"	"	"	03/07/08 19:52	
Surrogate(s): Fluorene-d10			*60.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*63.2%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*53.6%*		*10 - 125 %*	"			"	
PRC0016-05 (FO 080317)		**Water**			**Sampled: 02/29/08 17:38**					
Acenaphthene	EPA 8270m	ND	*0.0385*	0.0385	ug/l	2x	8030061	03/04/08 10:50	03/07/08 20:23	**RL1**
Acenaphthylene	"	ND	*0.0385*	0.0385	"	"	"	"	"	**RL1**
Anthracene	"	**0.0427**	*0.0385*	0.0385	"	"	"	"	"	
Benzo (a) anthracene	"	**0.102**	*0.0962*	0.0962	"	10x	"	"	03/07/08 20:58	
Benzo (a) pyrene	"	**0.0784**	*0.0192*	0.0192	"	2x	"	"	03/07/08 20:23	
Benzo (b) fluoranthene	"	**0.150**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.143**	*0.0385*	0.0385	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0843**	*0.0192*	0.0192	"	"	"	"	"	
Chrysene	"	**0.285**	*0.0962*	0.0962	"	10x	"	"	03/07/08 20:58	
Dibenzo (a,h) anthracene	"	**0.0297**	*0.0192*	0.0192	"	2x	"	"	03/07/08 20:23	
Fluoranthene	"	**0.455**	*0.0385*	0.0385	"	"	"	"	"	
Fluorene	"	ND	*0.0385*	0.0385	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.0605**	*0.0192*	0.0192	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-05 (FO 080317)		**Water**			**Sampled: 02/29/08 17:38**					
Naphthalene	EPA 8270m	ND	*0.0385*	0.0385	ug/l	2x	8030061	03/04/08 10:50	03/07/08 20:23	**RL1**
Phenanthrene	"	**0.235**	*0.0385*	0.0385	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**3.43**	*0.506*	0.962	"	1x	"	"	03/10/08 22:08	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	**1.06**	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Pyrene	"	**0.309**	*0.192*	0.192	"	10x	"	"	03/07/08 20:58	
Surrogate(s): Fluorene-d10			*67.7%*		*25 - 125 %*	*2x*			*03/07/08 20:23*	
Pyrene-d10			*59.6%*		*23 - 150 %*	*10x*			*03/07/08 20:58*	
Benzo (a) pyrene-d12			*77.9%*		*10 - 125 %*	*2x*			*03/07/08 20:23*	
PRC0016-06 (FO 080318)		**Water**			**Sampled: 02/29/08 18:20**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	8030061	03/04/08 10:50	03/07/08 13:14	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0128**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0242**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0204**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	*0.511*	0.971	"	"	"	"	03/10/08 19:23	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0316**	*0.0194*	0.0194	"	"	"	"	03/07/08 13:14	
Surrogate(s): Fluorene-d10			*73.4%*		*25 - 125 %*	*"*			*"*	
Pyrene-d10			*84.9%*		*23 - 150 %*	*"*			*"*	
Benzo (a) pyrene-d12			*81.6%*		*10 - 125 %*	*"*			*"*	

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Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-07 (FO 080319)		**Water**			**Sampled: 02/29/08 00:00**					
Acenaphthene	EPA 8270m	ND	*0.0194*	0.0194	ug/l	1x	8030061	03/04/08 10:50	03/07/08 13:45	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0193**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0152**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0187**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0236**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0189**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0286**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0150**	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0306**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0169**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0214**	*0.0194*	0.0194	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**0.605**	*0.511*	0.971	"	"	"	"	03/10/08 19:55	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Pyrene	"	**0.0362**	*0.0194*	0.0194	"	"	"	"	03/07/08 13:45	
Surrogate(s): Fluorene-d10			*69.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*85.0%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*79.6%*		*10 - 125 %*	"			"	
PRC0016-08 (FO 080320)		**Water**			**Sampled: 02/29/08 18:34**					
Acenaphthene	EPA 8270m	ND	*0.0192*	0.0192	ug/l	1x	8030061	03/04/08 10:50	03/07/08 12:12	
Acenaphthylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Anthracene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Chrysene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Fluoranthene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Fluorene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Naphthalene	"	ND	*0.0192*	0.0192	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0016-08 (FO 080320)		**Water**			**Sampled: 02/29/08 18:34**					
Phenanthrene	EPA 8270m	ND	*0.0192*	0.0192	ug/l	1x	8030061	03/04/08 10:50	03/07/08 12:12	
Bis(2-ethylhexyl)phthalate	"	**1.12**	*0.506*	0.962	"	"	"	"	03/10/08 20:28	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Pyrene	"	ND	*0.0192*	0.0192	"	"	"	"	03/07/08 12:12	
Surrogate(s): Fluorene-d10			*92.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*115%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*95.7%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030061 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030061-BLK1)									**Extracted: 03/04/08 10:50**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	03/07/08 12:43	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	03/10/08 15:32	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	03/07/08 12:43	
Surrogate(s): Fluorene-d10		*Recovery: 98.6%*			*Limits: 25-125%*	"							*03/07/08 12:43*	
Pyrene-d10		*110%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*94.6%*			*10-125%*	"							"	
LCS (8030061-BS1)									**Extracted: 03/04/08 10:50**					
Acenaphthene	EPA 8270m	2.36	0.0400	0.0400	ug/l	2x	--	2.50	94.5%	(35-120)	--	--	03/07/08 14:16	
Acenaphthylene	"	2.20	0.0400	0.0400	"	"	--	"	88.1%	(34-116)	--	--	"	
Anthracene	"	2.37	0.0400	0.0400	"	"	--	"	94.8%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.40	0.0200	0.0200	"	"	--	"	96.2%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.22	0.0200	0.0200	"	"	--	"	89.0%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.41	0.0200	0.0200	"	"	--	"	96.5%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.42	0.0400	0.0400	"	"	--	"	96.6%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.43	0.0200	0.0200	"	"	--	"	97.1%	(18-145)	--	--	"	
Chrysene	"	2.34	0.0200	0.0200	"	"	--	"	93.6%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.51	0.0200	0.0200	"	"	--	"	101%	(20-141)	--	--	"	
Fluoranthene	"	2.23	0.0400	0.0400	"	"	--	"	89.4%	(31-125)	--	--	"	
Fluorene	"	2.19	0.0400	0.0400	"	"	--	"	87.7%	(27-124)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030061 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8030061-BS1)									**Extracted: 03/04/08 10:50**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.52	0.0200	0.0200	ug/l	2x	--	2.50	101%	(30-135)	--	--	03/07/08 14:16	
Naphthalene	"	2.29	0.0400	0.0400	"	"	--	"	91.6%	(30-113)	--	--	"	
Phenanthrene	"	2.07	0.0400	0.0400	"	"	--	"	82.6%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.44	1.05	2.00	"	"	--	4.00	85.9%	(20-150)	--	--	03/10/08 16:05	
Butyl benzyl phthalate	"	3.27	1.05	2.00	"	"	--	"	81.8%	"	--	--	"	
Di-n-butyl phthalate	"	3.18	1.05	2.00	"	"	--	"	79.5%	"	--	--	"	
Di-n-octyl phthalate	"	3.15	1.05	2.00	"	"	--	"	78.9%	"	--	--	"	
Diethyl phthalate	"	3.10	1.05	2.00	"	"	--	"	77.4%	"	--	--	"	
Dimethyl phthalate	"	3.18	1.05	2.00	"	"	--	"	79.5%	"	--	--	"	
Pyrene	"	1.95	0.0400	0.0400	"	"	--	2.50	77.9%	(21-141)	--	--	03/07/08 14:16	
Surrogate(s): Fluorene-d10		*Recovery: 77.5%*			*Limits: 25-125%*	"							*03/07/08 14:16*	
Pyrene-d10		*84.1%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*86.7%*			*10-125%*	"							"	
LCS Dup (8030061-BSD1)									**Extracted: 03/04/08 10:50**					
Acenaphthene	EPA 8270m	2.20	0.0400	0.0400	ug/l	2x	--	2.50	88.1%	(35-120)	7.09%	(35)	03/07/08 14:46	
Acenaphthylene	"	2.10	0.0400	0.0400	"	"	--	"	84.0%	(34-116)	4.66%	"	"	
Anthracene	"	2.19	0.0400	0.0400	"	"	--	"	87.4%	(24-119)	8.06%	"	"	
Benzo (a) anthracene	"	2.29	0.0200	0.0200	"	"	--	"	91.7%	(36-128)	4.83%	"	"	
Benzo (a) pyrene	"	2.09	0.0200	0.0200	"	"	--	"	83.8%	(17-128)	6.05%	"	"	
Benzo (b) fluoranthene	"	2.36	0.0200	0.0200	"	"	--	"	94.5%	(37-131)	2.09%	"	"	
Benzo (ghi) perylene	"	2.30	0.0400	0.0400	"	"	--	"	91.9%	(26-126)	4.97%	"	"	
Benzo (k) fluoranthene	"	2.16	0.0200	0.0200	"	"	--	"	86.4%	(18-145)	11.7%	"	"	
Chrysene	"	2.24	0.0200	0.0200	"	"	--	"	89.5%	(16-137)	4.40%	"	"	
Dibenzo (a,h) anthracene	"	2.38	0.0200	0.0200	"	"	--	"	95.0%	(20-141)	5.66%	"	"	
Fluoranthene	"	2.17	0.0400	0.0400	"	"	--	"	87.0%	(31-125)	2.74%	"	"	
Fluorene	"	2.04	0.0400	0.0400	"	"	--	"	81.8%	(27-124)	7.01%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.37	0.0200	0.0200	"	"	--	"	94.8%	(30-135)	6.04%	"	"	
Naphthalene	"	2.16	0.0400	0.0400	"	"	--	"	86.6%	(30-113)	5.59%	"	"	
Phenanthrene	"	1.90	0.0400	0.0400	"	"	--	"	76.1%	(34-126)	8.24%	"	"	
Bis(2-ethylhexyl)phthalate	"	4.83	1.05	2.00	"	"	--	4.00	121%	(20-150)	33.7%	(50)	03/10/08 16:38	
Butyl benzyl phthalate	"	3.05	1.05	2.00	"	"	--	"	76.2%	"	7.03%	"	"	
Di-n-butyl phthalate	"	3.04	1.05	2.00	"	"	--	"	75.9%	"	4.58%	"	"	
Di-n-octyl phthalate	"	2.86	1.05	2.00	"	"	--	"	71.4%	"	9.88%	"	"	
Diethyl phthalate	"	2.95	1.05	2.00	"	"	--	"	73.8%	"	4.75%	"	"	
Dimethyl phthalate	"	3.07	1.05	2.00	"	"	--	"	76.7%	"	3.50%	"	"	
Pyrene	"	2.02	0.0400	0.0400	"	"	--	2.50	80.8%	(21-141)	3.69%	(35)	03/07/08 14:46	
Surrogate(s): Fluorene-d10		*Recovery: 72.8%*			*Limits: 25-125%*	"							*03/07/08 14:46*	
Pyrene-d10		*88.6%*			*23-150%*	"							"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030061 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8030061-BSD1)													**Extracted: 03/04/08 10:50**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 80.5%*			*Limits: 10-125%*	*2x*							*03/07/08 14:46*	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/20/08 15:21

Notes and Definitions

Report Specific Notes:

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-561-9200 FAX 561-9201

CHAIN OF CUSTODY REPORT

Work Order #: PCCC16

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: STD 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: STD 5 4 3 2 1 <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE
REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	(*) PAH + phthalates 8270-SIM	(**) PCBs 209 Congeners	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO 080313	2/29/08	1704	X	X	W	2		
2	314		1745	X	X	W	2		
3	315		1820	X	X	W	2		
4	316		1712	X	X	W	2		
5	317		1738	X	X	W	2		
6	318		1820	X	X	W	2		
7	319		—	X	X	W	2		
8	320		1834	X	X	W	2		
9									
10									

RELEASED BY: [signature] DATE: 3-3-08
PRINT NAME: Kris Dennis FIRM: City of Portland TIME: 917
RECEIVED BY: [signature] DATE: 3-3-08
PRINT NAME: [signature] FIRM: TAP TIME: 917
RELEASED BY: [signature] DATE: 3-3-08
PRINT NAME: [signature] FIRM: TAP TIME: 1000
RECEIVED BY: [signature] DATE: 3/3/08
PRINT NAME: Jamie Ireland FIRM: TAP TIME: 10:00

ADDITIONAL REMARKS:
(*) PAH + phthalates as for UIC project w/ Low DLs.
(**) PCB 209 Congeners to Pace Analytical, please. Thanks.

TEMP: 2.3 / 3.3
PAGE 1 OF 1

COC REV 09-2004

TestAmerica Sample Receipt Checklist

Received by: *(section A)* Date: 3/3/12 Time: 10:00 Initials: JE

Unpacked by: *(section B)* Date: 3/3/12 Initials: JT

Logged-in by: Date: 3/3/12 Initials: JT

Work Order No. PRCC116

Client: City of Portland

Project: Portland Harbor

ESI Clients *(see Section C)

Cooler Temperature (IR): 2.3, 3.2 °C plastic (glass) NA *(oil/air samples, ESI client)*

Temperature Blank: _____ °C

Temperature out of range
___Not enough Ice
___No Ice
___Ice Melted
___W/in 4 Hours
___Other: _____

A

Custody Seals: (#____)

Signature: Y N Dated: _____

X None

Container Type:

2 #Cooler(s)

____#Box(s)

____None (___#Other: _____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other: _____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____ GS/TA

____ GS/Senvoy

____ Other: _____

B

Sample Status:

(If N circled, see NOD)

General:

Intact? (Y) N

Containers Match COC? (Y) N none given

IDs Match COC? (Y) N

For Analyses Requested:

Correct Type & Preservation? (Y) N

Adequate Volume? (Y) N

Within Hold Time? (Y) N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N (NA)

TB on COC? not provided Y N (NA)

Metals:

HNO3 Preserved? Y N (NA)

Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers

Comments: _____

PM Reviewed _____ *(Initial/Date)*

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

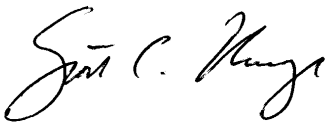
Pace Project #: 1069019
Sample Receipt Date: 03/04/2008
Client Project #: PRC0016
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full,
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Report Prepared Date:
March 31, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on eight samples submitted by a representative of the Test America. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ppt and were corrected for the amount of sample extracted.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 59-233%. With six exceptions, labeled "P" on the results tables, the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Also, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 91-117%, with relative percent differences of 2.1-8.9%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

1069019

SUBCONTRACT ORDER

TestAmerica Portland

PRC0016

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRC0016-01	**Water**		Sampled: **02/29/08 17:04**	1069019001
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 17:04	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-02	**Water**		Sampled: **02/29/08 17:45**	002
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 17:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-03	**Water**		Sampled: **02/29/08 18:20**	003
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 18:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-04	**Water**		Sampled: **02/29/08 17:12**	004
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 17:12	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-05	**Water**		Sampled: **02/29/08 17:38**	005
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 17:38	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-06	**Water**		Sampled: **02/29/08 18:20**	006
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 18:20	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

T=3.2°C

Jamie J. Adler — Released By — 3/3/08 14:00 — Date/Time — Received By — 3-4-08/920 — Date/Time

Released By — Date/Time — Received By — Date/Time

1069019

SUBCONTRACT ORDER

TestAmerica Portland

PRC0016

Analysis	Units	Due	Expires	Comments
Sample ID: PRC0016-07	**Water**		Sampled: **02/29/08 00:00**	1069019007
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRC0016-08	**Water**		Sampled: **02/29/08 18:34**	008
1668 Coplanar PCBs - SUB	ug/l	03/14/08	08/27/08 18:34	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America Project # 1069019

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 1AE 597 01 9141 0822

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals Intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 230194010, 72310129 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.2° Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: CL 3-4-08

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	
Sufficient Volume:	☑Yes ☐No ☐N/A	8.	
Correct Containers Used:	☑Yes ☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes ☐No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: WT / SL			
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.	
Trip Blank Present:	☐Yes ☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased): _____			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 03/04/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-01		
Lab Sample ID	1069019001		
Filename	P80322B_05		
Injected By	BAL		
Total Amount Extracted	963 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/22/2008 21:44

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.893	3.30	2.0	1.18	59
13C-4-MoCB	3	12.284	2.96	2.0	1.21	61
13C-2,2'-DiCB	4	12.655	1.62	2.0	1.56	78
13C-4,4'-DiCB	15	20.803	1.63	2.0	1.53	77
13C-2,2',6-TrCB	19	17.112	1.08	2.0	1.61	81
13C-3,4,4'-TrCB	37	29.191	1.08	2.0	1.64	82
13C-2,2',6,6'-TeCB	54	21.160	0.81	2.0	1.48	74
13C-3,4,4',5-TeCB	81	36.569	0.78	2.0	1.95	97
13C-3,3',4,4'-TeCB	77	37.156	0.79	2.0	1.90	95
13C-2,2',4,6,6'-PeCB	104	27.816	1.60	2.0	1.66	83
13C-2,3,3',4,4'-PeCB	105	40.845	1.62	2.0	1.77	89
13C-2,3,4,4',5-PeCB	114	40.191	1.57	2.0	1.62	81
13C-2,3',4,4',5-PeCB	118	39.638	1.62	2.0	1.85	92
13C-2,3',4,4',5'-PeCB	123	39.286	1.60	2.0	1.77	89
13C-3,3',4,4',5-PeCB	126	44.048	1.58	2.0	1.70	85
13C-2,2',4,4',6,6'-HxCB	155	34.138	1.27	2.0	1.70	85
13C-HxCB (156/157)	156/157	47.151	1.27	4.0	3.10	77
13C-2,3',4,4',5,5'-HxCB	167	45.977	1.27	2.0	1.54	77
13C-3,3',4,4',5,5'-HxCB	169	50.454	1.29	2.0	1.37	69
13C-2,2',3,4',5,6,6'-HpCB	188	40.191	1.03	2.0	2.59	130
13C-2,3,3',4,4',5,5'-HpCB	189	53.005	1.04	2.0	1.74	87
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.725	0.87	2.0	2.38	119
13C-2,3,3',4,4',5,5',6-OcCB	205	55.613	0.89	2.0	1.94	97
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.359	0.80	2.0	1.94	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.531	0.79	2.0	2.12	106
13C--DeCB	209	58.975	0.68	2.0	2.05	103
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.563	1.07	2.0	1.62	81
13C-2,3,3',5,5'-PeCB	111	37.240	1.63	2.0	1.90	95
13C-2,2',3,3',5,5',6-HpCB	178	43.344	1.05	2.0	1.83	91
Recovery Standards						
13C-2,5-DiCB	9	15.567	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.726	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.373	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.874	1.25	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.139	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.519
2		---	---	ND	---	0.519
3		---	---	ND	---	0.519
4		---	---	ND	---	0.519
5		---	---	ND	---	0.519
6		---	---	ND	---	0.519
7		---	---	ND	---	0.519
8		---	---	ND	---	0.519
9		---	---	ND	---	0.519
10		---	---	ND	---	0.519
11		---	---	ND	---	0.623
12	12/13	---	---	ND	---	0.519
13	12/13	---	---	ND	---	0.519
14		---	---	ND	---	0.519
15		---	---	ND	---	0.519
16		---	---	ND	---	0.519
17		---	---	ND	---	0.519
18	18/30	---	---	ND	---	0.519
19		---	---	ND	---	0.519
20	20/28	---	---	ND	---	0.623
21	21/33	---	---	ND	---	0.519
22		---	---	ND	---	0.519
23		---	---	ND	---	0.519
24		---	---	ND	---	0.519
25		---	---	ND	---	0.519
26	26/29	---	---	ND	---	0.519
27		---	---	ND	---	0.519
28	20/28	---	---	ND	---	0.623
29	26/29	---	---	ND	---	0.519
30	18/30	---	---	ND	---	0.519
31		---	---	ND	---	0.519
32		---	---	ND	---	0.519
33	21/33	---	---	ND	---	0.519
34		---	---	ND	---	0.519
35		---	---	ND	---	0.519
36		---	---	ND	---	0.519
37		---	---	ND	---	0.519
38		---	---	ND	---	0.519
39		---	---	ND	---	0.519
40	40/41/71	---	---	ND	---	0.519
41	40/41/71	---	---	ND	---	0.519
42		---	---	ND	---	0.519
43		---	---	ND	---	0.519
44	44/47/65	---	---	ND	---	0.623
45	45/51	---	---	ND	---	0.519
46		---	---	ND	---	0.519
47	44/47/65	---	---	ND	---	0.623
48		---	---	ND	---	0.519

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.519
50	50/53	---	---	ND	---	0.519
51	45/51	---	---	ND	---	0.519
52		---	---	ND	---	0.519
53	50/53	---	---	ND	---	0.519
54		---	---	ND	---	0.519
55		---	---	ND	---	0.519
56		---	---	ND	---	0.519
57		---	---	ND	---	0.519
58		---	---	ND	---	0.519
59	59/62/75	---	---	ND	---	0.519
60		---	---	ND	---	0.519
61	61/70/74/76	---	---	ND	---	0.519
62	59/62/75	---	---	ND	---	0.519
63		---	---	ND	---	0.519
64		---	---	ND	---	0.519
65	44/47/65	---	---	ND	---	0.623
66		---	---	ND	---	0.519
67		---	---	ND	---	0.519
68		---	---	ND	---	0.519
69	49/69	---	---	ND	---	0.519
70	61/70/74/76	---	---	ND	---	0.519
71	40/41/71	---	---	ND	---	0.519
72		---	---	ND	---	0.519
73		---	---	ND	---	0.519
74	61/70/74/76	---	---	ND	---	0.519
75	59/62/75	---	---	ND	---	0.519
76	61/70/74/76	---	---	ND	---	0.519
77		---	---	ND	---	0.519
78		---	---	ND	---	0.519
79		---	---	ND	---	0.519
80		---	---	ND	---	0.519
81		---	---	ND	---	0.519
82		---	---	ND	---	0.519
83		---	---	ND	---	0.519
84		---	---	ND	---	0.519
85	85/116/117	---	---	ND	---	0.623
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.519
89		---	---	ND	---	0.519
90	90/101/113	---	---	ND	---	0.519
91	88/91	---	---	ND	---	0.519
92		---	---	ND	---	0.519
93	93/98/100/102	---	---	ND	---	0.779
94		---	---	ND	---	0.519
95		---	---	ND	---	0.519
96		---	---	ND	---	0.519

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.779
99		---	---	ND	---	0.519
100	93/98/100/102	---	---	ND	---	0.779
101	90/101/113	---	---	ND	---	0.519
102	93/98/100/102	---	---	ND	---	0.779
103		---	---	ND	---	0.519
104		---	---	ND	---	0.519
105		---	---	ND	---	0.519
106		---	---	ND	---	0.519
107	107/124	---	---	ND	---	0.519
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.519
110	110/115	---	---	ND	---	0.519
111		---	---	ND	---	0.519
112		---	---	ND	---	0.519
113	90/101/113	---	---	ND	---	0.519
114		---	---	ND	---	0.519
115	110/115	---	---	ND	---	0.519
116	85/116/117	---	---	ND	---	0.623
117	85/116/117	---	---	ND	---	0.623
118		---	---	ND	---	0.519
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.519
121		---	---	ND	---	0.519
122		---	---	ND	---	0.519
123		---	---	ND	---	0.519
124	107/124	---	---	ND	---	0.519
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.519
127		---	---	ND	---	0.519
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.519
130		---	---	ND	---	0.519
131		---	---	ND	---	0.519
132		---	---	ND	---	0.519
133		---	---	ND	---	0.519
134	134/143	---	---	ND	---	0.519
135	135/151	---	---	ND	---	0.529
136		---	---	ND	---	0.519
137		---	---	ND	---	0.519
138	129/138/163	---	---	ND	---	0.519
139	139/140	---	---	ND	---	0.519
140	139/140	---	---	ND	---	0.519
141		---	---	ND	---	0.519
142		---	---	ND	---	0.519
143	134/143	---	---	ND	---	0.519
144		---	---	ND	---	0.519

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.519
146		---	---	ND	---	0.519
147	147/149	---	---	ND	---	0.519
148		---	---	ND	---	0.519
149	147/149	---	---	ND	---	0.519
150		---	---	ND	---	0.519
151	135/151	---	---	ND	---	0.529
152		---	---	ND	---	0.519
153	153/168	---	---	ND	---	0.623
154		---	---	ND	---	0.519
155		---	---	ND	---	0.519
156	156/157	---	---	ND	---	0.519
157	156/157	---	---	ND	---	0.519
158		---	---	ND	---	0.519
159		---	---	ND	---	0.519
160		---	---	ND	---	0.519
161		---	---	ND	---	0.519
162		---	---	ND	---	0.519
163	129/138/163	---	---	ND	---	0.519
164		---	---	ND	---	0.519
165		---	---	ND	---	0.519
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.519
168	153/168	---	---	ND	---	0.623
169		---	---	ND	---	0.519
170		---	---	ND	---	0.519
171	171/173	---	---	ND	---	0.519
172		---	---	ND	---	0.519
173	171/173	---	---	ND	---	0.519
174		---	---	ND	---	0.519
175		---	---	ND	---	0.519
176		---	---	ND	---	0.519
177		---	---	ND	---	0.519
178		---	---	ND	---	0.519
179		---	---	ND	---	0.519
180	180/193	---	---	ND	---	0.519
181		---	---	ND	---	0.519
182		---	---	ND	---	0.519
183	183/185	---	---	ND	---	0.519
184		---	---	ND	---	0.519
185	183/185	---	---	ND	---	0.519
186		---	---	ND	---	0.519
187		---	---	ND	---	0.519
188		---	---	ND	---	0.519
189		---	---	ND	---	0.519
190		---	---	ND	---	0.519
191		---	---	ND	---	0.519
192		---	---	ND	---	0.519

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.519
194		---	---	ND	---	0.519
195		---	---	ND	---	0.519
196		---	---	ND	---	0.727
197	197/200	---	---	ND	---	2.60
198	198/199	---	---	ND	---	0.519
199	198/199	---	---	ND	---	0.519
200	197/200	---	---	ND	---	2.60
201		---	---	ND	---	0.519
202		---	---	ND	---	0.519
203		---	---	ND	---	0.519
204		---	---	ND	---	0.519
205		---	---	ND	---	0.519
206		---	---	ND	---	0.519
207		---	---	ND	---	0.519
208		---	---	ND	---	0.519
209		---	---	ND	---	0.519

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0016-01
Lab Sample ID	1069019001
Filename	P80322B_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-02		
Lab Sample ID	1069019002		
Filename	P80322B_06		
Injected By	BAL		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/22/2008 22:46

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.929	3.13	2.0	1.19	60
13C-4-MoCB	3	12.320	3.29	2.0	1.26	63
13C-2,2'-DiCB	4	12.679	1.61	2.0	1.64	82
13C-4,4'-DiCB	15	20.815	1.57	2.0	1.66	83
13C-2,2',6-TrCB	19	17.136	1.08	2.0	1.73	86
13C-3,4,4'-TrCB	37	29.209	1.06	2.0	1.79	89
13C-2,2',6,6'-TeCB	54	21.176	0.79	2.0	1.52	76
13C-3,4,4',5-TeCB	81	36.587	0.80	2.0	2.07	103
13C-3,3',4,4'-TeCB	77	37.174	0.76	2.0	2.01	100
13C-2,2',4,6,6'-PeCB	104	27.834	1.57	2.0	1.78	89
13C-2,3,3',4,4'-PeCB	105	40.864	1.59	2.0	1.88	94
13C-2,3,4,4',5-PeCB	114	40.210	1.58	2.0	1.70	85
13C-2,3',4,4',5-PeCB	118	39.656	1.62	2.0	1.93	97
13C-2,3',4,4',5'-PeCB	123	39.321	1.62	2.0	1.87	94
13C-3,3',4,4',5-PeCB	126	44.066	1.58	2.0	1.79	89
13C-2,2',4,4',6,6'-HxCB	155	34.156	1.26	2.0	1.87	93
13C-HxCB (156/157)	156/157	47.169	1.27	4.0	3.28	82
13C-2,3',4,4',5,5'-HxCB	167	45.995	1.27	2.0	1.65	82
13C-3,3',4,4',5,5'-HxCB	169	50.472	1.29	2.0	1.48	74
13C-2,2',3,4',5,6,6'-HpCB	188	40.210	1.08	2.0	2.89	144
13C-2,3,3',4,4',5,5'-HpCB	189	53.033	1.05	2.0	1.94	97
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.743	0.90	2.0	2.64	132
13C-2,3,3',4,4',5,5',6-OcCB	205	55.641	0.91	2.0	2.10	105
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.386	0.81	2.0	2.01	101
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.558	0.79	2.0	2.39	120
13C--DeCB	209	59.003	0.70	2.0	2.08	104
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.580	1.05	2.0	1.57	78
13C-2,3,3',5,5'-PeCB	111	37.258	1.62	2.0	1.95	98
13C-2,2',3,3',5,5',6-HpCB	178	43.362	1.05	2.0	1.83	92
Recovery Standards						
13C-2,5-DiCB	9	15.591	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.744	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.391	1.66	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.893	1.26	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.145	0.92	2.0	NA	NA

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.498
2		---	---	ND	---	0.498
3		---	---	ND	---	0.498
4		---	---	ND	---	0.498
5		---	---	ND	---	0.498
6		---	---	ND	---	0.498
7		---	---	ND	---	0.498
8		---	---	ND	---	0.498
9		---	---	ND	---	0.498
10		---	---	ND	---	0.498
11		---	---	ND	---	0.598
12	12/13	---	---	ND	---	0.498
13	12/13	---	---	ND	---	0.498
14		---	---	ND	---	0.498
15		20.838	1.62	0.562	---	0.498
16		---	---	ND	---	0.498
17		---	---	ND	---	0.498
18	18/30	19.676	1.04	0.747	---	0.498
19		---	---	ND	---	0.498
20	20/28	24.614	1.03	2.06	---	0.598
21	21/33	24.882	1.04	0.665	---	0.498
22		25.335	1.03	0.706	---	0.498
23		---	---	ND	---	0.498
24		---	---	ND	---	0.498
25		---	---	ND	---	0.498
26	26/29	---	---	ND	---	0.498
27		---	---	ND	---	0.498
28	20/28	24.614	1.03	(2.06)	---	0.598
29	26/29	---	---	ND	---	0.498
30	18/30	19.676	1.04	(0.747)	---	0.498
31		24.262	1.05	1.21	---	0.498
32		---	---	ND	---	0.498
33	21/33	24.882	1.04	(0.665)	---	0.498
34		---	---	ND	---	0.498
35		---	---	ND	---	0.498
36		---	---	ND	---	0.498
37		29.226	1.03	0.823	---	0.498
38		---	---	ND	---	0.498
39		---	---	ND	---	0.498
40	40/41/71	29.041	0.78	1.38	---	0.498
41	40/41/71	29.041	0.78	(1.38)	---	0.498
42		28.505	0.78	0.570	---	0.498
43		---	---	ND	---	0.498
44	44/47/65	27.901	0.78	1.99	---	0.598
45	45/51	---	---	ND	---	0.498
46		---	---	ND	---	0.498
47	44/47/65	27.901	0.78	(1.99)	---	0.598
48		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.331	0.79	1.22	---	0.498
50	50/53	---	---	ND	---	0.498
51	45/51	---	---	ND	---	0.498
52		26.777	0.79	2.24	---	0.498
53	50/53	---	---	ND	---	0.498
54		---	---	ND	---	0.498
55		---	---	ND	---	0.498
56		33.217	0.75	1.04	---	0.498
57		---	---	ND	---	0.498
58		---	---	ND	---	0.498
59	59/62/75	---	---	ND	---	0.498
60		33.451	0.78	0.546	---	0.498
61	61/70/74/76	32.160	0.77	3.30	---	0.498
62	59/62/75	---	---	ND	---	0.498
63		---	---	ND	---	0.498
64		29.310	0.78	0.941	---	0.498
65	44/47/65	27.901	0.78	(1.99)	---	0.598
66		32.512	0.78	1.91	---	0.498
67		---	---	ND	---	0.498
68		---	---	ND	---	0.498
69	49/69	27.331	0.79	(1.22)	---	0.498
70	61/70/74/76	32.160	0.77	(3.30)	---	0.498
71	40/41/71	29.041	0.78	(1.38)	---	0.498
72		---	---	ND	---	0.498
73		---	---	ND	---	0.498
74	61/70/74/76	32.160	0.77	(3.30)	---	0.498
75	59/62/75	---	---	ND	---	0.498
76	61/70/74/76	32.160	0.77	(3.30)	---	0.498
77		---	---	ND	---	0.498
78		---	---	ND	---	0.498
79		---	---	ND	---	0.498
80		---	---	ND	---	0.498
81		---	---	ND	---	0.498
82		---	---	ND	---	0.498
83		---	---	ND	---	0.498
84		32.361	1.57	0.870	---	0.498
85	85/116/117	---	---	ND	---	0.598
86	86/87/97/108/119/125	35.615	1.59	2.08	---	0.997
87	86/87/97/108/119/125	35.615	1.59	(2.08)	---	0.997
88	88/91	---	---	ND	---	0.498
89		---	---	ND	---	0.498
90	90/101/113	34.407	1.59	2.66	---	0.498
91	88/91	---	---	ND	---	0.498
92		33.787	1.63	0.525	---	0.498
93	93/98/100/102	---	---	ND	---	0.748
94		---	---	ND	---	0.498
95		31.188	1.64	2.19	---	0.498
96		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.615	1.59	(2.08)	---	0.997
98	93/98/100/102	---	---	ND	---	0.748
99		35.045	1.59	1.28	---	0.498
100	93/98/100/102	---	---	ND	---	0.748
101	90/101/113	34.407	1.59	(2.66)	---	0.498
102	93/98/100/102	---	---	ND	---	0.748
103		---	---	ND	---	0.498
104		---	---	ND	---	0.498
105		40.897	1.59	1.13	---	0.498
106		---	---	ND	---	0.498
107	107/124	---	---	ND	---	0.498
108	86/87/97/108/119/125	35.615	1.59	(2.08)	---	0.997
109		---	---	ND	---	0.498
110	110/115	36.504	1.59	3.76	---	0.498
111		---	---	ND	---	0.498
112		---	---	ND	---	0.498
113	90/101/113	34.407	1.59	(2.66)	---	0.498
114		---	---	ND	---	0.498
115	110/115	36.504	1.59	(3.76)	---	0.498
116	85/116/117	---	---	ND	---	0.598
117	85/116/117	---	---	ND	---	0.598
118		39.690	1.59	2.32	---	0.498
119	86/87/97/108/119/125	35.615	1.59	(2.08)	---	0.997
120		---	---	ND	---	0.498
121		---	---	ND	---	0.498
122		---	---	ND	---	0.498
123		---	---	ND	---	0.498
124	107/124	---	---	ND	---	0.498
125	86/87/97/108/119/125	35.615	1.59	(2.08)	---	0.997
126		---	---	ND	---	0.498
127		---	---	ND	---	0.498
128	128/166	---	---	ND	---	0.997
129	129/138/163	42.926	1.25	3.37	---	0.498
130		---	---	ND	---	0.498
131		---	---	ND	---	0.498
132		39.774	1.31	1.35	---	0.498
133		---	---	ND	---	0.498
134	134/143	---	---	ND	---	0.498
135	135/151	37.510	1.22	0.801	---	0.508
136		---	---	ND	---	0.498
137		---	---	ND	---	0.498
138	129/138/163	42.926	1.25	(3.37)	---	0.498
139	139/140	---	---	ND	---	0.498
140	139/140	---	---	ND	---	0.498
141		41.836	1.20	0.504	---	0.498
142		---	---	ND	---	0.498
143	134/143	---	---	ND	---	0.498
144		---	---	ND	---	0.498

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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ND = Not Detected
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! = Outside QC Limits
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.498
146		---	---	ND	---	0.498
147	147/149	38.466	1.27	2.32	---	0.498
148		---	---	ND	---	0.498
149	147/149	38.466	1.27	(2.32)	---	0.498
150		---	---	ND	---	0.498
151	135/151	37.510	1.22	(0.801)	---	0.508
152		---	---	ND	---	0.498
153	153/168	41.652	1.23	2.02	---	0.598
154		---	---	ND	---	0.498
155		---	---	ND	---	0.498
156	156/157	---	---	ND	---	0.498
157	156/157	---	---	ND	---	0.498
158		---	---	ND	---	0.498
159		---	---	ND	---	0.498
160		---	---	ND	---	0.498
161		---	---	ND	---	0.498
162		---	---	ND	---	0.498
163	129/138/163	42.926	1.25	(3.37)	---	0.498
164		---	---	ND	---	0.498
165		---	---	ND	---	0.498
166	128/166	---	---	ND	---	0.997
167		---	---	ND	---	0.498
168	153/168	41.652	1.23	(2.02)	---	0.598
169		---	---	ND	---	0.498
170		49.885	1.04	0.553	---	0.498
171	171/173	---	---	ND	---	0.498
172		---	---	ND	---	0.498
173	171/173	---	---	ND	---	0.498
174		45.190	1.04	0.559	---	0.498
175		---	---	ND	---	0.498
176		---	---	ND	---	0.498
177		---	---	ND	---	0.498
178		---	---	ND	---	0.498
179		---	---	ND	---	0.498
180	180/193	48.611	1.03	1.08	---	0.498
181		---	---	ND	---	0.498
182		---	---	ND	---	0.498
183	183/185	---	---	ND	---	0.498
184		---	---	ND	---	0.498
185	183/185	---	---	ND	---	0.498
186		---	---	ND	---	0.498
187		44.335	1.12	0.620	---	0.498
188		---	---	ND	---	0.498
189		---	---	ND	---	0.498
190		---	---	ND	---	0.498
191		---	---	ND	---	0.498
192		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.611	1.03	(1.08)	---	0.498
194		---	---	ND	---	0.498
195		---	---	ND	---	0.498
196		---	---	ND	---	0.698
197	197/200	---	---	ND	---	2.49
198	198/199	---	---	ND	---	0.498
199	198/199	---	---	ND	---	0.498
200	197/200	---	---	ND	---	2.49
201		---	---	ND	---	0.498
202		---	---	ND	---	0.498
203		---	---	ND	---	0.498
204		---	---	ND	---	0.498
205		---	---	ND	---	0.498
206		---	---	ND	---	0.498
207		---	---	ND	---	0.498
208		---	---	ND	---	0.498
209		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0016-02
Lab Sample ID	1069019002
Filename	P80322B_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.562
Total Trichloro Biphenyls	6.21
Total Tetrachloro Biphenyls	15.1
Total Pentachloro Biphenyls	16.8
Total Hexachloro Biphenyls	10.4
Total Heptachloro Biphenyls	2.81
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	51.9

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-03		
Lab Sample ID	1069019003		
Filename	P80322B_07		
Injected By	BAL		
Total Amount Extracted	976 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/22/2008 23:49

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.893	3.12	2.0	1.33	67
13C-4-MoCB	3	12.295	3.24	2.0	1.27	64
13C-2,2'-DiCB	4	12.655	1.61	2.0	1.72	86
13C-4,4'-DiCB	15	20.813	1.58	2.0	1.61	80
13C-2,2',6-TrCB	19	17.123	1.10	2.0	1.70	85
13C-3,4,4'-TrCB	37	29.190	1.08	2.0	1.67	84
13C-2,2',6,6'-TeCB	54	21.175	0.83	2.0	1.52	76
13C-3,4,4',5-TeCB	81	36.568	0.80	2.0	2.01	100
13C-3,3',4,4'-TeCB	77	37.172	0.78	2.0	1.98	99
13C-2,2',4,6,6'-PeCB	104	27.815	1.60	2.0	1.63	81
13C-2,3,3',4,4'-PeCB	105	40.844	1.60	2.0	1.82	91
13C-2,3,4,4',5-PeCB	114	40.190	1.62	2.0	1.60	80
13C-2,3',4,4',5-PeCB	118	39.637	1.57	2.0	1.84	92
13C-2,3',4,4',5'-PeCB	123	39.301	1.62	2.0	1.81	90
13C-3,3',4,4',5-PeCB	126	44.047	1.56	2.0	1.83	92
13C-2,2',4,4',6,6'-HxCB	155	34.137	1.29	2.0	1.76	88
13C-HxCB (156/157)	156/157	47.149	1.27	4.0	3.40	85
13C-2,3',4,4',5,5'-HxCB	167	45.975	1.28	2.0	1.68	84
13C-3,3',4,4',5,5'-HxCB	169	50.435	1.28	2.0	1.59	79
13C-2,2',3,4',5,6,6'-HpCB	188	40.190	1.06	2.0	2.49	124
13C-2,3,3',4,4',5,5'-HpCB	189	53.003	1.05	2.0	1.94	97
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.723	0.91	2.0	2.44	122
13C-2,3,3',4,4',5,5',6-OcCB	205	55.611	0.90	2.0	2.18	109
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.356	0.78	2.0	2.16	108
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.528	0.80	2.0	2.30	115
13C--DeCB	209	58.973	0.71	2.0	2.27	114
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.562	1.06	2.0	1.58	79
13C-2,3,3',5,5'-PeCB	111	37.239	1.60	2.0	1.94	97
13C-2,2',3,3',5,5',6-HpCB	178	43.342	1.08	2.0	1.89	95
Recovery Standards						
13C-2,5-DiCB	9	15.578	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.742	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.372	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.873	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.115	0.89	2.0	NA	NA

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.512
2		---	---	ND	---	0.512
3		---	---	ND	---	0.512
4		---	---	ND	---	0.512
5		---	---	ND	---	0.512
6		---	---	ND	---	0.512
7		---	---	ND	---	0.512
8		---	---	ND	---	0.512
9		---	---	ND	---	0.512
10		---	---	ND	---	0.512
11		---	---	ND	---	0.615
12	12/13	---	---	ND	---	0.512
13	12/13	---	---	ND	---	0.512
14		---	---	ND	---	0.512
15		---	---	ND	---	0.512
16		---	---	ND	---	0.512
17		---	---	ND	---	0.512
18	18/30	---	---	ND	---	0.512
19		---	---	ND	---	0.512
20	20/28	---	---	ND	---	0.615
21	21/33	---	---	ND	---	0.512
22		---	---	ND	---	0.512
23		---	---	ND	---	0.512
24		---	---	ND	---	0.512
25		---	---	ND	---	0.512
26	26/29	---	---	ND	---	0.512
27		---	---	ND	---	0.512
28	20/28	---	---	ND	---	0.615
29	26/29	---	---	ND	---	0.512
30	18/30	---	---	ND	---	0.512
31		---	---	ND	---	0.512
32		---	---	ND	---	0.512
33	21/33	---	---	ND	---	0.512
34		---	---	ND	---	0.512
35		---	---	ND	---	0.512
36		---	---	ND	---	0.512
37		---	---	ND	---	0.512
38		---	---	ND	---	0.512
39		---	---	ND	---	0.512
40	40/41/71	---	---	ND	---	0.512
41	40/41/71	---	---	ND	---	0.512
42		---	---	ND	---	0.512
43		---	---	ND	---	0.512
44	44/47/65	---	---	ND	---	0.615
45	45/51	---	---	ND	---	0.512
46		---	---	ND	---	0.512
47	44/47/65	---	---	ND	---	0.615
48		---	---	ND	---	0.512

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.512
50	50/53	---	---	ND	---	0.512
51	45/51	---	---	ND	---	0.512
52		---	---	ND	---	0.512
53	50/53	---	---	ND	---	0.512
54		---	---	ND	---	0.512
55		---	---	ND	---	0.512
56		---	---	ND	---	0.512
57		---	---	ND	---	0.512
58		---	---	ND	---	0.512
59	59/62/75	---	---	ND	---	0.512
60		---	---	ND	---	0.512
61	61/70/74/76	---	---	ND	---	0.512
62	59/62/75	---	---	ND	---	0.512
63		---	---	ND	---	0.512
64		---	---	ND	---	0.512
65	44/47/65	---	---	ND	---	0.615
66		---	---	ND	---	0.512
67		---	---	ND	---	0.512
68		---	---	ND	---	0.512
69	49/69	---	---	ND	---	0.512
70	61/70/74/76	---	---	ND	---	0.512
71	40/41/71	---	---	ND	---	0.512
72		---	---	ND	---	0.512
73		---	---	ND	---	0.512
74	61/70/74/76	---	---	ND	---	0.512
75	59/62/75	---	---	ND	---	0.512
76	61/70/74/76	---	---	ND	---	0.512
77		---	---	ND	---	0.512
78		---	---	ND	---	0.512
79		---	---	ND	---	0.512
80		---	---	ND	---	0.512
81		---	---	ND	---	0.512
82		---	---	ND	---	0.512
83		---	---	ND	---	0.512
84		---	---	ND	---	0.512
85	85/116/117	---	---	ND	---	0.615
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.512
89		---	---	ND	---	0.512
90	90/101/113	---	---	ND	---	0.512
91	88/91	---	---	ND	---	0.512
92		---	---	ND	---	0.512
93	93/98/100/102	---	---	ND	---	0.769
94		---	---	ND	---	0.512
95		---	---	ND	---	0.512
96		---	---	ND	---	0.512

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.769
99		---	---	ND	---	0.512
100	93/98/100/102	---	---	ND	---	0.769
101	90/101/113	---	---	ND	---	0.512
102	93/98/100/102	---	---	ND	---	0.769
103		---	---	ND	---	0.512
104		---	---	ND	---	0.512
105		---	---	ND	---	0.512
106		---	---	ND	---	0.512
107	107/124	---	---	ND	---	0.512
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.512
110	110/115	---	---	ND	---	0.512
111		---	---	ND	---	0.512
112		---	---	ND	---	0.512
113	90/101/113	---	---	ND	---	0.512
114		---	---	ND	---	0.512
115	110/115	---	---	ND	---	0.512
116	85/116/117	---	---	ND	---	0.615
117	85/116/117	---	---	ND	---	0.615
118		---	---	ND	---	0.512
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.512
121		---	---	ND	---	0.512
122		---	---	ND	---	0.512
123		---	---	ND	---	0.512
124	107/124	---	---	ND	---	0.512
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.512
127		---	---	ND	---	0.512
128	128/166	---	---	ND	---	1.02
129	129/138/163	---	---	ND	---	0.512
130		---	---	ND	---	0.512
131		---	---	ND	---	0.512
132		---	---	ND	---	0.512
133		---	---	ND	---	0.512
134	134/143	---	---	ND	---	0.512
135	135/151	---	---	ND	---	0.523
136		---	---	ND	---	0.512
137		---	---	ND	---	0.512
138	129/138/163	---	---	ND	---	0.512
139	139/140	---	---	ND	---	0.512
140	139/140	---	---	ND	---	0.512
141		---	---	ND	---	0.512
142		---	---	ND	---	0.512
143	134/143	---	---	ND	---	0.512
144		---	---	ND	---	0.512

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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! = Outside QC Limits
RT = Retention Time
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.512
146		---	---	ND	---	0.512
147	147/149	---	---	ND	---	0.512
148		---	---	ND	---	0.512
149	147/149	---	---	ND	---	0.512
150		---	---	ND	---	0.512
151	135/151	---	---	ND	---	0.523
152		---	---	ND	---	0.512
153	153/168	---	---	ND	---	0.615
154		---	---	ND	---	0.512
155		---	---	ND	---	0.512
156	156/157	---	---	ND	---	0.512
157	156/157	---	---	ND	---	0.512
158		---	---	ND	---	0.512
159		---	---	ND	---	0.512
160		---	---	ND	---	0.512
161		---	---	ND	---	0.512
162		---	---	ND	---	0.512
163	129/138/163	---	---	ND	---	0.512
164		---	---	ND	---	0.512
165		---	---	ND	---	0.512
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.512
168	153/168	---	---	ND	---	0.615
169		---	---	ND	---	0.512
170		---	---	ND	---	0.512
171	171/173	---	---	ND	---	0.512
172		---	---	ND	---	0.512
173	171/173	---	---	ND	---	0.512
174		---	---	ND	---	0.512
175		---	---	ND	---	0.512
176		---	---	ND	---	0.512
177		---	---	ND	---	0.512
178		---	---	ND	---	0.512
179		---	---	ND	---	0.512
180	180/193	---	---	ND	---	0.512
181		---	---	ND	---	0.512
182		---	---	ND	---	0.512
183	183/185	---	---	ND	---	0.512
184		---	---	ND	---	0.512
185	183/185	---	---	ND	---	0.512
186		---	---	ND	---	0.512
187		---	---	ND	---	0.512
188		---	---	ND	---	0.512
189		---	---	ND	---	0.512
190		---	---	ND	---	0.512
191		---	---	ND	---	0.512
192		---	---	ND	---	0.512

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.512
194		---	---	ND	---	0.512
195		---	---	ND	---	0.512
196		---	---	ND	---	0.717
197	197/200	---	---	ND	---	2.56
198	198/199	---	---	ND	---	0.512
199	198/199	---	---	ND	---	0.512
200	197/200	---	---	ND	---	2.56
201		---	---	ND	---	0.512
202		---	---	ND	---	0.512
203		---	---	ND	---	0.512
204		---	---	ND	---	0.512
205		---	---	ND	---	0.512
206		---	---	ND	---	0.512
207		---	---	ND	---	0.512
208		---	---	ND	---	0.512
209		---	---	ND	---	0.512

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-03
Lab Sample ID	1069019003
Filename	P80322B_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-04		
Lab Sample ID	1069019004		
Filename	P80322B_08		
Injected By	BAL		
Total Amount Extracted	1040 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 00:52

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	3.13	2.0	1.26	63	
13C-4-MoCB	3	12.320	3.05	2.0	1.30	65	
13C-2,2'-DiCB	4	12.691	1.57	2.0	1.69	84	
13C-4,4'-DiCB	15	20.826	1.57	2.0	1.73	87	
13C-2,2',6-TrCB	19	17.148	1.11	2.0	1.78	89	
13C-3,4,4'-TrCB	37	29.208	1.05	2.0	1.85	93	
13C-2,2',6,6'-TeCB	54	21.192	0.79	2.0	1.57	79	
13C-3,4,4',5-TeCB	81	36.602	0.77	2.0	2.11	106	
13C-3,3',4,4'-TeCB	77	37.189	0.82	2.0	2.05	103	
13C-2,2',4,6,6'-PeCB	104	27.833	1.60	2.0	1.82	91	
13C-2,3,3',4,4'-PeCB	105	40.879	1.61	2.0	1.84	92	
13C-2,3,4,4',5-PeCB	114	40.224	1.58	2.0	1.71	86	
13C-2,3',4,4',5-PeCB	118	39.671	1.60	2.0	1.92	96	
13C-2,3',4,4',5'-PeCB	123	39.319	1.59	2.0	1.87	93	
13C-3,3',4,4',5-PeCB	126	44.082	1.53	2.0	1.76	88	
13C-2,2',4,4',6,6'-HxCB	155	34.171	1.26	2.0	1.92	96	
13C-HxCB (156/157)	156/157	47.184	1.27	4.0	3.31	83	
13C-2,3',4,4',5,5'-HxCB	167	46.010	1.25	2.0	1.63	82	
13C-3,3',4,4',5,5'-HxCB	169	50.487	1.28	2.0	1.42	71	
13C-2,2',3,4',5,6,6'-HpCB	188	40.224	1.05	2.0	3.17	158	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.048	1.05	2.0	2.00	100	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.758	0.89	2.0	2.89	144	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.656	0.88	2.0	2.01	100	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.402	0.80	2.0	1.94	97	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.573	0.80	2.0	2.36	118	
13C--DeCB	209	59.018	0.72	2.0	1.94	97	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.596	1.08	2.0	1.71	86	
13C-2,3,3',5,5'-PeCB	111	37.273	1.57	2.0	2.05	102	
13C-2,2',3,3',5,5',6-HpCB	178	43.377	1.04	2.0	1.96	98	
Recovery Standards							
13C-2,5-DiCB	9	15.603	1.58	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.759	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.389	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.908	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.182	0.94	2.0	NA	NA	

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.482
2		---	---	ND	---	0.482
3		---	---	ND	---	0.482
4		---	---	ND	---	0.482
5		---	---	ND	---	0.482
6		---	---	ND	---	0.482
7		---	---	ND	---	0.482
8		---	---	ND	---	0.482
9		---	---	ND	---	0.482
10		---	---	ND	---	0.482
11		---	---	ND	---	0.578
12	12/13	---	---	ND	---	0.482
13	12/13	---	---	ND	---	0.482
14		---	---	ND	---	0.482
15		---	---	ND	---	0.482
16		---	---	ND	---	0.482
17		---	---	ND	---	0.482
18	18/30	---	---	ND	---	0.482
19		---	---	ND	---	0.482
20	20/28	---	---	ND	---	0.578
21	21/33	---	---	ND	---	0.482
22		---	---	ND	---	0.482
23		---	---	ND	---	0.482
24		---	---	ND	---	0.482
25		---	---	ND	---	0.482
26	26/29	---	---	ND	---	0.482
27		---	---	ND	---	0.482
28	20/28	---	---	ND	---	0.578
29	26/29	---	---	ND	---	0.482
30	18/30	---	---	ND	---	0.482
31		---	---	ND	---	0.482
32		---	---	ND	---	0.482
33	21/33	---	---	ND	---	0.482
34		---	---	ND	---	0.482
35		---	---	ND	---	0.482
36		---	---	ND	---	0.482
37		---	---	ND	---	0.482
38		---	---	ND	---	0.482
39		---	---	ND	---	0.482
40	40/41/71	---	---	ND	---	0.482
41	40/41/71	---	---	ND	---	0.482
42		---	---	ND	---	0.482
43		---	---	ND	---	0.482
44	44/47/65	---	---	ND	---	0.578
45	45/51	---	---	ND	---	0.482
46		---	---	ND	---	0.482
47	44/47/65	---	---	ND	---	0.578
48		---	---	ND	---	0.482

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.482
50	50/53	---	---	ND	---	0.482
51	45/51	---	---	ND	---	0.482
52		---	---	ND	---	0.482
53	50/53	---	---	ND	---	0.482
54		---	---	ND	---	0.482
55		---	---	ND	---	0.482
56		---	---	ND	---	0.482
57		---	---	ND	---	0.482
58		---	---	ND	---	0.482
59	59/62/75	---	---	ND	---	0.482
60		---	---	ND	---	0.482
61	61/70/74/76	32.176	0.82	0.585	---	0.482
62	59/62/75	---	---	ND	---	0.482
63		---	---	ND	---	0.482
64		---	---	ND	---	0.482
65	44/47/65	---	---	ND	---	0.578
66		---	---	ND	---	0.482
67		---	---	ND	---	0.482
68		---	---	ND	---	0.482
69	49/69	---	---	ND	---	0.482
70	61/70/74/76	32.176	0.82	(0.585)	---	0.482
71	40/41/71	---	---	ND	---	0.482
72		---	---	ND	---	0.482
73		---	---	ND	---	0.482
74	61/70/74/76	32.176	0.82	(0.585)	---	0.482
75	59/62/75	---	---	ND	---	0.482
76	61/70/74/76	32.176	0.82	(0.585)	---	0.482
77		---	---	ND	---	0.482
78		---	---	ND	---	0.482
79		---	---	ND	---	0.482
80		---	---	ND	---	0.482
81		---	---	ND	---	0.482
82		---	---	ND	---	0.482
83		---	---	ND	---	0.482
84		---	---	ND	---	0.482
85	85/116/117	---	---	ND	---	0.578
86	86/87/97/108/119/125	---	---	ND	---	0.964
87	86/87/97/108/119/125	---	---	ND	---	0.964
88	88/91	---	---	ND	---	0.482
89		---	---	ND	---	0.482
90	90/101/113	34.423	1.55	1.02	---	0.482
91	88/91	---	---	ND	---	0.482
92		---	---	ND	---	0.482
93	93/98/100/102	---	---	ND	---	0.723
94		---	---	ND	---	0.482
95		31.186	1.56	0.746	---	0.482
96		---	---	ND	---	0.482

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.964
98	93/98/100/102	---	---	ND	---	0.723
99		---	---	ND	---	0.482
100	93/98/100/102	---	---	ND	---	0.723
101	90/101/113	34.423	1.55	(1.02)	---	0.482
102	93/98/100/102	---	---	ND	---	0.723
103		---	---	ND	---	0.482
104		---	---	ND	---	0.482
105		---	---	ND	---	0.482
106		---	---	ND	---	0.482
107	107/124	---	---	ND	---	0.482
108	86/87/97/108/119/125	---	---	ND	---	0.964
109		---	---	ND	---	0.482
110	110/115	36.519	1.61	1.50	---	0.482
111		---	---	ND	---	0.482
112		---	---	ND	---	0.482
113	90/101/113	34.423	1.55	(1.02)	---	0.482
114		---	---	ND	---	0.482
115	110/115	36.519	1.61	(1.50)	---	0.482
116	85/116/117	---	---	ND	---	0.578
117	85/116/117	---	---	ND	---	0.578
118		39.688	1.63	0.871	---	0.482
119	86/87/97/108/119/125	---	---	ND	---	0.964
120		---	---	ND	---	0.482
121		---	---	ND	---	0.482
122		---	---	ND	---	0.482
123		---	---	ND	---	0.482
124	107/124	---	---	ND	---	0.482
125	86/87/97/108/119/125	---	---	ND	---	0.964
126		---	---	ND	---	0.482
127		---	---	ND	---	0.482
128	128/166	---	---	ND	---	0.964
129	129/138/163	42.941	1.26	2.37	---	0.482
130		---	---	ND	---	0.482
131		---	---	ND	---	0.482
132		39.788	1.24	0.814	---	0.482
133		---	---	ND	---	0.482
134	134/143	---	---	ND	---	0.482
135	135/151	37.508	1.26	0.751	---	0.491
136		---	---	ND	---	0.482
137		---	---	ND	---	0.482
138	129/138/163	42.941	1.26	(2.37)	---	0.482
139	139/140	---	---	ND	---	0.482
140	139/140	---	---	ND	---	0.482
141		41.851	1.23	0.493	---	0.482
142		---	---	ND	---	0.482
143	134/143	---	---	ND	---	0.482
144		---	---	ND	---	0.482

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.482
146		---	---	ND	---	0.482
147	147/149	38.480	1.24	1.88	---	0.482
148		---	---	ND	---	0.482
149	147/149	38.480	1.24	(1.88)	---	0.482
150		---	---	ND	---	0.482
151	135/151	37.508	1.26	(0.751)	---	0.491
152		---	---	ND	---	0.482
153	153/168	41.650	1.24	1.85	---	0.578
154		---	---	ND	---	0.482
155		---	---	ND	---	0.482
156	156/157	---	---	ND	---	0.482
157	156/157	---	---	ND	---	0.482
158		---	---	ND	---	0.482
159		---	---	ND	---	0.482
160		---	---	ND	---	0.482
161		---	---	ND	---	0.482
162		---	---	ND	---	0.482
163	129/138/163	42.941	1.26	(2.37)	---	0.482
164		---	---	ND	---	0.482
165		---	---	ND	---	0.482
166	128/166	---	---	ND	---	0.964
167		---	---	ND	---	0.482
168	153/168	41.650	1.24	(1.85)	---	0.578
169		---	---	ND	---	0.482
170		49.900	1.10	0.691	---	0.482
171	171/173	---	---	ND	---	0.482
172		---	---	ND	---	0.482
173	171/173	---	---	ND	---	0.482
174		45.205	1.04	0.863	---	0.482
175		---	---	ND	---	0.482
176		---	---	ND	---	0.482
177		---	---	ND	---	0.482
178		---	---	ND	---	0.482
179		---	---	ND	---	0.482
180	180/193	48.626	1.04	1.65	---	0.482
181		---	---	ND	---	0.482
182		---	---	ND	---	0.482
183	183/185	44.987	1.04	0.547	---	0.482
184		---	---	ND	---	0.482
185	183/185	44.987	1.04	(0.547)	---	0.482
186		---	---	ND	---	0.482
187		44.333	1.04	0.957	---	0.482
188		---	---	ND	---	0.482
189		---	---	ND	---	0.482
190		---	---	ND	---	0.482
191		---	---	ND	---	0.482
192		---	---	ND	---	0.482

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.626	1.04	(1.65)	---	0.482
194		---	---	ND	---	0.482
195		---	---	ND	---	0.482
196		---	---	ND	---	0.675
197	197/200	---	---	ND	---	2.41
198	198/199	---	---	ND	---	0.482
199	198/199	---	---	ND	---	0.482
200	197/200	---	---	ND	---	2.41
201		---	---	ND	---	0.482
202		---	---	ND	---	0.482
203		---	---	ND	---	0.482
204		---	---	ND	---	0.482
205		---	---	ND	---	0.482
206		---	---	ND	---	0.482
207		---	---	ND	---	0.482
208		---	---	ND	---	0.482
209		---	---	ND	---	0.482

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-04
Lab Sample ID	1069019004
Filename	P80322B_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.585
Total Pentachloro Biphenyls	4.14
Total Hexachloro Biphenyls	8.15
Total Heptachloro Biphenyls	4.71
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	17.6

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-05		
Lab Sample ID	1069019005		
Filename	P80322B_09		
Injected By	BAL		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 01:54

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	2.88	2.0	1.72	86	
13C-4-MoCB	3	12.320	3.28	2.0	1.66	83	
13C-2,2'-DiCB	4	12.691	1.60	2.0	2.23	111	
13C-4,4'-DiCB	15	20.838	1.58	2.0	2.17	109	
13C-2,2',6-TrCB	19	17.148	1.08	2.0	2.24	112	
13C-3,4,4'-TrCB	37	29.223	1.07	2.0	2.23	112	
13C-2,2',6,6'-TeCB	54	21.192	0.80	2.0	2.00	100	
13C-3,4,4',5-TeCB	81	36.634	0.77	2.0	2.33	116	
13C-3,3',4,4'-TeCB	77	37.221	0.81	2.0	2.24	112	
13C-2,2',4,6,6'-PeCB	104	27.849	1.58	2.0	2.30	115	
13C-2,3,3',4,4'-PeCB	105	40.910	1.61	2.0	1.99	100	
13C-2,3,4,4',5-PeCB	114	40.239	1.61	2.0	1.84	92	
13C-2,3',4,4',5-PeCB	118	39.703	1.62	2.0	2.10	105	
13C-2,3',4,4',5'-PeCB	123	39.350	1.59	2.0	2.06	103	
13C-3,3',4,4',5-PeCB	126	44.130	1.60	2.0	1.71	85	
13C-2,2',4,4',6,6'-HxCB	155	34.186	1.26	2.0	2.75	138	
13C-HxCB (156/157)	156/157	47.231	1.27	4.0	3.54	89	
13C-2,3',4,4',5,5'-HxCB	167	46.058	1.25	2.0	1.82	91	
13C-3,3',4,4',5,5'-HxCB	169	50.551	1.26	2.0	1.44	72	
13C-2,2',3,4',5,6,6'-HpCB	188	40.239	1.05	2.0	4.66	233	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.109	1.06	2.0	2.31	115	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.790	0.91	2.0	3.61	181	P
13C-2,3,3',4,4',5,5',6-OcCB	205	55.717	0.90	2.0	2.40	120	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.463	0.77	2.0	2.43	122	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.613	0.81	2.0	2.76	138	
13C--DeCB	209	59.079	0.72	2.0	2.49	124	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.596	1.07	2.0	2.07	104	
13C-2,3,3',5,5'-PeCB	111	37.305	1.61	2.0	2.29	114	
13C-2,2',3,3',5,5',6-HpCB	178	43.408	1.07	2.0	2.12	106	
Recovery Standards							
13C-2,5-DiCB	9	15.602	1.56	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.759	0.81	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.404	1.58	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.939	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.243	0.90	2.0	NA	NA	

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.498
2		---	---	ND	---	0.498
3		---	---	ND	---	0.498
4		---	---	ND	---	0.498
5		---	---	ND	---	0.498
6		---	---	ND	---	0.498
7		---	---	ND	---	0.498
8		---	---	ND	---	0.498
9		---	---	ND	---	0.498
10		---	---	ND	---	0.498
11		20.083	1.58	0.760	---	0.597
12	12/13	---	---	ND	---	0.498
13	12/13	---	---	ND	---	0.498
14		---	---	ND	---	0.498
15		---	---	ND	---	0.498
16		---	---	ND	---	0.498
17		---	---	ND	---	0.498
18	18/30	---	---	ND	---	0.498
19		---	---	ND	---	0.498
20	20/28	---	---	ND	---	0.597
21	21/33	---	---	ND	---	0.498
22		---	---	ND	---	0.498
23		---	---	ND	---	0.498
24		---	---	ND	---	0.498
25		---	---	ND	---	0.498
26	26/29	---	---	ND	---	0.498
27		---	---	ND	---	0.498
28	20/28	---	---	ND	---	0.597
29	26/29	---	---	ND	---	0.498
30	18/30	---	---	ND	---	0.498
31		---	---	ND	---	0.498
32		---	---	ND	---	0.498
33	21/33	---	---	ND	---	0.498
34		---	---	ND	---	0.498
35		---	---	ND	---	0.498
36		---	---	ND	---	0.498
37		---	---	ND	---	0.498
38		---	---	ND	---	0.498
39		---	---	ND	---	0.498
40	40/41/71	---	---	ND	---	0.498
41	40/41/71	---	---	ND	---	0.498
42		---	---	ND	---	0.498
43		---	---	ND	---	0.498
44	44/47/65	---	---	ND	---	0.597
45	45/51	---	---	ND	---	0.498
46		---	---	ND	---	0.498
47	44/47/65	---	---	ND	---	0.597
48		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.498
50	50/53	---	---	ND	---	0.498
51	45/51	---	---	ND	---	0.498
52		---	---	ND	---	0.498
53	50/53	---	---	ND	---	0.498
54		---	---	ND	---	0.498
55		---	---	ND	---	0.498
56		---	---	ND	---	0.498
57		---	---	ND	---	0.498
58		---	---	ND	---	0.498
59	59/62/75	---	---	ND	---	0.498
60		---	---	ND	---	0.498
61	61/70/74/76	32.191	0.78	0.751	---	0.498
62	59/62/75	---	---	ND	---	0.498
63		---	---	ND	---	0.498
64		---	---	ND	---	0.498
65	44/47/65	---	---	ND	---	0.597
66		---	---	ND	---	0.498
67		---	---	ND	---	0.498
68		---	---	ND	---	0.498
69	49/69	---	---	ND	---	0.498
70	61/70/74/76	32.191	0.78	(0.751)	---	0.498
71	40/41/71	---	---	ND	---	0.498
72		---	---	ND	---	0.498
73		---	---	ND	---	0.498
74	61/70/74/76	32.191	0.78	(0.751)	---	0.498
75	59/62/75	---	---	ND	---	0.498
76	61/70/74/76	32.191	0.78	(0.751)	---	0.498
77		---	---	ND	---	0.498
78		---	---	ND	---	0.498
79		---	---	ND	---	0.498
80		---	---	ND	---	0.498
81		---	---	ND	---	0.498
82		---	---	ND	---	0.498
83		---	---	ND	---	0.498
84		---	---	ND	---	0.498
85	85/116/117	---	---	ND	---	0.597
86	86/87/97/108/119/125	---	---	ND	---	0.995
87	86/87/97/108/119/125	---	---	ND	---	0.995
88	88/91	---	---	ND	---	0.498
89		---	---	ND	---	0.498
90	90/101/113	34.438	1.64	0.662	---	0.498
91	88/91	---	---	ND	---	0.498
92		---	---	ND	---	0.498
93	93/98/100/102	---	---	ND	---	0.746
94		---	---	ND	---	0.498
95		---	---	ND	---	0.498
96		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.995
98	93/98/100/102	---	---	ND	---	0.746
99		---	---	ND	---	0.498
100	93/98/100/102	---	---	ND	---	0.746
101	90/101/113	34.438	1.64	(0.662)	---	0.498
102	93/98/100/102	---	---	ND	---	0.746
103		---	---	ND	---	0.498
104		---	---	ND	---	0.498
105		---	---	ND	---	0.498
106		---	---	ND	---	0.498
107	107/124	---	---	ND	---	0.498
108	86/87/97/108/119/125	---	---	ND	---	0.995
109		---	---	ND	---	0.498
110	110/115	36.533	1.54	0.849	---	0.498
111		---	---	ND	---	0.498
112		---	---	ND	---	0.498
113	90/101/113	34.438	1.64	(0.662)	---	0.498
114		---	---	ND	---	0.498
115	110/115	36.533	1.54	(0.849)	---	0.498
116	85/116/117	---	---	ND	---	0.597
117	85/116/117	---	---	ND	---	0.597
118		39.719	1.62	0.565	---	0.498
119	86/87/97/108/119/125	---	---	ND	---	0.995
120		---	---	ND	---	0.498
121		---	---	ND	---	0.498
122		---	---	ND	---	0.498
123		---	---	ND	---	0.498
124	107/124	---	---	ND	---	0.498
125	86/87/97/108/119/125	---	---	ND	---	0.995
126		---	---	ND	---	0.498
127		---	---	ND	---	0.498
128	128/166	---	---	ND	---	0.995
129	129/138/163	42.972	1.26	1.14	---	0.498
130		---	---	ND	---	0.498
131		---	---	ND	---	0.498
132		---	---	ND	---	0.498
133		---	---	ND	---	0.498
134	134/143	---	---	ND	---	0.498
135	135/151	---	---	ND	---	0.508
136		---	---	ND	---	0.498
137		---	---	ND	---	0.498
138	129/138/163	42.972	1.26	(1.14)	---	0.498
139	139/140	---	---	ND	---	0.498
140	139/140	---	---	ND	---	0.498
141		---	---	ND	---	0.498
142		---	---	ND	---	0.498
143	134/143	---	---	ND	---	0.498
144		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.498
146		---	---	ND	---	0.498
147	147/149	38.512	1.24	0.976	---	0.498
148		---	---	ND	---	0.498
149	147/149	38.512	1.24	(0.976)	---	0.498
150		---	---	ND	---	0.498
151	135/151	---	---	ND	---	0.508
152		---	---	ND	---	0.498
153	153/168	41.681	1.25	0.942	---	0.597
154		---	---	ND	---	0.498
155		---	---	ND	---	0.498
156	156/157	---	---	ND	---	0.498
157	156/157	---	---	ND	---	0.498
158		---	---	ND	---	0.498
159		---	---	ND	---	0.498
160		---	---	ND	---	0.498
161		---	---	ND	---	0.498
162		---	---	ND	---	0.498
163	129/138/163	42.972	1.26	(1.14)	---	0.498
164		---	---	ND	---	0.498
165		---	---	ND	---	0.498
166	128/166	---	---	ND	---	0.995
167		---	---	ND	---	0.498
168	153/168	41.681	1.25	(0.942)	---	0.597
169		---	---	ND	---	0.498
170		---	---	ND	---	0.498
171	171/173	---	---	ND	---	0.498
172		---	---	ND	---	0.498
173	171/173	---	---	ND	---	0.498
174		---	---	ND	---	0.498
175		---	---	ND	---	0.498
176		---	---	ND	---	0.498
177		---	---	ND	---	0.498
178		---	---	ND	---	0.498
179		---	---	ND	---	0.498
180	180/193	48.673	1.02	0.786	---	0.498
181		---	---	ND	---	0.498
182		---	---	ND	---	0.498
183	183/185	---	---	ND	---	0.498
184		---	---	ND	---	0.498
185	183/185	---	---	ND	---	0.498
186		---	---	ND	---	0.498
187		---	---	ND	---	0.498
188		---	---	ND	---	0.498
189		---	---	ND	---	0.498
190		---	---	ND	---	0.498
191		---	---	ND	---	0.498
192		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.673	1.02	(0.786)	---	0.498
194		---	---	ND	---	0.498
195		---	---	ND	---	0.498
196		---	---	ND	---	0.697
197	197/200	---	---	ND	---	2.49
198	198/199	---	---	ND	---	0.498
199	198/199	---	---	ND	---	0.498
200	197/200	---	---	ND	---	2.49
201		---	---	ND	---	0.498
202		---	---	ND	---	0.498
203		---	---	ND	---	0.498
204		---	---	ND	---	0.498
205		---	---	ND	---	0.498
206		---	---	ND	---	0.498
207		---	---	ND	---	0.498
208		---	---	ND	---	0.498
209		---	---	ND	---	0.498

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-05
Lab Sample ID	1069019005
Filename	P80322B_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.760
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.751
Total Pentachloro Biphenyls	2.08
Total Hexachloro Biphenyls	3.06
Total Heptachloro Biphenyls	0.786
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	7.43

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-06		
Lab Sample ID	1069019006		
Filename	P80322B_10		
Injected By	BAL		
Total Amount Extracted	999 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 02:57

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	3.00	2.0	1.42	71	
13C-4-MoCB	3	12.331	3.15	2.0	1.36	68	
13C-2,2'-DiCB	4	12.691	1.62	2.0	1.84	92	
13C-4,4'-DiCB	15	20.850	1.56	2.0	1.76	88	
13C-2,2',6-TrCB	19	17.160	1.09	2.0	1.85	93	
13C-3,4,4'-TrCB	37	29.242	1.06	2.0	1.86	93	
13C-2,2',6,6'-TeCB	54	21.210	0.81	2.0	1.61	80	
13C-3,4,4',5-TeCB	81	36.637	0.78	2.0	2.10	105	
13C-3,3',4,4'-TeCB	77	37.224	0.81	2.0	2.05	103	
13C-2,2',4,6,6'-PeCB	104	27.867	1.58	2.0	1.87	93	
13C-2,3,3',4,4'-PeCB	105	40.896	1.59	2.0	1.92	96	
13C-2,3,4,4',5-PeCB	114	40.242	1.60	2.0	1.76	88	
13C-2,3',4,4',5-PeCB	118	39.689	1.60	2.0	1.96	98	
13C-2,3',4,4',5'-PeCB	123	39.354	1.60	2.0	1.91	96	
13C-3,3',4,4',5-PeCB	126	44.116	1.55	2.0	1.81	91	
13C-2,2',4,4',6,6'-HxCB	155	34.189	1.27	2.0	1.98	99	
13C-HxCB (156/157)	156/157	47.202	1.26	4.0	3.34	84	
13C-2,3',4,4',5,5'-HxCB	167	46.045	1.29	2.0	1.69	84	
13C-3,3',4,4',5,5'-HxCB	169	50.505	1.26	2.0	1.35	67	
13C-2,2',3,4',5,6,6'-HpCB	188	40.242	1.04	2.0	3.92	196	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.070	1.07	2.0	2.23	111	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.776	0.88	2.0	3.45	172	P
13C-2,3,3',4,4',5,5',6-OcCB	205	55.657	0.93	2.0	2.17	108	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.403	0.79	2.0	2.11	106	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.575	0.81	2.0	2.58	129	
13C--DeCB	209	59.019	0.70	2.0	2.19	110	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.614	1.05	2.0	1.74	87	
13C-2,3,3',5,5'-PeCB	111	37.308	1.59	2.0	2.02	101	
13C-2,2',3,3',5,5',6-HpCB	178	43.395	1.03	2.0	1.91	95	
Recovery Standards							
13C-2,5-DiCB	9	15.614	1.59	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.777	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.424	1.56	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.925	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.183	0.91	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		---	---	ND	---	0.601
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.601
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.601
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.601
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.601
48		---	---	ND	---	0.500

Conc = Concentration
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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	---	---	ND	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.601
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	---	---	ND	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	---	---	ND	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	---	---	ND	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500
85	85/116/117	---	---	ND	---	0.601
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	---	---	ND	---	0.500
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.751
94		---	---	ND	---	0.500
95		---	---	ND	---	0.500
96		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.751
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.751
101	90/101/113	---	---	ND	---	0.500
102	93/98/100/102	---	---	ND	---	0.751
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.500
110	110/115	---	---	ND	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	---	---	ND	---	0.500
114		---	---	ND	---	0.500
115	110/115	---	---	ND	---	0.500
116	85/116/117	---	---	ND	---	0.601
117	85/116/117	---	---	ND	---	0.601
118		---	---	ND	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.500
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.00
129	129/138/163	---	---	ND	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		---	---	ND	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	---	---	ND	---	0.510
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	---	---	ND	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	---	---	ND	---	0.500
148		---	---	ND	---	0.500
149	147/149	---	---	ND	---	0.500
150		---	---	ND	---	0.500
151	135/151	---	---	ND	---	0.510
152		---	---	ND	---	0.500
153	153/168	---	---	ND	---	0.601
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	---	---	ND	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.500
168	153/168	---	---	ND	---	0.601
169		---	---	ND	---	0.500
170		---	---	ND	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		---	---	ND	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	---	---	ND	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	---	---	ND	---	0.500
184		---	---	ND	---	0.500
185	183/185	---	---	ND	---	0.500
186		---	---	ND	---	0.500
187		---	---	ND	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.701
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0016-06
Lab Sample ID	1069019006
Filename	P80322B_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-07		
Lab Sample ID	1069019007		
Filename	P80322B_11		
Injected By	BAL		
Total Amount Extracted	1020 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 04:00

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	3.16	2.0	1.39	69	
13C-4-MoCB	3	12.332	3.17	2.0	1.38	69	
13C-2,2'-DiCB	4	12.691	1.60	2.0	1.80	90	
13C-4,4'-DiCB	15	20.838	1.58	2.0	1.68	84	
13C-2,2',6-TrCB	19	17.148	1.07	2.0	1.75	87	
13C-3,4,4'-TrCB	37	29.225	1.08	2.0	1.74	87	
13C-2,2',6,6'-TeCB	54	21.193	0.78	2.0	1.53	76	
13C-3,4,4',5-TeCB	81	36.620	0.79	2.0	2.09	104	
13C-3,3',4,4'-TeCB	77	37.207	0.78	2.0	2.02	101	
13C-2,2',4,6,6'-PeCB	104	27.850	1.62	2.0	1.75	87	
13C-2,3,3',4,4'-PeCB	105	40.880	1.60	2.0	1.89	95	
13C-2,3,4,4',5-PeCB	114	40.226	1.55	2.0	1.70	85	
13C-2,3',4,4',5-PeCB	118	39.672	1.61	2.0	1.94	97	
13C-2,3',4,4',5'-PeCB	123	39.337	1.59	2.0	1.90	95	
13C-3,3',4,4',5-PeCB	126	44.083	1.60	2.0	1.81	90	
13C-2,2',4,4',6,6'-HxCB	155	34.172	1.29	2.0	1.77	89	
13C-HxCB (156/157)	156/157	47.185	1.29	4.0	3.25	81	
13C-2,3',4,4',5,5'-HxCB	167	46.011	1.28	2.0	1.62	81	
13C-3,3',4,4',5,5'-HxCB	169	50.488	1.27	2.0	1.43	72	
13C-2,2',3,4',5,6,6'-HpCB	188	40.226	1.03	2.0	3.09	154	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.049	1.05	2.0	2.03	102	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.760	0.92	2.0	2.90	145	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.635	0.90	2.0	2.01	100	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.403	0.78	2.0	1.85	93	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.553	0.79	2.0	2.38	119	
13C--DeCB	209	59.019	0.70	2.0	1.91	95	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.597	1.06	2.0	1.67	83	
13C-2,3,3',5,5'-PeCB	111	37.274	1.59	2.0	2.03	101	
13C-2,2',3,3',5,5',6-HpCB	178	43.378	1.06	2.0	1.89	95	
Recovery Standards							
13C-2,5-DiCB	9	15.602	1.57	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.760	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.407	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.909	1.30	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.161	0.89	2.0	NA	NA	

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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NA = Not Applicable
NC = Not Calculated
* = See Discussion
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I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.489
2		---	---	ND	---	0.489
3		---	---	ND	---	0.489
4		---	---	ND	---	0.489
5		---	---	ND	---	0.489
6		---	---	ND	---	0.489
7		---	---	ND	---	0.489
8		---	---	ND	---	0.489
9		---	---	ND	---	0.489
10		---	---	ND	---	0.489
11		---	---	ND	---	0.587
12	12/13	---	---	ND	---	0.489
13	12/13	---	---	ND	---	0.489
14		---	---	ND	---	0.489
15		---	---	ND	---	0.489
16		---	---	ND	---	0.489
17		---	---	ND	---	0.489
18	18/30	---	---	ND	---	0.489
19		---	---	ND	---	0.489
20	20/28	---	---	ND	---	0.587
21	21/33	---	---	ND	---	0.489
22		---	---	ND	---	0.489
23		---	---	ND	---	0.489
24		---	---	ND	---	0.489
25		---	---	ND	---	0.489
26	26/29	---	---	ND	---	0.489
27		---	---	ND	---	0.489
28	20/28	---	---	ND	---	0.587
29	26/29	---	---	ND	---	0.489
30	18/30	---	---	ND	---	0.489
31		---	---	ND	---	0.489
32		---	---	ND	---	0.489
33	21/33	---	---	ND	---	0.489
34		---	---	ND	---	0.489
35		---	---	ND	---	0.489
36		---	---	ND	---	0.489
37		---	---	ND	---	0.489
38		---	---	ND	---	0.489
39		---	---	ND	---	0.489
40	40/41/71	---	---	ND	---	0.489
41	40/41/71	---	---	ND	---	0.489
42		---	---	ND	---	0.489
43		---	---	ND	---	0.489
44	44/47/65	---	---	ND	---	0.587
45	45/51	---	---	ND	---	0.489
46		---	---	ND	---	0.489
47	44/47/65	---	---	ND	---	0.587
48		---	---	ND	---	0.489

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.489
50	50/53	---	---	ND	---	0.489
51	45/51	---	---	ND	---	0.489
52		---	---	ND	---	0.489
53	50/53	---	---	ND	---	0.489
54		---	---	ND	---	0.489
55		---	---	ND	---	0.489
56		---	---	ND	---	0.489
57		---	---	ND	---	0.489
58		---	---	ND	---	0.489
59	59/62/75	---	---	ND	---	0.489
60		---	---	ND	---	0.489
61	61/70/74/76	---	---	ND	---	0.489
62	59/62/75	---	---	ND	---	0.489
63		---	---	ND	---	0.489
64		---	---	ND	---	0.489
65	44/47/65	---	---	ND	---	0.587
66		---	---	ND	---	0.489
67		---	---	ND	---	0.489
68		---	---	ND	---	0.489
69	49/69	---	---	ND	---	0.489
70	61/70/74/76	---	---	ND	---	0.489
71	40/41/71	---	---	ND	---	0.489
72		---	---	ND	---	0.489
73		---	---	ND	---	0.489
74	61/70/74/76	---	---	ND	---	0.489
75	59/62/75	---	---	ND	---	0.489
76	61/70/74/76	---	---	ND	---	0.489
77		---	---	ND	---	0.489
78		---	---	ND	---	0.489
79		---	---	ND	---	0.489
80		---	---	ND	---	0.489
81		---	---	ND	---	0.489
82		---	---	ND	---	0.489
83		---	---	ND	---	0.489
84		---	---	ND	---	0.489
85	85/116/117	---	---	ND	---	0.587
86	86/87/97/108/119/125	---	---	ND	---	0.979
87	86/87/97/108/119/125	---	---	ND	---	0.979
88	88/91	---	---	ND	---	0.489
89		---	---	ND	---	0.489
90	90/101/113	---	---	ND	---	0.489
91	88/91	---	---	ND	---	0.489
92		---	---	ND	---	0.489
93	93/98/100/102	---	---	ND	---	0.734
94		---	---	ND	---	0.489
95		---	---	ND	---	0.489
96		---	---	ND	---	0.489

Conc = Concentration
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.979
98	93/98/100/102	---	---	ND	---	0.734
99		---	---	ND	---	0.489
100	93/98/100/102	---	---	ND	---	0.734
101	90/101/113	---	---	ND	---	0.489
102	93/98/100/102	---	---	ND	---	0.734
103		---	---	ND	---	0.489
104		---	---	ND	---	0.489
105		---	---	ND	---	0.489
106		---	---	ND	---	0.489
107	107/124	---	---	ND	---	0.489
108	86/87/97/108/119/125	---	---	ND	---	0.979
109		---	---	ND	---	0.489
110	110/115	---	---	ND	---	0.489
111		---	---	ND	---	0.489
112		---	---	ND	---	0.489
113	90/101/113	---	---	ND	---	0.489
114		---	---	ND	---	0.489
115	110/115	---	---	ND	---	0.489
116	85/116/117	---	---	ND	---	0.587
117	85/116/117	---	---	ND	---	0.587
118		---	---	ND	---	0.489
119	86/87/97/108/119/125	---	---	ND	---	0.979
120		---	---	ND	---	0.489
121		---	---	ND	---	0.489
122		---	---	ND	---	0.489
123		---	---	ND	---	0.489
124	107/124	---	---	ND	---	0.489
125	86/87/97/108/119/125	---	---	ND	---	0.979
126		---	---	ND	---	0.489
127		---	---	ND	---	0.489
128	128/166	---	---	ND	---	0.979
129	129/138/163	---	---	ND	---	0.489
130		---	---	ND	---	0.489
131		---	---	ND	---	0.489
132		---	---	ND	---	0.489
133		---	---	ND	---	0.489
134	134/143	---	---	ND	---	0.489
135	135/151	---	---	ND	---	0.499
136		---	---	ND	---	0.489
137		---	---	ND	---	0.489
138	129/138/163	---	---	ND	---	0.489
139	139/140	---	---	ND	---	0.489
140	139/140	---	---	ND	---	0.489
141		---	---	ND	---	0.489
142		---	---	ND	---	0.489
143	134/143	---	---	ND	---	0.489
144		---	---	ND	---	0.489

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.489
146		---	---	ND	---	0.489
147	147/149	---	---	ND	---	0.489
148		---	---	ND	---	0.489
149	147/149	---	---	ND	---	0.489
150		---	---	ND	---	0.489
151	135/151	---	---	ND	---	0.499
152		---	---	ND	---	0.489
153	153/168	---	---	ND	---	0.587
154		---	---	ND	---	0.489
155		---	---	ND	---	0.489
156	156/157	---	---	ND	---	0.489
157	156/157	---	---	ND	---	0.489
158		---	---	ND	---	0.489
159		---	---	ND	---	0.489
160		---	---	ND	---	0.489
161		---	---	ND	---	0.489
162		---	---	ND	---	0.489
163	129/138/163	---	---	ND	---	0.489
164		---	---	ND	---	0.489
165		---	---	ND	---	0.489
166	128/166	---	---	ND	---	0.979
167		---	---	ND	---	0.489
168	153/168	---	---	ND	---	0.587
169		---	---	ND	---	0.489
170		---	---	ND	---	0.489
171	171/173	---	---	ND	---	0.489
172		---	---	ND	---	0.489
173	171/173	---	---	ND	---	0.489
174		---	---	ND	---	0.489
175		---	---	ND	---	0.489
176		---	---	ND	---	0.489
177		---	---	ND	---	0.489
178		---	---	ND	---	0.489
179		---	---	ND	---	0.489
180	180/193	---	---	ND	---	0.489
181		---	---	ND	---	0.489
182		---	---	ND	---	0.489
183	183/185	---	---	ND	---	0.489
184		---	---	ND	---	0.489
185	183/185	---	---	ND	---	0.489
186		---	---	ND	---	0.489
187		---	---	ND	---	0.489
188		---	---	ND	---	0.489
189		---	---	ND	---	0.489
190		---	---	ND	---	0.489
191		---	---	ND	---	0.489
192		---	---	ND	---	0.489

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.489
194		---	---	ND	---	0.489
195		---	---	ND	---	0.489
196		---	---	ND	---	0.685
197	197/200	---	---	ND	---	2.45
198	198/199	---	---	ND	---	0.489
199	198/199	---	---	ND	---	0.489
200	197/200	---	---	ND	---	2.45
201		---	---	ND	---	0.489
202		---	---	ND	---	0.489
203		---	---	ND	---	0.489
204		---	---	ND	---	0.489
205		---	---	ND	---	0.489
206		---	---	ND	---	0.489
207		---	---	ND	---	0.489
208		---	---	ND	---	0.489
209		---	---	ND	---	0.489

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-07
Lab Sample ID	1069019007
Filename	P80322B_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0016-08		
Lab Sample ID	1069019008		
Filename	P80322B_12		
Injected By	BAL		
Total Amount Extracted	1030 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/29/2008
ICAL ID	P80322B02	Received	03/04/2008
CCal Filename(s)	P80322B_01	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 05:02

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.929	3.23	2.0	1.24	62
13C-4-MoCB	3	12.319	3.12	2.0	1.25	63
13C-2,2'-DiCB	4	12.691	1.59	2.0	1.66	83
13C-4,4'-DiCB	15	20.837	1.59	2.0	1.55	78
13C-2,2',6-TrCB	19	17.147	1.04	2.0	1.60	80
13C-3,4,4'-TrCB	37	29.224	1.09	2.0	1.61	80
13C-2,2',6,6'-TeCB	54	21.192	0.81	2.0	1.46	73
13C-3,4,4',5-TeCB	81	36.603	0.79	2.0	1.96	98
13C-3,3',4,4'-TeCB	77	37.190	0.81	2.0	1.92	96
13C-2,2',4,6,6'-PeCB	104	27.849	1.61	2.0	1.61	81
13C-2,3,3',4,4'-PeCB	105	40.879	1.60	2.0	1.85	92
13C-2,3,4,4',5-PeCB	114	40.208	1.58	2.0	1.65	83
13C-2,3',4,4',5-PeCB	118	39.672	1.60	2.0	1.85	93
13C-2,3',4,4',5'-PeCB	123	39.320	1.58	2.0	1.77	88
13C-3,3',4,4',5-PeCB	126	44.082	1.56	2.0	1.88	94
13C-2,2',4,4',6,6'-HxCB	155	34.171	1.30	2.0	1.63	82
13C-HxCB (156/157)	156/157	47.184	1.27	4.0	3.40	85
13C-2,3',4,4',5,5'-HxCB	167	46.010	1.28	2.0	1.68	84
13C-3,3',4,4',5,5'-HxCB	169	50.471	1.28	2.0	1.53	77
13C-2,2',3,4',5,6,6'-HpCB	188	40.225	1.07	2.0	2.44	122
13C-2,3,3',4,4',5,5'-HpCB	189	53.027	1.06	2.0	1.93	97
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.759	0.89	2.0	2.45	123
13C-2,3,3',4,4',5,5',6-OcCB	205	55.635	0.90	2.0	2.09	105
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.381	0.79	2.0	1.97	98
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.553	0.78	2.0	2.30	115
13C--DeCB	209	58.997	0.70	2.0	2.06	103
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.596	1.05	2.0	1.57	78
13C-2,3,3',5,5'-PeCB	111	37.274	1.58	2.0	1.91	95
13C-2,2',3,3',5,5',6-HpCB	178	43.378	1.04	2.0	1.85	93
Recovery Standards						
13C-2,5-DiCB	9	15.602	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.759	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.406	1.66	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.891	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.161	0.92	2.0	NA	NA

Conc = Concentration
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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.486
2		---	---	ND	---	0.486
3		---	---	ND	---	0.486
4		---	---	ND	---	0.486
5		---	---	ND	---	0.486
6		---	---	ND	---	0.486
7		---	---	ND	---	0.486
8		---	---	ND	---	0.486
9		---	---	ND	---	0.486
10		---	---	ND	---	0.486
11		---	---	ND	---	0.583
12	12/13	---	---	ND	---	0.486
13	12/13	---	---	ND	---	0.486
14		---	---	ND	---	0.486
15		---	---	ND	---	0.486
16		---	---	ND	---	0.486
17		---	---	ND	---	0.486
18	18/30	---	---	ND	---	0.486
19		---	---	ND	---	0.486
20	20/28	---	---	ND	---	0.583
21	21/33	---	---	ND	---	0.486
22		---	---	ND	---	0.486
23		---	---	ND	---	0.486
24		---	---	ND	---	0.486
25		---	---	ND	---	0.486
26	26/29	---	---	ND	---	0.486
27		---	---	ND	---	0.486
28	20/28	---	---	ND	---	0.583
29	26/29	---	---	ND	---	0.486
30	18/30	---	---	ND	---	0.486
31		---	---	ND	---	0.486
32		---	---	ND	---	0.486
33	21/33	---	---	ND	---	0.486
34		---	---	ND	---	0.486
35		---	---	ND	---	0.486
36		---	---	ND	---	0.486
37		---	---	ND	---	0.486
38		---	---	ND	---	0.486
39		---	---	ND	---	0.486
40	40/41/71	---	---	ND	---	0.486
41	40/41/71	---	---	ND	---	0.486
42		---	---	ND	---	0.486
43		---	---	ND	---	0.486
44	44/47/65	---	---	ND	---	0.583
45	45/51	---	---	ND	---	0.486
46		---	---	ND	---	0.486
47	44/47/65	---	---	ND	---	0.583
48		---	---	ND	---	0.486

Conc = Concentration
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.486
50	50/53	---	---	ND	---	0.486
51	45/51	---	---	ND	---	0.486
52		---	---	ND	---	0.486
53	50/53	---	---	ND	---	0.486
54		---	---	ND	---	0.486
55		---	---	ND	---	0.486
56		---	---	ND	---	0.486
57		---	---	ND	---	0.486
58		---	---	ND	---	0.486
59	59/62/75	---	---	ND	---	0.486
60		---	---	ND	---	0.486
61	61/70/74/76	---	---	ND	---	0.486
62	59/62/75	---	---	ND	---	0.486
63		---	---	ND	---	0.486
64		---	---	ND	---	0.486
65	44/47/65	---	---	ND	---	0.583
66		---	---	ND	---	0.486
67		---	---	ND	---	0.486
68		---	---	ND	---	0.486
69	49/69	---	---	ND	---	0.486
70	61/70/74/76	---	---	ND	---	0.486
71	40/41/71	---	---	ND	---	0.486
72		---	---	ND	---	0.486
73		---	---	ND	---	0.486
74	61/70/74/76	---	---	ND	---	0.486
75	59/62/75	---	---	ND	---	0.486
76	61/70/74/76	---	---	ND	---	0.486
77		---	---	ND	---	0.486
78		---	---	ND	---	0.486
79		---	---	ND	---	0.486
80		---	---	ND	---	0.486
81		---	---	ND	---	0.486
82		---	---	ND	---	0.486
83		---	---	ND	---	0.486
84		---	---	ND	---	0.486
85	85/116/117	---	---	ND	---	0.583
86	86/87/97/108/119/125	---	---	ND	---	0.971
87	86/87/97/108/119/125	---	---	ND	---	0.971
88	88/91	---	---	ND	---	0.486
89		---	---	ND	---	0.486
90	90/101/113	---	---	ND	---	0.486
91	88/91	---	---	ND	---	0.486
92		---	---	ND	---	0.486
93	93/98/100/102	---	---	ND	---	0.728
94		---	---	ND	---	0.486
95		---	---	ND	---	0.486
96		---	---	ND	---	0.486

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.971
98	93/98/100/102	---	---	ND	---	0.728
99		---	---	ND	---	0.486
100	93/98/100/102	---	---	ND	---	0.728
101	90/101/113	---	---	ND	---	0.486
102	93/98/100/102	---	---	ND	---	0.728
103		---	---	ND	---	0.486
104		---	---	ND	---	0.486
105		---	---	ND	---	0.486
106		---	---	ND	---	0.486
107	107/124	---	---	ND	---	0.486
108	86/87/97/108/119/125	---	---	ND	---	0.971
109		---	---	ND	---	0.486
110	110/115	---	---	ND	---	0.486
111		---	---	ND	---	0.486
112		---	---	ND	---	0.486
113	90/101/113	---	---	ND	---	0.486
114		---	---	ND	---	0.486
115	110/115	---	---	ND	---	0.486
116	85/116/117	---	---	ND	---	0.583
117	85/116/117	---	---	ND	---	0.583
118		---	---	ND	---	0.486
119	86/87/97/108/119/125	---	---	ND	---	0.971
120		---	---	ND	---	0.486
121		---	---	ND	---	0.486
122		---	---	ND	---	0.486
123		---	---	ND	---	0.486
124	107/124	---	---	ND	---	0.486
125	86/87/97/108/119/125	---	---	ND	---	0.971
126		---	---	ND	---	0.486
127		---	---	ND	---	0.486
128	128/166	---	---	ND	---	0.971
129	129/138/163	---	---	ND	---	0.486
130		---	---	ND	---	0.486
131		---	---	ND	---	0.486
132		---	---	ND	---	0.486
133		---	---	ND	---	0.486
134	134/143	---	---	ND	---	0.486
135	135/151	---	---	ND	---	0.495
136		---	---	ND	---	0.486
137		---	---	ND	---	0.486
138	129/138/163	---	---	ND	---	0.486
139	139/140	---	---	ND	---	0.486
140	139/140	---	---	ND	---	0.486
141		---	---	ND	---	0.486
142		---	---	ND	---	0.486
143	134/143	---	---	ND	---	0.486
144		---	---	ND	---	0.486

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.486
146		---	---	ND	---	0.486
147	147/149	---	---	ND	---	0.486
148		---	---	ND	---	0.486
149	147/149	---	---	ND	---	0.486
150		---	---	ND	---	0.486
151	135/151	---	---	ND	---	0.495
152		---	---	ND	---	0.486
153	153/168	---	---	ND	---	0.583
154		---	---	ND	---	0.486
155		---	---	ND	---	0.486
156	156/157	---	---	ND	---	0.486
157	156/157	---	---	ND	---	0.486
158		---	---	ND	---	0.486
159		---	---	ND	---	0.486
160		---	---	ND	---	0.486
161		---	---	ND	---	0.486
162		---	---	ND	---	0.486
163	129/138/163	---	---	ND	---	0.486
164		---	---	ND	---	0.486
165		---	---	ND	---	0.486
166	128/166	---	---	ND	---	0.971
167		---	---	ND	---	0.486
168	153/168	---	---	ND	---	0.583
169		---	---	ND	---	0.486
170		---	---	ND	---	0.486
171	171/173	---	---	ND	---	0.486
172		---	---	ND	---	0.486
173	171/173	---	---	ND	---	0.486
174		---	---	ND	---	0.486
175		---	---	ND	---	0.486
176		---	---	ND	---	0.486
177		---	---	ND	---	0.486
178		---	---	ND	---	0.486
179		---	---	ND	---	0.486
180	180/193	---	---	ND	---	0.486
181		---	---	ND	---	0.486
182		---	---	ND	---	0.486
183	183/185	---	---	ND	---	0.486
184		---	---	ND	---	0.486
185	183/185	---	---	ND	---	0.486
186		---	---	ND	---	0.486
187		---	---	ND	---	0.486
188		---	---	ND	---	0.486
189		---	---	ND	---	0.486
190		---	---	ND	---	0.486
191		---	---	ND	---	0.486
192		---	---	ND	---	0.486

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.486
194		---	---	ND	---	0.486
195		---	---	ND	---	0.486
196		---	---	ND	---	0.680
197	197/200	---	---	ND	---	2.43
198	198/199	---	---	ND	---	0.486
199	198/199	---	---	ND	---	0.486
200	197/200	---	---	ND	---	2.43
201		---	---	ND	---	0.486
202		---	---	ND	---	0.486
203		---	---	ND	---	0.486
204		---	---	ND	---	0.486
205		---	---	ND	---	0.486
206		---	---	ND	---	0.486
207		---	---	ND	---	0.486
208		---	---	ND	---	0.486
209		---	---	ND	---	0.486

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0016-08
Lab Sample ID	1069019008
Filename	P80322B_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15810		
Filename	P80322A_12		
Injected By	BAL	Matrix	Water
Total Amount Extracted	965 mL	Extracted	03/19/2008
ICAL ID	P80322A01	Analyzed	03/22/2008 15:27
CCal Filename(s)	P80322A_02	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.881	3.31	2.0	0.748	37
13C-4-MoCB	3	12.284	3.09	2.0	0.809	40
13C-2,2'-DiCB	4	12.655	1.62	2.0	1.09	54
13C-4,4'-DiCB	15	20.803	1.56	2.0	1.25	62
13C-2,2',6-TrCB	19	17.112	1.05	2.0	1.22	61
13C-3,4,4'-TrCB	37	29.192	1.06	2.0	1.45	72
13C-2,2',6,6'-TeCB	54	21.176	0.80	2.0	1.22	61
13C-3,4,4',5-TeCB	81	36.570	0.78	2.0	1.70	85
13C-3,3',4,4'-TeCB	77	37.174	0.79	2.0	1.68	84
13C-2,2',4,6,6'-PeCB	104	27.817	1.59	2.0	1.45	73
13C-2,3,3',4,4'-PeCB	105	40.846	1.60	2.0	1.64	82
13C-2,3,4,4',5-PeCB	114	40.192	1.59	2.0	1.48	74
13C-2,3',4,4',5-PeCB	118	39.639	1.61	2.0	1.68	84
13C-2,3',4,4',5'-PeCB	123	39.303	1.58	2.0	1.64	82
13C-3,3',4,4',5-PeCB	126	44.049	1.57	2.0	1.64	82
13C-2,2',4,4',6,6'-HxCB	155	34.139	1.27	2.0	1.54	77
13C-HxCB (156/157)	156/157	47.151	1.27	4.0	3.11	78
13C-2,3',4,4',5,5'-HxCB	167	45.977	1.27	2.0	1.53	76
13C-3,3',4,4',5,5'-HxCB	169	50.455	1.27	2.0	1.41	71
13C-2,2',3,4',5,6,6'-HpCB	188	40.192	1.05	2.0	2.23	111
13C-2,3,3',4,4',5,5'-HpCB	189	53.006	1.04	2.0	1.75	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.726	0.91	2.0	2.21	111
13C-2,3,3',4,4',5,5',6-OcCB	205	55.614	0.90	2.0	1.95	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.360	0.77	2.0	1.93	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.532	0.79	2.0	2.04	102
13C--DeCB	209	58.976	0.71	2.0	2.05	102
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.564	1.05	2.0	1.41	71
13C-2,3,3',5,5'-PeCB	111	37.241	1.58	2.0	1.78	89
13C-2,2',3,3',5,5',6-HpCB	178	43.345	1.05	2.0	1.73	86
Recovery Standards						
13C-2,5-DiCB	9	15.567	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.744	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.373	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.875	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.140	0.90	2.0	NA	NA

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.518
2		---	---	ND	---	0.518
3		---	---	ND	---	0.518
4		---	---	ND	---	0.518
5		---	---	ND	---	0.518
6		---	---	ND	---	0.518
7		---	---	ND	---	0.518
8		---	---	ND	---	0.518
9		---	---	ND	---	0.518
10		---	---	ND	---	0.518
11		---	---	ND	---	0.622
12	12/13	---	---	ND	---	0.518
13	12/13	---	---	ND	---	0.518
14		---	---	ND	---	0.518
15		---	---	ND	---	0.518
16		---	---	ND	---	0.518
17		---	---	ND	---	0.518
18	18/30	---	---	ND	---	0.518
19		---	---	ND	---	0.518
20	20/28	---	---	ND	---	0.622
21	21/33	---	---	ND	---	0.518
22		---	---	ND	---	0.518
23		---	---	ND	---	0.518
24		---	---	ND	---	0.518
25		---	---	ND	---	0.518
26	26/29	---	---	ND	---	0.518
27		---	---	ND	---	0.518
28	20/28	---	---	ND	---	0.622
29	26/29	---	---	ND	---	0.518
30	18/30	---	---	ND	---	0.518
31		---	---	ND	---	0.518
32		---	---	ND	---	0.518
33	21/33	---	---	ND	---	0.518
34		---	---	ND	---	0.518
35		---	---	ND	---	0.518
36		---	---	ND	---	0.518
37		---	---	ND	---	0.518
38		---	---	ND	---	0.518
39		---	---	ND	---	0.518
40	40/41/71	---	---	ND	---	0.518
41	40/41/71	---	---	ND	---	0.518
42		---	---	ND	---	0.518
43		---	---	ND	---	0.518
44	44/47/65	---	---	ND	---	0.622
45	45/51	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.518
47	44/47/65	---	---	ND	---	0.622
48		---	---	ND	---	0.518
49	49/69	---	---	ND	---	0.518
50	50/53	---	---	ND	---	0.518
51	45/51	---	---	ND	---	0.518
52		---	---	ND	---	0.518
53	50/53	---	---	ND	---	0.518
54		---	---	ND	---	0.518
55		---	---	ND	---	0.518
56		---	---	ND	---	0.518
57		---	---	ND	---	0.518
58		---	---	ND	---	0.518
59	59/62/75	---	---	ND	---	0.518
60		---	---	ND	---	0.518
61	61/70/74/76	---	---	ND	---	0.518
62	59/62/75	---	---	ND	---	0.518
63		---	---	ND	---	0.518
64		---	---	ND	---	0.518
65	44/47/65	---	---	ND	---	0.622
66		---	---	ND	---	0.518
67		---	---	ND	---	0.518
68		---	---	ND	---	0.518
69	49/69	---	---	ND	---	0.518
70	61/70/74/76	---	---	ND	---	0.518
71	40/41/71	---	---	ND	---	0.518
72		---	---	ND	---	0.518
73		---	---	ND	---	0.518
74	61/70/74/76	---	---	ND	---	0.518
75	59/62/75	---	---	ND	---	0.518
76	61/70/74/76	---	---	ND	---	0.518
77		---	---	ND	---	0.518
78		---	---	ND	---	0.518
79		---	---	ND	---	0.518
80		---	---	ND	---	0.518
81		---	---	ND	---	0.518
82		---	---	ND	---	0.518
83		---	---	ND	---	0.518
84		---	---	ND	---	0.518
85	85/116/117	---	---	ND	---	0.622
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.518
89		---	---	ND	---	0.518
90	90/101/113	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.518
92		---	---	ND	---	0.518
93	93/98/100/102	---	---	ND	---	0.777
94		---	---	ND	---	0.518
95		---	---	ND	---	0.518
96		---	---	ND	---	0.518
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.777
99		---	---	ND	---	0.518
100	93/98/100/102	---	---	ND	---	0.777
101	90/101/113	---	---	ND	---	0.518
102	93/98/100/102	---	---	ND	---	0.777
103		---	---	ND	---	0.518
104		---	---	ND	---	0.518
105		---	---	ND	---	0.518
106		---	---	ND	---	0.518
107	107/124	---	---	ND	---	0.518
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.518
110	110/115	---	---	ND	---	0.518
111		---	---	ND	---	0.518
112		---	---	ND	---	0.518
113	90/101/113	---	---	ND	---	0.518
114		---	---	ND	---	0.518
115	110/115	---	---	ND	---	0.518
116	85/116/117	---	---	ND	---	0.622
117	85/116/117	---	---	ND	---	0.622
118		---	---	ND	---	0.518
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.518
121		---	---	ND	---	0.518
122		---	---	ND	---	0.518
123		---	---	ND	---	0.518
124	107/124	---	---	ND	---	0.518
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.518
127		---	---	ND	---	0.518
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.518
130		---	---	ND	---	0.518
131		---	---	ND	---	0.518
132		---	---	ND	---	0.518
133		---	---	ND	---	0.518
134	134/143	---	---	ND	---	0.518
135	135/151	---	---	ND	---	0.528

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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ng/L = Nanograms per liter

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*! = See Discussion
! = Outside QC Limits
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.518
137		---	---	ND	---	0.518
138	129/138/163	---	---	ND	---	0.518
139	139/140	---	---	ND	---	0.518
140	139/140	---	---	ND	---	0.518
141		---	---	ND	---	0.518
142		---	---	ND	---	0.518
143	134/143	---	---	ND	---	0.518
144		---	---	ND	---	0.518
145		---	---	ND	---	0.518
146		---	---	ND	---	0.518
147	147/149	---	---	ND	---	0.518
148		---	---	ND	---	0.518
149	147/149	---	---	ND	---	0.518
150		---	---	ND	---	0.518
151	135/151	---	---	ND	---	0.528
152		---	---	ND	---	0.518
153	153/168	---	---	ND	---	0.622
154		---	---	ND	---	0.518
155		---	---	ND	---	0.518
156	156/157	---	---	ND	---	0.518
157	156/157	---	---	ND	---	0.518
158		---	---	ND	---	0.518
159		---	---	ND	---	0.518
160		---	---	ND	---	0.518
161		---	---	ND	---	0.518
162		---	---	ND	---	0.518
163	129/138/163	---	---	ND	---	0.518
164		---	---	ND	---	0.518
165		---	---	ND	---	0.518
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.518
168	153/168	---	---	ND	---	0.622
169		---	---	ND	---	0.518
170		---	---	ND	---	0.518
171	171/173	---	---	ND	---	0.518
172		---	---	ND	---	0.518
173	171/173	---	---	ND	---	0.518
174		---	---	ND	---	0.518
175		---	---	ND	---	0.518
176		---	---	ND	---	0.518
177		---	---	ND	---	0.518
178		---	---	ND	---	0.518
179		---	---	ND	---	0.518
180	180/193	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.518
182		---	---	ND	---	0.518
183	183/185	---	---	ND	---	0.518
184		---	---	ND	---	0.518
185	183/185	---	---	ND	---	0.518
186		---	---	ND	---	0.518
187		---	---	ND	---	0.518
188		---	---	ND	---	0.518
189		---	---	ND	---	0.518
190		---	---	ND	---	0.518
191		---	---	ND	---	0.518
192		---	---	ND	---	0.518
193	180/193	---	---	ND	---	0.518
194		---	---	ND	---	0.518
195		---	---	ND	---	0.518
196		---	---	ND	---	0.725
197	197/200	---	---	ND	---	2.59
198	198/199	---	---	ND	---	0.518
199	198/199	---	---	ND	---	0.518
200	197/200	---	---	ND	---	2.59
201		---	---	ND	---	0.518
202		---	---	ND	---	0.518
203		---	---	ND	---	0.518
204		---	---	ND	---	0.518
205		---	---	ND	---	0.518
206		---	---	ND	---	0.518
207		---	---	ND	---	0.518
208		---	---	ND	---	0.518
209		---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15810
Filename P80322A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15811		
Filename	P80322A_03	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL ID	P80322A01	Extracted	03/19/2008
CCal Filename(s)	P80322A_02	Analyzed	03/22/2008 06:03
Method Blank ID	BLANK-15810	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.907	91	2.0	1.21	61
3	1.0	0.964	96	2.0	1.22	61
4	1.0	0.941	94	2.0	1.65	83
15	1.0	0.975	97	2.0	1.67	84
19	1.0	0.936	94	2.0	1.74	87
37	1.0	1.02	102	2.0	1.71	86
54	1.0	0.988	99	2.0	1.67	83
81	1.0	1.01	101	2.0	1.97	99
77	1.0	1.04	104	2.0	1.91	96
104	1.0	0.923	92	2.0	1.86	93
105	1.0	0.965	96	2.0	1.84	92
114	1.0	1.00	100	2.0	1.66	83
118	1.0	0.959	96	2.0	1.87	94
123	1.0	0.981	98	2.0	1.81	90
126	1.0	0.970	97	2.0	1.80	90
155	1.0	0.969	97	2.0	1.89	95
156/157	2.0	1.95	98	4.0	3.39	85
167	1.0	0.973	97	2.0	1.69	84
169	1.0	1.03	103	2.0	1.55	78
188	1.0	0.966	97	2.0	2.58	129
189	1.0	1.10	110	2.0	1.93	96
202	1.0	1.05	105	2.0	2.47	124
205	1.0	0.969	97	2.0	2.13	106
206	1.0	1.02	102	2.0	2.16	108
208	1.0	1.04	104	2.0	2.36	118
209	1.0	0.995	99	2.0	2.31	115

P = Recovery outside of method
1668A control limits
ND = Not Detected
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NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15812		
Filename	P80322A_04	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL ID	P80322A01	Extracted	03/19/2008
CCal Filename(s)	P80322A_02	Analyzed	03/22/2008 07:06
Method Blank ID	BLANK-15810	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.956	96	2.0	1.03	51
3	1.0	0.982	98	2.0	1.06	53
4	1.0	0.994	99	2.0	1.38	69
15	1.0	1.06	106	2.0	1.40	70
19	1.0	1.00	100	2.0	1.44	72
37	1.0	1.07	107	2.0	1.52	76
54	1.0	1.06	106	2.0	1.41	71
81	1.0	1.07	107	2.0	1.77	89
77	1.0	1.11	111	2.0	1.77	88
104	1.0	0.997	100	2.0	1.60	80
105	1.0	1.04	104	2.0	1.75	88
114	1.0	1.08	108	2.0	1.55	78
118	1.0	1.03	103	2.0	1.75	87
123	1.0	1.05	105	2.0	1.67	83
126	1.0	1.05	105	2.0	1.75	87
155	1.0	1.04	104	2.0	1.60	80
156/157	2.0	2.06	103	4.0	3.25	81
167	1.0	1.05	105	2.0	1.59	79
169	1.0	1.10	110	2.0	1.52	76
188	1.0	1.04	104	2.0	2.20	110
189	1.0	1.17	117	2.0	1.79	89
202	1.0	1.11	111	2.0	2.18	109
205	1.0	1.02	102	2.0	1.98	99
206	1.0	1.10	110	2.0	1.95	97
208	1.0	1.13	113	2.0	2.09	105
209	1.0	1.07	107	2.0	2.10	105

P = Recovery outside of method
1668A control limits
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ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15811	Spike 2 ID	LCSD-15812
Spike 1 Filename	P80322A_03	Spike 2 Filename	P80322A_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	91	96	5.3
4-MoCB	3	96	98	2.1
2,2'-DiCB	4	94	99	5.2
4,4'-DiCB	15	97	106	8.9
2,2',6-TrCB	19	94	100	6.2
3,4,4'-TrCB	37	102	107	4.8
2,2',6,6'-TeCB	54	99	106	6.8
3,3',4,4'-TeCB	77	104	111	6.5
3,4,4',5-TeCB	81	101	107	5.8
2,2',4,6,6'-PeCB	104	92	100	8.3
2,3,3',4,4'-PeCB	105	96	104	8.0
2,3,4,4',5-PeCB	114	100	108	7.7
2,3',4,4',5-PeCB	118	96	103	7.0
2,3',4,4',5'-PeCB	123	98	105	6.9
3,3',4,4',5-PeCB	126	97	105	7.9
2,2',4,4',6,6'-HxCB	155	97	104	7.0
(156/157)	156/157	98	103	5.0
2,3',4,4',5,5'-HxCB	167	97	105	7.9
3,3',4,4',5,5'-HxCB	169	103	110	6.6
2,2',3,4',5,6,6'-HpCB	188	97	104	7.0
2,3,3',4,4',5,5'-HpCB	189	110	117	6.2
2,2',3,3',5,5',6,6'-OcCB	202	105	111	5.6
2,3,3',4,4',5,5',6-OcCB	205	97	102	5.0
2,2',3,3',4,4',5,5',6-NoCB	206	102	110	7.5
2,2',3,3',4,5,5',6,6'-NoCB	208	104	113	8.3
Decachlorobiphenyl	209	99	107	7.8

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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March 20, 2008
Sampling Event

GSI Water Solutions, Inc.
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info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
March 20, 2008 Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on March 20, 2008. Six stormwater samples were collected from Outfall Basins 22C, 22D, 45, 46, 47, and 53A and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
  - Total Metals – EPA 200.8
  - Total Mercury – WPCL SOP M-10.02
  - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
  - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
  - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
  - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
  - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of twelve low values, which are flagged “P” on the sample specific quality control measurements results in the laboratory report. Pace Analytical reports that the data were automatically corrected for variation in recovery and accurate values were obtained. Refer to the Pace report for further discussion.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs. Laboratory control sample/duplicate laboratory control sample (LCS/ DLCS) were analyzed and reported in lieu of the MS/MSD for these samples.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/ duplicate laboratory control samples (LCS/LCDS) were processed during the laboratory analysis of PAHs, phthalates, and SVOCs. All laboratory control sample recoveries were within laboratory control limits except for hexachlorocyclopentadiene. CAS reports this compound is not included in the subset of analytes used to control the analysis and no further corrective action was required.

Other

The laboratory reports for PAHs, phthalates, and SVOCs indicate that the method reporting limits were elevated in one or more samples due to relatively high concentrations of non-target background analytes.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/20/08
Page: 1 of 1
Collected By: MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080435	6330 NW Front	22C-SW2	3/20/08	1805	G	0	0	0	0	0	0	8.2	115	7.2
FO 080436	9030 NW St Helens	22D-SW1	3/20/08	1826	G	0	0	0	0	0	0	7.5	64	7.5
FO 080437	Union Pacific Railyard	46-SW1	3/20/08	1908	G	0	0	0	0	0	0	7.6	33	7.4

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 0748	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 3/21/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Jennifer Shackelford Time: 0748	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jennifer Shackelford Date: 3/21/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/20/08
Page: 1 of 1
Collected By: JJM, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) Combo #5	Field: Conductivity (umhos/cm) Combo #5	Field: pH (pH units) Combo #5
FO 080438	13939 N. Rivergate	53A SW1	3/20/08	1310	G	●	●	●	●	●	●	9.2	189	7.3
FO 080439	4299 N. Port Center W	47 SW1	3/20/08	1848	G	●	●	●	●	●	●	6.6	12	7.4
FO 080440	N. Essex : N. River	45 SW1	3/20/08	1910	G	●	●	●	●	●	●	6.9	43	7.5

Relinquished By: 1.
Signature: Matt Sullivan Time: 0748
Printed Name: Matt Sullivan Date: 3/21/08

Received By: 1.
Signature: Jennifer Shackelford Time: 0748
Printed Name: Jennifer Shackelford Date: 3/21/08

Relinquished By: 2.
Signature: Time:
Printed Name: Date:

Received By: 2.
Signature: Time:
Printed Name: Date:

Relinquished By: 3.
Signature: Time:
Printed Name: Date:

Received By: 3.
Signature: Time:
Printed Name: Date:

Relinquished By: 4.
Signature: Time:
Printed Name: Date:

Received By: 4.
Signature: Time:
Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080435** **Sample Collected:** 03/20/08 18:05 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02818
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	115	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.2	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	8.2	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	7	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.0052	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.12	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	1.24	µg/L	0.4	EPA 200.8	03/22/08
COPPER	2.06	µg/L	0.2	EPA 200.8	03/22/08
LEAD	1.17	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	0.96	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	6.28	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.330	µg/L	0.330	EPA 8270M-SIM	03/27/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.0147	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.0186	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.0212	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.0241	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.0139	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.0210	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	03/27/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080435** **Sample Collected:** 03/20/08 18:05 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02818
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Fluoranthene	0.0424	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Fluorene	0.0588	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.0166	µg/L	0.00971	EPA 8270M-SIM	03/27/08
Naphthalene	<0.0583	µg/L	0.0583	EPA 8270M-SIM	03/27/08
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Pyrene	0.0469	µg/L	0.0194	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/21/08
1,2-Dichlorobenzene	0.32	µg/L	0.20	EPA 8270	03/21/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/21/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
2,4-Dichlorophenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	03/21/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	03/21/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/21/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/21/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/21/08
2-Chlorophenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/21/08
2-Methylphenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/21/08
2-Nitrophenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/21/08
3-Nitroaniline	<0.96	µg/L	0.96	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/21/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080435** **Sample Collected:** 03/20/08 18:05 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02818
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/21/08
4-Methylphenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
4-Nitroaniline	<0.96	µg/L	0.96	EPA 8270	03/21/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/21/08
Acenaphthene	0.25	µg/L	0.20	EPA 8270	03/21/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Benzoic acid	<4.8	µg/L	4.8	EPA 8270	03/21/08
Benzyl alcohol	<4.8	µg/L	4.8	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	<0.96	µg/L	0.96	EPA 8270	03/21/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/21/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/21/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/21/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/21/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/21/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/21/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<0.96	µg/L	0.96	EPA 8270	03/21/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/21/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/21/08

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080435** **Sample Collected:** 03/20/08 18:05 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM02818
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/21/08
Pentachlorophenol	<0.96	µg/L	0.96	EPA 8270	03/21/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/21/08
Phenol	<0.48	µg/L	0.48	EPA 8270	03/21/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/21/08

End of Report for Sample ID: FO080435

Report Date: 08/07/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080436** **Sample Collected:** 03/20/08 18:26 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02819
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	64	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.5	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	7.5	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	275	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.039	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.21	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.38	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	14.9	µg/L	0.4	EPA 200.8	03/22/08
COPPER	28.3	µg/L	0.2	EPA 200.8	03/22/08
LEAD	32.6	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	6.76	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	216	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Acenaphthylene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Anthracene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.125	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.113	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.132	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.189	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.0958	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	4.32	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.234	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	<0.0485	µg/L	0.0485	EPA 8270M-SIM	03/27/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080436** **Sample Collected:** 03/20/08 18:26 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02819
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	03/27/08
Fluoranthene	0.378	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Fluorene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.100	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Naphthalene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Phenanthrene	0.139	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Pyrene	0.281	µg/L	0.0971	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
1,2-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
1,3-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
1,4-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
2,4-Dichlorophenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
2,4-Dimethylphenol	<7.7	µg/L	7.7	EPA 8270	03/21/08
2,4-Dinitrophenol	<7.7	µg/L	7.7	EPA 8270	03/21/08
2,4-Dinitrotoluene	<0.39	µg/L	0.39	EPA 8270	03/21/08
2,6-Dinitrotoluene	<0.39	µg/L	0.39	EPA 8270	03/21/08
2-Chloronaphthalene	<0.39	µg/L	0.39	EPA 8270	03/21/08
2-Chlorophenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
2-Methylnaphthalene	<0.39	µg/L	0.39	EPA 8270	03/21/08
2-Methylphenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
2-Nitroaniline	<0.39	µg/L	0.39	EPA 8270	03/21/08
2-Nitrophenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<3.9	µg/L	3.9	EPA 8270	03/21/08
3-Nitroaniline	<2.0	µg/L	2.0	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<3.9	µg/L	3.9	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<0.39	µg/L	0.39	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
4-Chloroaniline	<0.39	µg/L	0.39	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080436** **Sample Collected:** 03/20/08 18:26 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02819
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.39	µg/L	0.39	EPA 8270	03/21/08
4-Methylphenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
4-Nitroaniline	<2.0	µg/L	2.0	EPA 8270	03/21/08
4-Nitrophenol	<3.9	µg/L	3.9	EPA 8270	03/21/08
Acenaphthene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Acenaphthylene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Anthracene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzo(a)anthracene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzo(a)pyrene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzo(b)fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzo(k)fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Benzoic acid	<9.7	µg/L	9.7	EPA 8270	03/21/08
Benzyl alcohol	<9.7	µg/L	9.7	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<0.39	µg/L	0.39	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<0.39	µg/L	0.39	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<0.39	µg/L	0.39	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	2.7	µg/L	2.0	EPA 8270	03/21/08
Butyl benzyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/21/08
Chrysene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Dibenzofuran	<0.39	µg/L	0.39	EPA 8270	03/21/08
Diethyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/21/08
Dimethyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/21/08
Di-n-butyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/21/08
Di-n-octyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/21/08
Fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Fluorene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Hexachlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Hexachlorobutadiene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<2.0	µg/L	2.0	EPA 8270	03/21/08
Hexachloroethane	<0.39	µg/L	0.39	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Isophorone	<0.39	µg/L	0.39	EPA 8270	03/21/08
Naphthalene	<0.39	µg/L	0.39	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080436**
Sample Collected: 03/20/08 18:26
Sample Received: 03/21/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM02819
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.39	µg/L	0.39	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<0.39	µg/L	0.39	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<0.39	µg/L	0.39	EPA 8270	03/21/08
Pentachlorophenol	<2.0	µg/L	2.0	EPA 8270	03/21/08
Phenanthrene	<0.39	µg/L	0.39	EPA 8270	03/21/08
Phenol	<0.97	µg/L	0.97	EPA 8270	03/21/08
Pyrene	<0.39	µg/L	0.39	EPA 8270	03/21/08

End of Report for Sample ID: FO080436

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080437 **Sample Collected:** 03/20/08 19:08 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02820
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	33	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.4	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	7.6	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	155	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.028	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.13	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.43	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	7.90	µg/L	0.4	EPA 200.8	03/22/08
COPPER	27.6	µg/L	0.2	EPA 200.8	03/22/08
LEAD	24.3	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	4.82	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	250	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Acenaphthylene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Anthracene	0.0588	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.154	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.147	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.203	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.250	µg/L	0.194	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.143	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	6.79	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.330	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	0.0986	µg/L	0.0971	EPA 8270M-SIM	03/27/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080437** **Sample Collected:** 03/20/08 19:08 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02820
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<3.88	µg/L	3.88	EPA 8270M-SIM	03/27/08
Fluoranthene	0.642	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Fluorene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.141	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Naphthalene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Phenanthrene	0.168	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Pyrene	0.302	µg/L	0.194	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
1,2-Dichlorobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
1,3-Dichlorobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
1,4-Dichlorobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
2,4-Dichlorophenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
2,4-Dimethylphenol	<20	µg/L	20	EPA 8270	03/21/08
2,4-Dinitrophenol	<20	µg/L	20	EPA 8270	03/21/08
2,4-Dinitrotoluene	<1.0	µg/L	1.0	EPA 8270	03/21/08
2,6-Dinitrotoluene	<1.0	µg/L	1.0	EPA 8270	03/21/08
2-Chloronaphthalene	<1.0	µg/L	1.0	EPA 8270	03/21/08
2-Chlorophenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
2-Methylnaphthalene	<1.0	µg/L	1.0	EPA 8270	03/21/08
2-Methylphenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
2-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	03/21/08
2-Nitrophenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<10	µg/L	10	EPA 8270	03/21/08
3-Nitroaniline	<5.0	µg/L	5.0	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<10	µg/L	10	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<1.0	µg/L	1.0	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
4-Chloroaniline	<1.0	µg/L	1.0	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080437** **Sample Collected:** 03/20/08 19:08 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02820
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<1.0	µg/L	1.0	EPA 8270	03/21/08
4-Methylphenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
4-Nitroaniline	<5.0	µg/L	5.0	EPA 8270	03/21/08
4-Nitrophenol	<10	µg/L	10	EPA 8270	03/21/08
Acenaphthene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Acenaphthylene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Anthracene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzo(a)anthracene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzo(a)pyrene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzo(b)fluoranthene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzo(k)fluoranthene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Benzoic acid	<25	µg/L	25	EPA 8270	03/21/08
Benzyl alcohol	<25	µg/L	25	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<1.0	µg/L	1.0	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<1.0	µg/L	1.0	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<1.0	µg/L	1.0	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	<5.0	µg/L	5.0	EPA 8270	03/21/08
Butyl benzyl phthalate	<1.0	µg/L	1.0	EPA 8270	03/21/08
Chrysene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Dibenzofuran	<1.0	µg/L	1.0	EPA 8270	03/21/08
Diethyl phthalate	<1.0	µg/L	1.0	EPA 8270	03/21/08
Dimethyl phthalate	<1.0	µg/L	1.0	EPA 8270	03/21/08
Di-n-butyl phthalate	<1.0	µg/L	1.0	EPA 8270	03/21/08
Di-n-octyl phthalate	<1.0	µg/L	1.0	EPA 8270	03/21/08
Fluoranthene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Fluorene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Hexachlorobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Hexachlorobutadiene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<5.0	µg/L	5.0	EPA 8270	03/21/08
Hexachloroethane	<1.0	µg/L	1.0	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Isophorone	<1.0	µg/L	1.0	EPA 8270	03/21/08
Naphthalene	<1.0	µg/L	1.0	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080437 **Sample Collected:** 03/20/08 19:08 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-46-AMR809		
	UNION PACIFIC RAILYARD	**System ID:**	AM02820
Sample Point Code:	46_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<1.0	µg/L	1.0	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<1.0	µg/L	1.0	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<1.0	µg/L	1.0	EPA 8270	03/21/08
Pentachlorophenol	<5.0	µg/L	5.0	EPA 8270	03/21/08
Phenanthrene	<1.0	µg/L	1.0	EPA 8270	03/21/08
Phenol	<2.5	µg/L	2.5	EPA 8270	03/21/08
Pyrene	<1.0	µg/L	1.0	EPA 8270	03/21/08

End of Report for Sample ID: FO080437

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080438** **Sample Collected:** 03/20/08 18:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM02821
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	189	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.3	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	9.2	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	85	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.031	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	2.41	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.41	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	52.9	µg/L	0.4	EPA 200.8	03/22/08
COPPER	25.7	µg/L	0.2	EPA 200.8	03/22/08
LEAD	25.1	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	6.07	µg/L	0.2	EPA 200.8	03/22/08
SILVER	0.16	µg/L	0.1	EPA 200.8	03/22/08
ZINC	453	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0560	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Anthracene	0.0577	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.0482	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.0543	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.0838	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.0804	µg/L	0.0583	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.0627	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	2.07	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.117	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	03/27/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080438** **Sample Collected:** 03/20/08 18:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02821
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Fluoranthene	0.204	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.0399	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Naphthalene	<0.0583	µg/L	0.0583	EPA 8270M-SIM	03/27/08
Phenanthrene	0.0912	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Pyrene	0.124	µg/L	0.0583	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,2-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,3-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,4-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dimethylphenol	<8.1	µg/L	8.1	EPA 8270	03/21/08
2,4-Dinitrophenol	<8.1	µg/L	8.1	EPA 8270	03/21/08
2,4-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2,6-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Chloronaphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Chlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Methylnaphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Nitroaniline	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Nitrophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<4.1	µg/L	4.1	EPA 8270	03/21/08
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<4.1	µg/L	4.1	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Chloroaniline	<0.41	µg/L	0.41	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080438** **Sample Collected:** 03/20/08 18:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02821
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
4-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4-Nitrophenol	<4.1	µg/L	4.1	EPA 8270	03/21/08
Acenaphthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Acenaphthylene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(a)anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(a)pyrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(b)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(k)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzoic acid	<11	µg/L	11	EPA 8270	03/21/08
Benzyl alcohol	<11	µg/L	11	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	<2.1	µg/L	2.1	EPA 8270	03/21/08
Butyl benzyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Chrysene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dibenzofuran	<0.41	µg/L	0.41	EPA 8270	03/21/08
Diethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dimethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Di-n-butyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Di-n-octyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Fluorene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorobutadiene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<2.1	µg/L	2.1	EPA 8270	03/21/08
Hexachloroethane	<0.41	µg/L	0.41	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Isophorone	<0.41	µg/L	0.41	EPA 8270	03/21/08
Naphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080438** **Sample Collected:** 03/20/08 18:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-53A-AAA170		
	13939 N RIVERGATE BLVD	**System ID:**	AM02821
Sample Point Code:	53A_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<0.41	µg/L	0.41	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<0.41	µg/L	0.41	EPA 8270	03/21/08
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270	03/21/08
Phenanthrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Phenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
Pyrene	<0.41	µg/L	0.41	EPA 8270	03/21/08

End of Report for Sample ID: FO080438

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080439** **Sample Collected:** 03/20/08 · 18:48 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM02822
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	12	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.4	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	6.6	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	232	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.025	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.88	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.56	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	18.8	µg/L	0.4	EPA 200.8	03/22/08
COPPER	31.5	µg/L	0.2	EPA 200.8	03/22/08
LEAD	21.0	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	16.0	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	267	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Acenaphthylene	0.0581	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Anthracene	0.0931	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.162	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.242	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.287	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.287	µg/L	0.194	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.210	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	2.90	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.341	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080439 **Sample Collected:** 03/20/08 18:48 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02822
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<3.88	µg/L	3.88	EPA 8270M-SIM	03/27/08
Fluoranthene	0.471	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Fluorene	<0.0971	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.173	µg/L	0.0971	EPA 8270M-SIM	03/27/08
Naphthalene	<0.194	µg/L	0.194	EPA 8270M-SIM	03/27/08
Phenanthrene	0.0708	µg/L	0.0485	EPA 8270M-SIM	03/27/08
Pyrene	0.312	µg/L	0.194	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,2-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,3-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
1,4-Dichlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dimethylphenol	<8.1	µg/L	8.1	EPA 8270	03/21/08
2,4-Dinitrophenol	<8.1	µg/L	8.1	EPA 8270	03/21/08
2,4-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2,6-Dinitrotoluene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Chloronaphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Chlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Methylnaphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Nitroaniline	<0.41	µg/L	0.41	EPA 8270	03/21/08
2-Nitrophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<4.1	µg/L	4.1	EPA 8270	03/21/08
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<4.1	µg/L	4.1	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Chloroaniline	<0.41	µg/L	0.41	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080439** **Sample Collected:** 03/20/08 18:48 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AM02822
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
4-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4-Nitrophenol	<4.1	µg/L	4.1	EPA 8270	03/21/08
Acenaphthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Acenaphthylene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(a)anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(a)pyrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(b)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzo(k)fluoranthene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Benzoic acid	<11	µg/L	11	EPA 8270	03/21/08
Benzyl alcohol	<11	µg/L	11	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<0.41	µg/L	0.41	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	<2.1	µg/L	2.1	EPA 8270	03/21/08
Butyl benzyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Chrysene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dibenzofuran	<0.41	µg/L	0.41	EPA 8270	03/21/08
Diethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Dimethyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Di-n-butyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Di-n-octyl phthalate	<0.41	µg/L	0.41	EPA 8270	03/21/08
Fluoranthene	0.48	µg/L	0.41	EPA 8270	03/21/08
Fluorene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorobutadiene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<2.1	µg/L	2.1	EPA 8270	03/21/08
Hexachloroethane	<0.41	µg/L	0.41	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Isophorone	<0.41	µg/L	0.41	EPA 8270	03/21/08
Naphthalene	<0.41	µg/L	0.41	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080439** **Sample Collected:** 03/20/08 18:48 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-47-AAT620		
	4299 N PORT CENTER WAY-NEAR SWAN ISL PS	**System ID:**	AM02822
Sample Point Code:	47_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.41	µg/L	0.41	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<0.41	µg/L	0.41	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<0.41	µg/L	0.41	EPA 8270	03/21/08
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270	03/21/08
Phenanthrene	<0.41	µg/L	0.41	EPA 8270	03/21/08
Phenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
Pyrene	0.55	µg/L	0.41	EPA 8270	03/21/08

End of Report for Sample ID: FO080439

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080440** **Sample Collected:** 03/20/08 19:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02823
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	43	µmhos/cm	1	SM 2510 B	03/20/08
pH (FIELD)	7.5	pH Units	0.1	SM 4500-H B	03/20/08
TEMPERATURE	6.9	Deg. C	0.1	SM 2550 B	03/20/08
GENERAL					
TOTAL SUSPENDED SOLIDS	126	mg/L	2	SM 2540 D	03/21/08
METALS					
MERCURY	0.0064	µg/L	0.002	WPCLSOP M-10.02	04/01/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.49	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.14	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	3.22	µg/L	0.4	EPA 200.8	03/22/08
COPPER	9.38	µg/L	0.2	EPA 200.8	03/22/08
LEAD	7.99	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	2.33	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	76.4	µg/L	0.5	EPA 200.8	03/22/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/26/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Anthracene	0.0240	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Benzo(a)anthracene	0.0379	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(a)pyrene	0.0401	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(b)fluoranthene	0.0609	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Benzo(ghi)perylene	0.0609	µg/L	0.0583	EPA 8270M-SIM	03/27/08
Benzo(k)fluoranthene	0.0494	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Bis(2-ethylhexyl) phthalate	2.44	µg/L	0.971	EPA 8270M-SIM	03/27/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Chrysene	0.108	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Dibenzo(a,h)anthracene	<0.0291	µg/L	0.0291	EPA 8270M-SIM	03/27/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080440 **Sample Collected:** 03/20/08 19:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02823
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	03/27/08
Fluoranthene	0.172	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Indeno(1,2,3-cd)pyrene	0.0298	µg/L	0.0291	EPA 8270M-SIM	03/27/08
Naphthalene	<0.0583	µg/L	0.0583	EPA 8270M-SIM	03/27/08
Phenanthrene	0.0687	µg/L	0.0194	EPA 8270M-SIM	03/27/08
Pyrene	0.0908	µg/L	0.0583	EPA 8270M-SIM	03/27/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
1,2-Dichlorobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
1,3-Dichlorobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
1,4-Dichlorobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
2,4,5-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4,6-Trichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dichlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2,4-Dimethylphenol	<8.3	µg/L	8.3	EPA 8270	03/21/08
2,4-Dinitrophenol	<8.3	µg/L	8.3	EPA 8270	03/21/08
2,4-Dinitrotoluene	<0.42	µg/L	0.42	EPA 8270	03/21/08
2,6-Dinitrotoluene	<0.42	µg/L	0.42	EPA 8270	03/21/08
2-Chloronaphthalene	<0.42	µg/L	0.42	EPA 8270	03/21/08
2-Chlorophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Methylnaphthalene	<0.42	µg/L	0.42	EPA 8270	03/21/08
2-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
2-Nitroaniline	<0.42	µg/L	0.42	EPA 8270	03/21/08
2-Nitrophenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
3,3'-Dichlorobenzidine	<4.2	µg/L	4.2	EPA 8270	03/21/08
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4,6-Dinitro-2-methylphenol	<4.2	µg/L	4.2	EPA 8270	03/21/08
4-Bromophenylphenyl ether	<0.42	µg/L	0.42	EPA 8270	03/21/08
4-Chloro-3-methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Chloroaniline	<0.42	µg/L	0.42	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080440** **Sample Collected:** 03/20/08 19:10 **Sample Received:** 03/21/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 3 of 4
Address/Location:	SW-45-ABC319 N ESSEX & RIVER	**System ID:**	AM02823
Sample Point Code:	45_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.42	µg/L	0.42	EPA 8270	03/21/08
4-Methylphenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270	03/21/08
4-Nitrophenol	<4.2	µg/L	4.2	EPA 8270	03/21/08
Acenaphthene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Acenaphthylene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Anthracene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzo(a)anthracene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzo(a)pyrene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzo(b)fluoranthene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzo(g,h,i)perylene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzo(k)fluoranthene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Benzoic acid	<11	µg/L	11	EPA 8270	03/21/08
Benzyl alcohol	<11	µg/L	11	EPA 8270	03/21/08
Bis(2-chloroethoxy) methane	<0.42	µg/L	0.42	EPA 8270	03/21/08
Bis(2-chloroethyl) ether	<0.42	µg/L	0.42	EPA 8270	03/21/08
Bis(2-chloroisopropyl) ether	<0.42	µg/L	0.42	EPA 8270	03/21/08
Bis(2-ethylhexyl) phthalate	2.8	µg/L	2.1	EPA 8270	03/21/08
Butyl benzyl phthalate	<0.42	µg/L	0.42	EPA 8270	03/21/08
Chrysene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Dibenzo(a,h)anthracene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Dibenzofuran	<0.42	µg/L	0.42	EPA 8270	03/21/08
Diethyl phthalate	<0.42	µg/L	0.42	EPA 8270	03/21/08
Dimethyl phthalate	<0.42	µg/L	0.42	EPA 8270	03/21/08
Di-n-butyl phthalate	<0.42	µg/L	0.42	EPA 8270	03/21/08
Di-n-octyl phthalate	<0.42	µg/L	0.42	EPA 8270	03/21/08
Fluoranthene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Fluorene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Hexachlorobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Hexachlorobutadiene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Hexachlorocyclopentadiene	<2.1	µg/L	2.1	EPA 8270	03/21/08
Hexachloroethane	<0.42	µg/L	0.42	EPA 8270	03/21/08
Indeno(1,2,3-cd)pyrene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Isophorone	<0.42	µg/L	0.42	EPA 8270	03/21/08
Naphthalene	<0.42	µg/L	0.42	EPA 8270	03/21/08

Report Date: 05/05/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080440**
Sample Collected: 03/20/08 19:10
Sample Received: 03/21/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM02823
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JJM/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile Organics analyte Hexachlorocyclopentadiene exhibited very low recovery in the LCS and LCS duplicate, indicating a low bias for this compound.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.42	µg/L	0.42	EPA 8270	03/21/08
N-Nitrosodi-n-propylamine	<0.42	µg/L	0.42	EPA 8270	03/21/08
N-Nitrosodiphenylamine	<0.42	µg/L	0.42	EPA 8270	03/21/08
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270	03/21/08
Phenanthrene	<0.42	µg/L	0.42	EPA 8270	03/21/08
Phenol	<1.1	µg/L	1.1	EPA 8270	03/21/08
Pyrene	<0.42	µg/L	0.42	EPA 8270	03/21/08

End of Report for Sample ID: FO080440

Report Date: 05/05/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

April 9, 2008 Analytical Report for Service Request No: K0802506

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on March 21, 2008. For your reference, these analyses have been assigned our service request number K0802506.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Portland, City of	**Service Request No.:**	K0802506
Project:	Portland Harbor Stormwater	**Date Received:**	03/21/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 03/21/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Laboratory Control Sample (LCS) Exceptions:
The advisory criterion was exceeded for Hexachlorocyclopentadiene in the replicate Laboratory Control Samples (LCS/DLCS) KWG0802672-1 and WKG0802672-2:. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Elevated Method Reporting Limits:
The reporting limits are elevated for numerous samples. The sample extracts were diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extracts was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilutions. Semi-quantitative screens were performed prior to final analysis. The results of the screening indicated the need to perform dilutions.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Approved by _____ **Date** 4/11/08

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: KD80 7506

PAGE 1 OF 1 COC #

PROJECT NAME: PORTLAND HARBOR STORMWATER

PROJECT NUMBER:

PROJECT MANAGER: Jennifer Shackelford

COMPANY/ADDRESS: WPCL - City of Portland BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m)	Pesticides (8081) ☐ Pore Water	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore Water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level 5 VOCs EPA 8270 c	PAH + Phthalates EPA 8270C-SIM			REMARKS
FO 080435	3/20/08	1805		Storm Water																X					
FO 080436		1826																		X					
FO 080437		1908																		X					
FO 080438		1810																		X					
FO 080439		1848																		X					
FO 080440	↓	1910		↓																X					8

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. #

Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run low level analysis for 8270 List. Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature	Signature	Signature	Signature
Date/Time	Date/Time 3/21/08 9:10	Date/Time 3/21/08 12:30	Date/Time 3/21/08 1315
Printed Name	Printed Name	Printed Name	Printed Name Les Kennedy
Firm	Firm CAS	Firm	Firm CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC VO

Client / Project: Port Hand Harbor Service Request K08 2606

Received: 3/21/08 Opened: 3/21/08 By: LL

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N
5. **Temperature of cooler(s) upon receipt (°C):** 9.3
   Temperature Blank (°C): —
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* Nothing
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. *See sample receiving SOP (SMO-GEN).*

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080435
Lab Code: K0802506-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	**0.32**		0.20	1	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	4.8	1	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	3.9	1	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	4.8	1	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080435
Lab Code: K0802506-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**0.25**		0.20	1	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	3.9	1	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080435	**Units:**	ug/L
Lab Code:	K0802506-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	16-122	03/29/08	Acceptable
Phenol-d6	73	25-118	03/29/08	Acceptable
Nitrobenzene-d5	67	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	60	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	99	22-148	03/29/08	Acceptable
Terphenyl-d14	82	28-144	03/29/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080436
Lab Code: K0802506-002

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	9.7	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	7.7	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	9.7	2	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	2.0	2	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	0.97	2	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080436	**Units:**	ug/L
Lab Code:	K0802506-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	2.0	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	7.7	2	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	3.9	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	2.0	2	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	3.9	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	2.0	2	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	3.9	2	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	**2.7**	D	2.0	2	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.39	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080436	**Units:**	ug/L
Lab Code:	K0802506-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	70	16-122	03/29/08	Acceptable
Phenol-d6	76	25-118	03/29/08	Acceptable
Nitrobenzene-d5	70	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	66	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	97	22-148	03/29/08	Acceptable
Terphenyl-d14	72	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080437	**Units:**	ug/L
Lab Code:	K0802506-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	25	5	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	20	5	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	25	5	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	5.0	5	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	2.5	5	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080437
Lab Code: K0802506-003

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	5.0	5	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	20	5	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	10	5	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	5.0	5	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	10	5	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	5.0	5	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	10	5	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	ND	U	5.0	5	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	1.0	5	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080437	**Units:**	ug/L
Lab Code:	K0802506-003	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	71	16-122	03/29/08	Acceptable
Phenol-d6	80	25-118	03/29/08	Acceptable
Nitrobenzene-d5	73	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	71	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	109	22-148	03/29/08	Acceptable
Terphenyl-d14	87	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080438
Lab Code: K0802506-004

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	8.1	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080438
Lab Code: K0802506-004

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	8.1	2	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080438	**Units:**	ug/L
Lab Code:	K0802506-004	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	73	16-122	03/29/08	Acceptable
Phenol-d6	81	25-118	03/29/08	Acceptable
Nitrobenzene-d5	76	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	68	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	104	22-148	03/29/08	Acceptable
Terphenyl-d14	74	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080439
Lab Code: K0802506-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	8.1	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080439
Lab Code: K0802506-005

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	8.1	2	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Fluoranthene	**0.48**	D	0.41	2	03/24/08	03/29/08	KWG0802672	
Pyrene	**0.55**	D	0.41	2	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	4.1	2	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.41	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080439	**Units:**	ug/L
Lab Code:	K0802506-005	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	75	16-122	03/29/08	Acceptable
Phenol-d6	78	25-118	03/29/08	Acceptable
Nitrobenzene-d5	76	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	63	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	102	22-148	03/29/08	Acceptable
Terphenyl-d14	56	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080440
Lab Code: K0802506-006

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	8.3	2	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	11	2	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	1.1	2	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: 03/20/2008
Date Received: 03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080440
Lab Code: K0802506-006

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	8.3	2	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	4.2	2	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	4.2	2	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	2.1	2	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	4.2	2	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	**2.8**	D	2.1	2	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.42	2	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	03/20/2008
Sample Matrix:	Water	**Date Received:**	03/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080440	**Units:**	ug/L
Lab Code:	K0802506-006	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	73	16-122	03/29/08	Acceptable
Phenol-d6	75	25-118	03/29/08	Acceptable
Nitrobenzene-d5	75	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	72	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	102	22-148	03/29/08	Acceptable
Terphenyl-d14	89	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802672-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Phenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Chlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
1,3-Dichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
1,4-Dichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
1,2-Dichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzyl Alcohol	ND	U	4.8	1	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Methylphenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Hexachloroethane	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Methylphenol†	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Nitrobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Isophorone	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Nitrophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2,4-Dimethylphenol	ND	U	3.9	1	03/24/08	03/29/08	KWG0802672	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2,4-Dichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
Benzoic Acid	ND	U	4.8	1	03/24/08	03/29/08	KWG0802672	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Naphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chloroaniline	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorobutadiene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chloro-3-methylphenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Methylnaphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorocyclopentadiene	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2,4,6-Trichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2,4,5-Trichlorophenol	ND	U	0.48	1	03/24/08	03/29/08	KWG0802672	
2-Chloronaphthalene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2-Nitroaniline	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Acenaphthylene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Dimethyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
2,6-Dinitrotoluene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802672-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
3-Nitroaniline	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrophenol	ND	U	3.9	1	03/24/08	03/29/08	KWG0802672	
Dibenzofuran	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Nitrophenol	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
2,4-Dinitrotoluene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Fluorene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Diethyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Nitroaniline	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Hexachlorobenzene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Pentachlorophenol	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
Phenanthrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Di-n-butyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/24/08	03/29/08	KWG0802672	
Benz(a)anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Chrysene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Bis(2-ethylhexyl) Phthalate	ND	U	0.96	1	03/24/08	03/29/08	KWG0802672	
Di-n-octyl Phthalate	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(b)fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(k)fluoranthene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(a)pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/24/08	03/29/08	KWG0802672	

Comments:

Client:	Portland, City of	**Service Request:**	K0802506
Project:	Portland Harbor Stormwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802672-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	16-122	03/29/08	Acceptable
Phenol-d6	70	25-118	03/29/08	Acceptable
Nitrobenzene-d5	65	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	57	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	75	22-148	03/29/08	Acceptable
Terphenyl-d14	80	28-144	03/29/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080435	K0802506-001	66	73	67	60	99	82
FO 080436	K0802506-002	70 D	76 D	70 D	66 D	97 D	72 D
FO 080437	K0802506-003	71 D	80 D	73 D	71 D	109 D	87 D
FO 080438	K0802506-004	73 D	81 D	76 D	68 D	104 D	74 D
FO 080439	K0802506-005	75 D	78 D	76 D	63 D	102 D	56 D
FO 080440	K0802506-006	73 D	75 D	75 D	72 D	102 D	89 D
Method Blank	KWG0802672-3	65	70	65	57	75	80
Lab Control Sample	KWG0802672-1	54	58	52	49	73	72
Duplicate Lab Control Sample	KWG0802672-2	71	74	67	60	84	81

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Extracted: 03/24/2008
Date Analyzed: 03/29/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802672

	Lab Control Sample KWG0802672-1 Lab Control Spike				Duplicate Lab Control Sample KWG0802672-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	2.88	5.00	58		3.06	5.00	61		30-125	6	30
Phenol	2.63	5.00	53		3.29	5.00	66		32-117	22	30
2-Chlorophenol	2.50	5.00	50		3.13	5.00	63		32-117	22	30
1,3-Dichlorobenzene	1.15	5.00	23		1.40	5.00	28		10-79	20	30
1,4-Dichlorobenzene	1.18	5.00	24		1.47	5.00	29		10-81	22	30
1,2-Dichlorobenzene	1.33	5.00	27		1.65	5.00	33		15-86	21	30
Benzyl Alcohol	2.61	5.00	52		3.16	5.00	63		33-119	19	30
Bis(2-chloroisopropyl) Ether	2.10	5.00	42		2.50	5.00	50		29-116	17	30
2-Methylphenol	2.58	5.00	52		3.08	5.00	62		29-115	18	30
Hexachloroethane	0.843	5.00	17		1.02	5.00	20		10-76	19	30
N-Nitrosodi-n-propylamine	2.29	5.00	46		2.73	5.00	55		35-119	17	30
4-Methylphenol	2.69	5.00	54		3.17	5.00	63		30-116	17	30
Nitrobenzene	2.37	5.00	47		2.83	5.00	57		34-122	18	30
Isophorone	2.63	5.00	53		2.96	5.00	59		33-121	11	30
2-Nitrophenol	2.72	5.00	54		3.10	5.00	62		33-120	13	30
2,4-Dimethylphenol	2.65	5.00	53		2.97	5.00	59		10-116	11	30
Bis(2-chloroethoxy)methane	2.70	5.00	54		3.02	5.00	60		34-119	11	30
2,4-Dichlorophenol	2.69	5.00	54		3.13	5.00	63		33-120	15	30
Benzoic Acid	4.50	15.0	30		4.70	15.0	31		10-118	4	30
1,2,4-Trichlorobenzene	1.46	5.00	29		1.65	5.00	33		14-88	12	30
Naphthalene	2.05	5.00	41		2.41	5.00	48		27-103	16	30
4-Chloroaniline	2.35	5.00	47		2.74	5.00	55		10-110	15	30
Hexachlorobutadiene	0.863	5.00	17		1.01	5.00	20		10-75	16	30
4-Chloro-3-methylphenol	2.83	5.00	57		3.20	5.00	64		37-120	12	30
2-Methylnaphthalene	1.93	5.00	39		2.17	5.00	43		27-99	12	30
Hexachlorocyclopentadiene	0.310	5.00	6	*	0.373	5.00	7	*	10-54	19	30
2,4,6-Trichlorophenol	2.74	5.00	55		3.09	5.00	62		34-118	12	30
2,4,5-Trichlorophenol	2.80	5.00	56		3.15	5.00	63		36-119	12	30
2-Chloronaphthalene	1.97	5.00	39		2.22	5.00	44		30-108	12	30
2-Nitroaniline	2.69	5.00	54		2.87	5.00	57		35-122	7	30
Acenaphthylene	2.36	5.00	47		2.69	5.00	54		39-116	13	30
Dimethyl Phthalate	2.86	5.00	57		3.14	5.00	63		43-116	9	30
2,6-Dinitrotoluene	2.98	5.00	60		3.30	5.00	66		42-120	10	30
Acenaphthene	2.29	5.00	46		2.56	5.00	51		36-108	11	30
3-Nitroaniline	2.87	5.00	57		3.18	5.00	64		24-115	10	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802506
Date Extracted: 03/24/2008
Date Analyzed: 03/29/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802672

Analyte Name	Lab Control Sample KWG0802672-1 Lab Control Spike Result	Expected	%Rec	Duplicate Lab Control Sample KWG0802672-2 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD	RPD Limit
2,4-Dinitrophenol	2.40	5.00	48	2.37	5.00	47	10-121	1	30
Dibenzofuran	2.41	5.00	48	2.70	5.00	54	36-108	11	30
4-Nitrophenol	2.74	5.00	55	2.94	5.00	59	33-136	7	30
2,4-Dinitrotoluene	3.15	5.00	63	3.44	5.00	69	43-124	9	30
Fluorene	2.56	5.00	51	2.84	5.00	57	37-113	10	30
4-Chlorophenyl Phenyl Ether	2.64	5.00	53	2.90	5.00	58	36-112	9	30
Diethyl Phthalate	2.87	5.00	57	3.07	5.00	61	42-120	7	30
4-Nitroaniline	3.00	5.00	60	3.22	5.00	64	23-120	7	30
2-Methyl-4,6-dinitrophenol	2.97	5.00	59	3.00	5.00	60	24-123	1	30
N-Nitrosodiphenylamine	2.93	5.00	59	3.22	5.00	64	30-115	9	30
4-Bromophenyl Phenyl Ether	2.97	5.00	59	3.24	5.00	65	40-113	9	30
Hexachlorobenzene	2.93	5.00	59	3.09	5.00	62	40-114	5	30
Pentachlorophenol	2.59	5.00	52	2.75	5.00	55	24-123	6	30
Phenanthrene	2.80	5.00	56	3.01	5.00	60	42-113	7	30
Anthracene	2.77	5.00	55	2.98	5.00	60	40-113	7	30
Di-n-butyl Phthalate	2.93	5.00	59	3.09	5.00	62	46-119	5	30
Fluoranthene	2.90	5.00	58	3.10	5.00	62	44-116	7	30
Pyrene	2.84	5.00	57	3.11	5.00	62	42-121	9	30
Butyl Benzyl Phthalate	2.71	5.00	54	2.92	5.00	58	43-121	7	30
3,3'-Dichlorobenzidine	2.39	5.00	48	2.70	5.00	54	10-101	12	30
Benz(a)anthracene	2.90	5.00	58	3.11	5.00	62	43-121	7	30
Chrysene	2.90	5.00	58	3.15	5.00	63	45-119	8	30
Bis(2-ethylhexyl) Phthalate	2.68	5.00	54	2.89	5.00	58	34-136	7	30
Di-n-octyl Phthalate	2.80	5.00	56	3.15	5.00	63	39-123	12	30
Benzo(b)fluoranthene	2.82	5.00	56	3.10	5.00	62	42-119	9	30
Benzo(k)fluoranthene	2.79	5.00	56	3.16	5.00	63	43-120	12	30
Benzo(a)pyrene	2.79	5.00	56	3.07	5.00	61	39-116	10	30
Indeno(1,2,3-cd)pyrene	2.75	5.00	55	3.02	5.00	60	42-123	9	30
Dibenz(a,h)anthracene	2.77	5.00	55	3.10	5.00	62	38-130	11	30
Benzo(g,h,i)perylene	2.70	5.00	54	2.96	5.00	59	38-125	9	30

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

April 30, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 03/21/08 13:45. The following list is a summary of the Work Orders contained in this report, generated on 04/30/08 13:02.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRC0705	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080435	PRC0705-01	Water	03/20/08 18:05	03/21/08 13:45
FO 080436	PRC0705-02	Water	03/20/08 18:26	03/21/08 13:45
FO 080437	PRC0705-03	Water	03/20/08 19:08	03/21/08 13:45
FO 080438	PRC0705-04	Water	03/20/08 18:10	03/21/08 13:45
FO 080439	PRC0705-05	Water	03/20/08 18:48	03/21/08 13:45
FO 080440	PRC0705-06	Water	03/20/08 19:10	03/21/08 13:45

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Analytical Case Narrative

TestAmerica - Portland, OR

PRC0705

8270 SIM PDX-UIC

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0705-01 (FO 080435)		**Water**			**Sampled: 03/20/08 18:05**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 17:08	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.330*	0.330	"	"	"	"	03/28/08 12:40	**RL1**
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0147**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0186**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0212**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0241**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0139**	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0210**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0424**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0588**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0166**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0583*	0.0583	"	"	"	"	"	**RL1**
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	**0.0469**	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*108%*		*25 - 125 %*	"			"	
Pyrene-d10			*109%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*89.1%*		*10 - 125 %*	"			"	
PRC0705-02 (FO 080436)		**Water**			**Sampled: 03/20/08 18:26**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**4.32**	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 19:51	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.02*	1.94	"	2x	"	"	04/01/08 19:08	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	1x	"	"	03/31/08 19:51	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0971*	0.0971	"	5x	"	"	03/28/08 19:11	**RL1**
Acenaphthylene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Benzo (a) anthracene	"	**0.125**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (a) pyrene	"	**0.113**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.132**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.189**	*0.0971*	0.0971	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0958**	*0.0485*	0.0485	"	"	"	"	"	

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0705-02 (FO 080436)		**Water**			**Sampled: 03/20/08 18:26**					
Chrysene	EPA 8270m	**0.234**	*0.0485*	0.0485	ug/l	5x	8030943	03/27/08 14:35	03/28/08 19:11	
Dibenzo (a,h) anthracene	"	ND	*0.0485*	0.0485	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.378**	*0.0971*	0.0971	"	"	"	"	"	
Fluorene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.100**	*0.0485*	0.0485	"	"	"	"	"	
Naphthalene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Phenanthrene	"	**0.139**	*0.0971*	0.0971	"	"	"	"	"	
Pyrene	"	**0.281**	*0.0971*	0.0971	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*57.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*54.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*48.3%*		*10 - 125 %*	"			"	
PRC0705-03 (FO 080437)		**Water**			**Sampled: 03/20/08 19:08**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**6.79**	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 20:23	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*2.04*	3.88	"	4x	"	"	04/01/08 19:40	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	1x	"	"	03/31/08 20:23	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0971*	0.0971	"	5x	"	"	03/28/08 20:11	**RL1**
Acenaphthylene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Anthracene	"	**0.0588**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (a) anthracene	"	**0.154**	*0.0971*	0.0971	"	10x	"	"	04/12/08 12:11	
Benzo (a) pyrene	"	**0.147**	*0.0971*	0.0971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.203**	*0.0971*	0.0971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.250**	*0.194*	0.194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.143**	*0.0971*	0.0971	"	"	"	"	"	
Chrysene	"	**0.330**	*0.0971*	0.0971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0986**	*0.0971*	0.0971	"	"	"	"	"	
Fluoranthene	"	**0.642**	*0.0971*	0.0971	"	5x	"	"	03/28/08 20:11	
Fluorene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.141**	*0.0971*	0.0971	"	10x	"	"	04/12/08 12:11	
Naphthalene	"	ND	*0.0971*	0.0971	"	5x	"	"	03/28/08 20:11	**RL1**
Phenanthrene	"	**0.168**	*0.0971*	0.0971	"	"	"	"	"	
Pyrene	"	**0.302**	*0.194*	0.194	"	10x	"	"	04/12/08 12:11	
Surrogate(s): Fluorene-d10			*69.2%*		*25 - 125 %*	*5x*			*03/28/08 20:11*	
Pyrene-d10			*48.8%*		*23 - 150 %*	*10x*			*04/12/08 12:11*	
Benzo (a) pyrene-d12			*67.0%*		*10 - 125 %*	"			"	

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0705-04 (FO 080438)		**Water**			**Sampled: 03/20/08 18:10**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.07**	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 18:13	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	**0.707**	*0.511*	0.971	"	"	"	"	"	**J**
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	**0.0560**	*0.0194*	0.0194	"	"	"	"	03/28/08 23:11	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0577**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0482**	*0.0291*	0.0291	"	3x	"	"	04/12/08 14:11	
Benzo (a) pyrene	"	**0.0543**	*0.0291*	0.0291	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0838**	*0.0291*	0.0291	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0804**	*0.0583*	0.0583	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0627**	*0.0291*	0.0291	"	"	"	"	"	
Chrysene	"	**0.117**	*0.0291*	0.0291	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.204**	*0.0194*	0.0194	"	1x	"	"	03/28/08 23:11	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0399**	*0.0291*	0.0291	"	3x	"	"	04/12/08 14:11	
Naphthalene	"	ND	*0.0583*	0.0583	"	"	"	"	"	**RL1**
Phenanthrene	"	**0.0912**	*0.0194*	0.0194	"	1x	"	"	03/28/08 23:11	
Pyrene	"	**0.124**	*0.0583*	0.0583	"	3x	"	"	04/12/08 14:11	
Surrogate(s): Fluorene-d10			*91.1%*		*25 - 125 %*	*1x*			*03/28/08 23:11*	
Pyrene-d10			*58.1%*		*23 - 150 %*	*3x*			*04/12/08 14:11*	
Benzo (a) pyrene-d12			*82.4%*		*10 - 125 %*	*"*			*"*	
PRC0705-05 (FO 080439)		**Water**			**Sampled: 03/20/08 18:48**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.90**	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 20:56	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*2.04*	3.88	"	4x	"	"	04/01/08 20:13	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	1x	"	"	03/31/08 20:56	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0971*	0.0971	"	5x	"	"	03/28/08 20:41	**RL1**
Acenaphthylene	"	**0.0581**	*0.0485*	0.0485	"	"	"	"	"	
Anthracene	"	**0.0931**	*0.0485*	0.0485	"	"	"	"	"	
Benzo (a) anthracene	"	**0.162**	*0.0971*	0.0971	"	10x	"	"	04/12/08 13:41	
Benzo (a) pyrene	"	**0.242**	*0.0971*	0.0971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.287**	*0.0971*	0.0971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.287**	*0.194*	0.194	"	"	"	"	"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0705-05 (FO 080439)		**Water**			**Sampled: 03/20/08 18:48**					
Benzo (k) fluoranthene	EPA 8270m	**0.210**	*0.0971*	0.0971	ug/l	10x	8030943	03/27/08 14:35	04/12/08 13:41	
Chrysene	"	**0.341**	*0.0971*	0.0971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.471**	*0.0971*	0.0971	"	5x	"	"	03/28/08 20:41	
Fluorene	"	ND	*0.0971*	0.0971	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.173**	*0.0971*	0.0971	"	10x	"	"	04/12/08 13:41	
Naphthalene	"	ND	*0.194*	0.194	"	"	"	"	"	**RL1**
Phenanthrene	"	**0.0708**	*0.0485*	0.0485	"	5x	"	"	03/28/08 20:41	
Pyrene	"	**0.312**	*0.194*	0.194	"	10x	"	"	04/12/08 13:41	
Surrogate(s): Fluorene-d10			*71.5%*		*25 - 125 %*	*5x*			*03/28/08 20:41*	
Pyrene-d10			*42.8%*		*23 - 150 %*	*10x*			*04/12/08 13:41*	
Benzo (a) pyrene-d12			*60.0%*		*10 - 125 %*	*"*			*"*	
PRC0705-06 (FO 080440)		**Water**			**Sampled: 03/20/08 19:10**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.44**	*0.511*	0.971	ug/l	1x	8030943	03/27/08 14:35	03/31/08 18:46	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0194*	0.0194	"	"	"	"	03/28/08 22:41	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0240**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0379**	*0.0291*	0.0291	"	3x	"	"	04/12/08 14:40	
Benzo (a) pyrene	"	**0.0401**	*0.0291*	0.0291	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0609**	*0.0291*	0.0291	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0609**	*0.0583*	0.0583	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0494**	*0.0291*	0.0291	"	"	"	"	"	
Chrysene	"	**0.108**	*0.0291*	0.0291	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0291*	0.0291	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.172**	*0.0194*	0.0194	"	1x	"	"	03/28/08 22:41	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0298**	*0.0291*	0.0291	"	3x	"	"	04/12/08 14:40	
Naphthalene	"	ND	*0.0583*	0.0583	"	"	"	"	"	**RL1**
Phenanthrene	"	**0.0687**	*0.0194*	0.0194	"	1x	"	"	03/28/08 22:41	
Pyrene	"	**0.0908**	*0.0583*	0.0583	"	3x	"	"	04/12/08 14:40	
Surrogate(s): Fluorene-d10			*80.3%*		*25 - 125 %*	*1x*			*03/28/08 22:41*	
Pyrene-d10			*55.1%*		*23 - 150 %*	*3x*			*04/12/08 14:40*	
Benzo (a) pyrene-d12			*74.7%*		*10 - 125 %*	*"*			*"*	

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030943-BLK1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	0.526	1.00	ug/l	1x	--	--	--	--	--	--	03/31/08 15:29	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	03/28/08 13:12	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 107%*			*Limits: 25-125%*	"							*03/28/08 13:12*	
Pyrene-d10		*101%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*102%*			*10-125%*	"							"	
LCS (8030943-BS1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.08	1.05	2.00	ug/l	2x	--	4.00	76.9%	(20-150)	--	--	03/31/08 16:03	
Butyl benzyl phthalate	"	3.53	1.05	2.00	"	"	--	"	88.2%	"	--	--	"	
Di-n-butyl phthalate	"	3.36	1.05	2.00	"	"	--	"	84.0%	"	--	--	"	
Di-n-octyl phthalate	"	2.73	1.05	2.00	"	"	--	"	68.3%	"	--	--	"	
Diethyl phthalate	"	3.33	1.05	2.00	"	"	--	"	83.3%	"	--	--	"	
Dimethyl phthalate	"	3.56	1.05	2.00	"	"	--	"	89.1%	"	--	--	"	
Acenaphthene	"	2.26	0.0400	0.0400	"	"	--	2.50	90.4%	(35-120)	--	--	03/28/08 13:44	
Acenaphthylene	"	2.24	0.0400	0.0400	"	"	--	"	89.5%	(34-116)	--	--	"	
Anthracene	"	2.36	0.0400	0.0400	"	"	--	"	94.4%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.71	0.0200	0.0200	"	"	--	"	108%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.20	0.0200	0.0200	"	"	--	"	88.2%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.27	0.0200	0.0200	"	"	--	"	91.0%	(37-131)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8030943-BS1)								**Extracted: 03/27/08 14:35**						
Benzo (ghi) perylene	EPA 8270m	1.75	0.0400	0.0400	ug/l	2x	--	2.50	69.9%	(26-126)	--	--	03/28/08 13:44	
Benzo (k) fluoranthene	"	2.29	0.0200	0.0200	"	"	--	"	91.7%	(18-145)	--	--	"	
Chrysene	"	2.62	0.0200	0.0200	"	"	--	"	105%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.81	0.0200	0.0200	"	"	--	"	72.5%	(20-141)	--	--	"	
Fluoranthene	"	2.30	0.0400	0.0400	"	"	--	"	92.0%	(31-125)	--	--	"	
Fluorene	"	2.32	0.0400	0.0400	"	"	--	"	93.0%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.01	0.0200	0.0200	"	"	--	"	80.2%	(30-135)	--	--	"	
Naphthalene	"	1.96	0.0400	0.0400	"	"	--	"	78.5%	(30-113)	--	--	"	
Phenanthrene	"	2.27	0.0400	0.0400	"	"	--	"	90.9%	(34-126)	--	--	"	
Pyrene	"	2.06	0.0400	0.0400	"	"	--	"	82.5%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 78.3%*			*Limits: 25-125%*	"							*03/28/08 13:44*	
Pyrene-d10		*89.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*95.0%*			*10-125%*	"							"	
LCS Dup (8030943-BSD1)								**Extracted: 03/27/08 14:35**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	2.44	1.05	2.00	ug/l	2x	--	4.00	61.1%	(20-150)	23.0%	(50)	03/31/08 16:35	
Butyl benzyl phthalate	"	3.42	1.05	2.00	"	"	--	"	85.4%	"	3.25%	"	"	
Di-n-butyl phthalate	"	3.32	1.05	2.00	"	"	--	"	83.1%	"	1.12%	"	"	
Di-n-octyl phthalate	"	2.05	1.05	2.00	"	"	--	"	51.4%	"	28.3%	"	"	
Diethyl phthalate	"	3.37	1.05	2.00	"	"	--	"	84.4%	"	1.22%	"	"	
Dimethyl phthalate	"	3.57	1.05	2.00	"	"	--	"	89.2%	"	0.102%	"	"	
Acenaphthene	"	2.19	0.0400	0.0400	"	"	--	2.50	87.7%	(35-120)	3.02%	(35)	03/28/08 14:14	
Acenaphthylene	"	2.21	0.0400	0.0400	"	"	--	"	88.6%	(34-116)	1.04%	"	"	
Anthracene	"	2.10	0.0400	0.0400	"	"	--	"	84.1%	(24-119)	11.6%	"	"	
Benzo (a) anthracene	"	2.71	0.0200	0.0200	"	"	--	"	108%	(36-128)	0.0221%	"	"	
Benzo (a) pyrene	"	2.18	0.0200	0.0200	"	"	--	"	87.1%	(17-128)	1.30%	"	"	
Benzo (b) fluoranthene	"	2.33	0.0200	0.0200	"	"	--	"	93.2%	(37-131)	2.39%	"	"	
Benzo (ghi) perylene	"	1.71	0.0400	0.0400	"	"	--	"	68.5%	(26-126)	1.96%	"	"	
Benzo (k) fluoranthene	"	1.97	0.0200	0.0200	"	"	--	"	78.7%	(18-145)	15.2%	"	"	
Chrysene	"	2.67	0.0200	0.0200	"	"	--	"	107%	(16-137)	1.83%	"	"	
Dibenzo (a,h) anthracene	"	1.72	0.0200	0.0200	"	"	--	"	68.7%	(20-141)	5.27%	"	"	
Fluoranthene	"	2.24	0.0400	0.0400	"	"	--	"	89.5%	(31-125)	2.84%	"	"	
Fluorene	"	2.79	0.0400	0.0400	"	"	--	"	112%	(27-124)	18.2%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.96	0.0200	0.0200	"	"	--	"	78.2%	(30-135)	2.52%	"	"	
Naphthalene	"	2.03	0.0400	0.0400	"	"	--	"	81.1%	(30-113)	3.23%	"	"	
Phenanthrene	"	2.27	0.0400	0.0400	"	"	--	"	90.8%	(34-126)	0.0634%	"	"	
Pyrene	"	2.07	0.0400	0.0400	"	"	--	"	82.7%	(21-141)	0.267%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 88.2%*			*Limits: 25-125%*	"							*03/28/08 14:14*	
Pyrene-d10		*87.8%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8030943-BSD1)													**Extracted: 03/27/08 14:35**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 91.5%*			*Limits: 10-125%*	*2x*							*03/28/08 14:14*	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:02

Notes and Definitions

Report Specific Notes:

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210

CHAIN OF CUSTODY REPORT

Work Order #: PRC0705

CLIENT: City of Portland
REPORT TO / ADDRESS: Jennifer Shackelford
PHONE: FAX
PROJECT NAME: PORTLAND HARBOR
PROJECT NUMBER:
SAMPLED BY:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] STD 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: 5 4 3 2 1 <1 STD
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	PAH+phthalates (*) 8270 SIM	PCB 209 Congeners (**) PACE	MATRIX (W, S, O)	# OF CONT	LOCATION COMMENTS	TA WO ID
1	F0080435	3/20/08	1805	X	X	W	2		
2	F0080436		1826	X	X	W	2		
3	F0080437		1908	X	X	W	2		
4	F0080438		1810	X	X	W	2		
5	F0080439		1848	X	X	W	2		
6	F0080440		1910	X	X	W	2		
7									
8									
9									
10									

REQUESTED ANALYSES
PRESERVATIVE

RELEASED BY: [signature]
PRINT NAME: KRIS MONNES
FIRM: City of Portland
DATE: 3/21/08
TIME: 11:45

RECEIVED BY: [signature]
PRINT NAME: Robt
FIRM: TAP
DATE: 3/21/08
TIME: 11:45

RELEASED BY: [signature]
PRINT NAME: [illegible]
FIRM: TAP
DATE: 3/21/08
TIME: 13:45

RECEIVED BY: [signature]
PRINT NAME: Peggy Siegfried
FIRM: TAP
DATE: 3/21/08
TIME: 1345

ADDITIONAL REMARKS: (*) use custom PAH/phthalates list as for LIC project w/low DLs
(**) Please send PCB 209 congeners to PACE ANALYTICAL

TEMP: 0.7

COC REV 09 2004

TestAmerica Sample Receipt Checklist

Received by: (section A)
Date: 3/21/08
Time: 1345
Initials: ZA

Unpacked by: (section B)
Date: 3/21/08
Initials: ZA

Logged-in by:
Date: 3/21/08
Initials: JI

Work Order No. PRC0705
Client: City of Portland
Project: Portland Harbor

Temperature out of range:
___ Not enough Ice
___ No Ice
___ Ice Melted
___ Wait 4 Hours
___ Other

***ESI Clients (see Section C)

Cooler Temperature (IR): 0.7 °C plastic (glass) NA (oil/air samples, ESI client) Temperature Blank: _____ C

A

Custody Seals: (#____)
Signature: Y N Dated:_____
X None

Container Type:
1 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
X Gel Ice
X Loose Ice
____None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
X None (____Other:_____)

Received from:
X TA Courier
___Senvoy
____UPS
____Fed Ex
____Client
____TDP
___DHL
____SDS
____Mid-Valley
____GS/TA
___GS/Senvoy
____Other
_____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? Y N
Containers Match COC? Y N none given
IDs Match COC? Y N

For Analyses Requested:
Correct Type & Preservation? Y N
Adequate Volume? Y N
Within Hold Time? Y N

Volatiles/ Oil Quality:
VOAs/ Syringes free of Headspace? Y N NA
TB on COC? not provided Y N NA

Metals:
HNO3 Preserved? Y N NA
Dissolved Metals Filtered? Y N NA

C

***ESI Clients Only:

Temperature Blank _____ °C not provided

All preserved bottles checked Y N NA (voas/soils/all unp.)
All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers

Comments: _____

PM Reviewed _____ (Initial/Date)

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

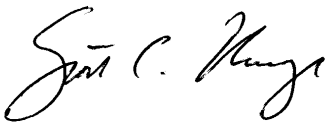
Pace Project #: 1070150
Sample Receipt Date: 03/22/2008
Client Project #: PRC0705
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Report Prepared Date:
April 18, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on six samples submitted by a representative of the Test America. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ppt and were corrected for the amount of sample extracted.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 15-130%. With twelve exceptions, flagged "P" on the results tables, the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Also, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples. It should be noted that two internal standards yielded isotope ratios outside of the target range for this method. This did not impact the results for the target analytes.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 83-123%, with relative percent differences of 3.6-29.9%.

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Appendix A

Sample Management

1070150

SUBCONTRACT ORDER

TestAmerica Portland

PRC0705

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRC0705-01	**Water**		Sampled: **03/20/08 18:05**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 18:05	***209 Congeners***
Containers Supplied:				001
1L Amber - Unpres. (A)				
Sample ID: PRC0705-02	**Water**		Sampled: **03/20/08 18:26**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 18:26	***209 Congeners***
Containers Supplied:				002
1L Amber - Unpres. (A)				
Sample ID: PRC0705-03	**Water**		Sampled: **03/20/08 19:08**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 19:08	***209 Congeners***
Containers Supplied:				003
1L Amber - Unpres. (A)				
Sample ID: PRC0705-04	**Water**		Sampled: **03/20/08 18:10**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 18:10	***209 Congeners***
Containers Supplied:				004
1L Amber - Unpres. (A)				
Sample ID: PRC0705-05	**Water**		Sampled: **03/20/08 18:48**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 18:48	***209 Congeners***
Containers Supplied:				005
1L Amber - Unpres. (A)				
Sample ID: PRC0705-06	**Water**		Sampled: **03/20/08 19:10**	
1668 Coplanar PCBs - SUB	ug/l	04/03/08	09/16/08 19:10	***209 Congeners***
Containers Supplied:				006
1L Amber - Unpres. (A)				

T=2.0°C

Released By	Date/Time	Received By	Date/Time
[signature]	3/21/08 1540	[signature]	3/22/08 850

Sample Condition Upon Receipt

Pace Analytical

Client Name: test America Project # 1070150

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z1A65214499158805

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals Intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other paper

Thermometer Used 230194010, ~~72310129~~ Type of Ice: Wet (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.0°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JT 3/22/08

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 03/24/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-01		
Lab Sample ID	1070150001		
Filename	P80330A_08		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/30/2008 22:53

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.857	3.16	2.0	0.308	15	P
13C-4-MoCB	3	12.260	3.10	2.0	0.397	20	P
13C-2,2'-DiCB	4	12.619	1.63	2.0	0.439	22	P
13C-4,4'-DiCB	15	20.790	1.58	2.0	0.782	39	
13C-2,2',6-TrCB	19	17.100	1.16	2.0	0.583	29	
13C-3,4,4'-TrCB	37	29.200	1.08	2.0	1.35	68	
13C-2,2',6,6'-TeCB	54	21.169	0.81	2.0	0.689	34	
13C-3,4,4',5-TeCB	81	36.595	0.81	2.0	1.72	86	
13C-3,3',4,4'-TeCB	77	37.182	0.78	2.0	1.66	83	
13C-2,2',4,6,6'-PeCB	104	27.826	1.64	2.0	1.08	54	
13C-2,3,3',4,4'-PeCB	105	40.871	1.57	2.0	1.78	89	
13C-2,3,4,4',5-PeCB	114	40.217	1.61	2.0	1.60	80	
13C-2,3',4,4',5-PeCB	118	39.664	1.60	2.0	1.81	91	
13C-2,3',4,4',5'-PeCB	123	39.312	1.59	2.0	1.72	86	
13C-3,3',4,4',5-PeCB	126	44.074	1.63	2.0	1.86	93	
13C-2,2',4,4',6,6'-HxCB	155	34.164	1.29	2.0	1.24	62	
13C-HxCB (156/157)	156/157	47.176	1.28	4.0	3.53	88	
13C-2,3',4,4',5,5'-HxCB	167	46.003	1.28	2.0	1.72	86	
13C-3,3',4,4',5,5'-HxCB	169	50.480	1.29	2.0	1.76	88	
13C-2,2',3,4',5,6,6'-HpCB	188	40.217	1.05	2.0	1.55	78	
13C-2,3,3',4,4',5,5'-HpCB	189	53.040	1.05	2.0	1.87	93	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.751	0.90	2.0	1.67	83	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.648	0.93	2.0	1.92	96	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.394	0.79	2.0	1.67	83	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.566	0.80	2.0	1.74	87	
13C--DeCB	209	59.011	0.71	2.0	1.49	75	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.573	1.11	2.0	1.07	54	
13C-2,3,3',5,5'-PeCB	111	37.266	1.54	2.0	1.60	80	
13C-2,2',3,3',5,5',6-HpCB	178	43.370	1.08	2.0	1.55	77	
Recovery Standards							
13C-2,5-DiCB	9	15.555	1.64	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.736	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.382	1.54	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.900	1.26	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.153	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-01
Lab Sample ID	1070150001
Filename	P80330A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.495
2		---	---	ND	---	0.495
3		---	---	ND	---	0.495
4		---	---	ND	---	0.495
5		---	---	ND	---	0.495
6		---	---	ND	---	0.495
7		---	---	ND	---	0.495
8		---	---	ND	---	0.495
9		---	---	ND	---	0.495
10		---	---	ND	---	0.495
11		---	---	ND	---	0.594
12	12/13	---	---	ND	---	0.495
13	12/13	---	---	ND	---	0.495
14		---	---	ND	---	0.495
15		---	---	ND	---	0.495
16		---	---	ND	---	0.495
17		---	---	ND	---	0.495
18	18/30	---	---	ND	---	0.495
19		---	---	ND	---	0.495
20	20/28	---	---	ND	---	0.594
21	21/33	---	---	ND	---	0.495
22		---	---	ND	---	0.495
23		---	---	ND	---	0.495
24		---	---	ND	---	0.495
25		---	---	ND	---	0.495
26	26/29	---	---	ND	---	0.495
27		---	---	ND	---	0.495
28	20/28	---	---	ND	---	0.594
29	26/29	---	---	ND	---	0.495
30	18/30	---	---	ND	---	0.495
31		---	---	ND	---	0.495
32		---	---	ND	---	0.495
33	21/33	---	---	ND	---	0.495
34		---	---	ND	---	0.495
35		---	---	ND	---	0.495
36		---	---	ND	---	0.495
37		---	---	ND	---	0.495
38		---	---	ND	---	0.495
39		---	---	ND	---	0.495
40	40/41/71	---	---	ND	---	0.495
41	40/41/71	---	---	ND	---	0.495
42		---	---	ND	---	0.495
43		---	---	ND	---	0.495
44	44/47/65	---	---	ND	---	0.594
45	45/51	---	---	ND	---	0.495
46		---	---	ND	---	0.495
47	44/47/65	---	---	ND	---	0.594
48		---	---	ND	---	0.495

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-01
Lab Sample ID	1070150001
Filename	P80330A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.495
50	50/53	---	---	ND	---	0.495
51	45/51	---	---	ND	---	0.495
52		---	---	ND	---	0.495
53	50/53	---	---	ND	---	0.495
54		---	---	ND	---	0.495
55		---	---	ND	---	0.495
56		---	---	ND	---	0.495
57		---	---	ND	---	0.495
58		---	---	ND	---	0.495
59	59/62/75	---	---	ND	---	0.495
60		---	---	ND	---	0.495
61	61/70/74/76	---	---	ND	---	0.495
62	59/62/75	---	---	ND	---	0.495
63		---	---	ND	---	0.495
64		---	---	ND	---	0.495
65	44/47/65	---	---	ND	---	0.594
66		---	---	ND	---	0.495
67		---	---	ND	---	0.495
68		---	---	ND	---	0.495
69	49/69	---	---	ND	---	0.495
70	61/70/74/76	---	---	ND	---	0.495
71	40/41/71	---	---	ND	---	0.495
72		---	---	ND	---	0.495
73		---	---	ND	---	0.495
74	61/70/74/76	---	---	ND	---	0.495
75	59/62/75	---	---	ND	---	0.495
76	61/70/74/76	---	---	ND	---	0.495
77		---	---	ND	---	0.495
78		---	---	ND	---	0.495
79		---	---	ND	---	0.495
80		---	---	ND	---	0.495
81		---	---	ND	---	0.495
82		---	---	ND	---	0.495
83		---	---	ND	---	0.495
84		---	---	ND	---	0.495
85	85/116/117	---	---	ND	---	0.594
86	86/87/97/108/119/125	---	---	ND	---	0.990
87	86/87/97/108/119/125	---	---	ND	---	0.990
88	88/91	---	---	ND	---	0.495
89		---	---	ND	---	0.495
90	90/101/113	---	---	ND	---	0.495
91	88/91	---	---	ND	---	0.495
92		---	---	ND	---	0.495
93	93/98/100/102	---	---	ND	---	0.743
94		---	---	ND	---	0.495
95		---	---	ND	---	0.495
96		---	---	ND	---	0.495

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRC0705-01
Lab Sample ID 1070150001
Filename P80330A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.990
98	93/98/100/102	---	---	ND	---	0.743
99		---	---	ND	---	0.495
100	93/98/100/102	---	---	ND	---	0.743
101	90/101/113	---	---	ND	---	0.495
102	93/98/100/102	---	---	ND	---	0.743
103		---	---	ND	---	0.495
104		---	---	ND	---	0.495
105		---	---	ND	---	0.495
106		---	---	ND	---	0.495
107	107/124	---	---	ND	---	0.495
108	86/87/97/108/119/125	---	---	ND	---	0.990
109		---	---	ND	---	0.495
110	110/115	---	---	ND	---	0.495
111		---	---	ND	---	0.495
112		---	---	ND	---	0.495
113	90/101/113	---	---	ND	---	0.495
114		---	---	ND	---	0.495
115	110/115	---	---	ND	---	0.495
116	85/116/117	---	---	ND	---	0.594
117	85/116/117	---	---	ND	---	0.594
118		---	---	ND	---	0.495
119	86/87/97/108/119/125	---	---	ND	---	0.990
120		---	---	ND	---	0.495
121		---	---	ND	---	0.495
122		---	---	ND	---	0.495
123		---	---	ND	---	0.495
124	107/124	---	---	ND	---	0.495
125	86/87/97/108/119/125	---	---	ND	---	0.990
126		---	---	ND	---	0.495
127		---	---	ND	---	0.495
128	128/166	---	---	ND	---	0.990
129	129/138/163	---	---	ND	---	0.495
130		---	---	ND	---	0.495
131		---	---	ND	---	0.495
132		---	---	ND	---	0.495
133		---	---	ND	---	0.495
134	134/143	---	---	ND	---	0.495
135	135/151	---	---	ND	---	0.505
136		---	---	ND	---	0.495
137		---	---	ND	---	0.495
138	129/138/163	---	---	ND	---	0.495
139	139/140	---	---	ND	---	0.495
140	139/140	---	---	ND	---	0.495
141		---	---	ND	---	0.495
142		---	---	ND	---	0.495
143	134/143	---	---	ND	---	0.495
144		---	---	ND	---	0.495

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-01
Lab Sample ID	1070150001
Filename	P80330A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.495
146		---	---	ND	---	0.495
147	147/149	---	---	ND	---	0.495
148		---	---	ND	---	0.495
149	147/149	---	---	ND	---	0.495
150		---	---	ND	---	0.495
151	135/151	---	---	ND	---	0.505
152		---	---	ND	---	0.495
153	153/168	---	---	ND	---	0.594
154		---	---	ND	---	0.495
155		---	---	ND	---	0.495
156	156/157	---	---	ND	---	0.495
157	156/157	---	---	ND	---	0.495
158		---	---	ND	---	0.495
159		---	---	ND	---	0.495
160		---	---	ND	---	0.495
161		---	---	ND	---	0.495
162		---	---	ND	---	0.495
163	129/138/163	---	---	ND	---	0.495
164		---	---	ND	---	0.495
165		---	---	ND	---	0.495
166	128/166	---	---	ND	---	0.990
167		---	---	ND	---	0.495
168	153/168	---	---	ND	---	0.594
169		---	---	ND	---	0.495
170		---	---	ND	---	0.495
171	171/173	---	---	ND	---	0.495
172		---	---	ND	---	0.495
173	171/173	---	---	ND	---	0.495
174		---	---	ND	---	0.495
175		---	---	ND	---	0.495
176		---	---	ND	---	0.495
177		---	---	ND	---	0.495
178		---	---	ND	---	0.495
179		---	---	ND	---	0.495
180	180/193	---	---	ND	---	0.495
181		---	---	ND	---	0.495
182		---	---	ND	---	0.495
183	183/185	---	---	ND	---	0.495
184		---	---	ND	---	0.495
185	183/185	---	---	ND	---	0.495
186		---	---	ND	---	0.495
187		---	---	ND	---	0.495
188		---	---	ND	---	0.495
189		---	---	ND	---	0.495
190		---	---	ND	---	0.495
191		---	---	ND	---	0.495
192		---	---	ND	---	0.495

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-01
Lab Sample ID	1070150001
Filename	P80330A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.495
194		---	---	ND	---	0.495
195		---	---	ND	---	0.495
196		---	---	ND	---	0.693
197	197/200	---	---	ND	---	2.48
198	198/199	---	---	ND	---	0.495
199	198/199	---	---	ND	---	0.495
200	197/200	---	---	ND	---	2.48
201		---	---	ND	---	0.495
202		---	---	ND	---	0.495
203		---	---	ND	---	0.495
204		---	---	ND	---	0.495
205		---	---	ND	---	0.495
206		---	---	ND	---	0.495
207		---	---	ND	---	0.495
208		---	---	ND	---	0.495
209		---	---	ND	---	0.495

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0705-01
Lab Sample ID	1070150001
Filename	P80330A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-02		
Lab Sample ID	1070150002		
Filename	P80330A_12		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/31/2008 03:04

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.893	3.38	2.0	0.768	38
13C-4-MoCB	3	12.295	3.13	2.0	0.985	49
13C-2,2'-DiCB	4	12.667	1.62	2.0	1.06	53
13C-4,4'-DiCB	15	20.849	1.59	2.0	1.93	96
13C-2,2',6-TrCB	19	17.135	1.08	2.0	1.41	70
13C-3,4,4'-TrCB	37	29.267	1.12	2.0	2.39	120
13C-2,2',6,6'-TeCB	54	21.201	0.81	2.0	1.48	74
13C-3,4,4',5-TeCB	81	36.678	0.80	2.0	2.23	111
13C-3,3',4,4'-TeCB	77	37.265	0.79	2.0	2.15	108
13C-2,2',4,6,6'-PeCB	104	27.875	1.60	2.0	1.53	76
13C-2,3,3',4,4'-PeCB	105	40.954	1.60	2.0	2.07	104
13C-2,3,4,4',5-PeCB	114	40.300	1.60	2.0	1.93	97
13C-2,3',4,4',5-PeCB	118	39.747	1.59	2.0	2.20	110
13C-2,3',4,4',5'-PeCB	123	39.395	1.60	2.0	2.16	108
13C-3,3',4,4',5-PeCB	126	44.191	1.63	2.0	1.94	97
13C-2,2',4,4',6,6'-HxCB	155	34.230	1.33	2.0	1.55	77
13C-HxCB (156/157)	156/157	47.293	1.28	4.0	3.72	93
13C-2,3',4,4',5,5'-HxCB	167	46.119	1.28	2.0	1.88	94
13C-3,3',4,4',5,5'-HxCB	169	50.629	1.26	2.0	1.63	82
13C-2,2',3,4',5,6,6'-HpCB	188	40.284	1.05	2.0	2.44	122
13C-2,3,3',4,4',5,5'-HpCB	189	53.190	1.04	2.0	2.07	104
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.851	0.92	2.0	2.33	116
13C-2,3,3',4,4',5,5',6-OcCB	205	55.798	0.92	2.0	1.96	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.544	0.81	2.0	1.79	90
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.673	0.80	2.0	2.03	101
13C--DeCB	209	59.160	0.71	2.0	1.78	89
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.622	1.07	2.0	2.02	101
13C-2,3,3',5,5'-PeCB	111	37.349	1.61	2.0	1.81	90
13C-2,2',3,3',5,5',6-HpCB	178	43.470	1.09	2.0	1.66	83
Recovery Standards						
13C-2,5-DiCB	9	15.590	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.785	0.84	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.465	1.65	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.983	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.302	0.93	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.497
2		---	---	ND	---	0.497
3		---	---	ND	---	0.497
4		---	---	ND	---	0.497
5		---	---	ND	---	0.497
6		---	---	ND	---	0.497
7		---	---	ND	---	0.497
8		16.776	1.59	0.606	---	0.497
9		---	---	ND	---	0.497
10		---	---	ND	---	0.497
11		20.094	1.60	1.02	---	0.596
12	12/13	---	---	ND	---	0.497
13	12/13	---	---	ND	---	0.497
14		---	---	ND	---	0.497
15		20.873	1.57	0.505	---	0.497
16		---	---	ND	---	0.497
17		---	---	ND	---	0.497
18	18/30	19.699	1.06	0.965	---	0.497
19		---	---	ND	---	0.497
20	20/28	24.656	1.04	2.08	---	0.596
21	21/33	24.924	1.05	1.26	---	0.497
22		25.377	1.07	0.878	---	0.497
23		---	---	ND	---	0.497
24		---	---	ND	---	0.497
25		---	---	ND	---	0.497
26	26/29	---	---	ND	---	0.497
27		---	---	ND	---	0.497
28	20/28	24.656	1.04	(2.08)	---	0.596
29	26/29	---	---	ND	---	0.497
30	18/30	19.699	1.06	(0.965)	---	0.497
31		24.303	1.04	1.51	---	0.497
32		---	---	ND	---	0.497
33	21/33	24.924	1.05	(1.26)	---	0.497
34		---	---	ND	---	0.497
35		---	---	ND	---	0.497
36		---	---	ND	---	0.497
37		29.283	1.04	0.759	---	0.497
38		---	---	ND	---	0.497
39		---	---	ND	---	0.497
40	40/41/71	29.082	0.80	1.29	---	0.497
41	40/41/71	29.082	0.80	(1.29)	---	0.497
42		28.546	0.83	0.515	---	0.497
43		---	---	ND	---	0.497
44	44/47/65	27.942	0.81	1.72	---	0.596
45	45/51	---	---	ND	---	0.497
46		---	---	ND	---	0.497
47	44/47/65	27.942	0.81	(1.72)	---	0.596
48		---	---	ND	---	0.497

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.389	0.81	1.09	---	0.497
50	50/53	---	---	ND	---	0.497
51	45/51	---	---	ND	---	0.497
52		26.819	0.79	2.22	---	0.497
53	50/53	---	---	ND	---	0.497
54		---	---	ND	---	0.497
55		---	---	ND	---	0.497
56		33.291	0.79	0.860	---	0.497
57		---	---	ND	---	0.497
58		---	---	ND	---	0.497
59	59/62/75	---	---	ND	---	0.497
60		33.526	0.78	0.504	---	0.497
61	61/70/74/76	32.235	0.79	3.50	---	0.497
62	59/62/75	---	---	ND	---	0.497
63		---	---	ND	---	0.497
64		29.367	0.81	0.914	---	0.497
65	44/47/65	27.942	0.81	(1.72)	---	0.596
66		32.587	0.80	1.66	---	0.497
67		---	---	ND	---	0.497
68		---	---	ND	---	0.497
69	49/69	27.389	0.81	(1.09)	---	0.497
70	61/70/74/76	32.235	0.79	(3.50)	---	0.497
71	40/41/71	29.082	0.80	(1.29)	---	0.497
72		---	---	ND	---	0.497
73		---	---	ND	---	0.497
74	61/70/74/76	32.235	0.79	(3.50)	---	0.497
75	59/62/75	---	---	ND	---	0.497
76	61/70/74/76	32.235	0.79	(3.50)	---	0.497
77		---	---	ND	---	0.497
78		---	---	ND	---	0.497
79		---	---	ND	---	0.497
80		---	---	ND	---	0.497
81		---	---	ND	---	0.497
82		---	---	ND	---	0.497
83		---	---	ND	---	0.497
84		32.419	1.61	0.767	---	0.497
85	85/116/117	---	---	ND	---	0.596
86	86/87/97/108/119/125	35.689	1.60	1.98	---	0.994
87	86/87/97/108/119/125	35.689	1.60	(1.98)	---	0.994
88	88/91	---	---	ND	---	0.497
89		---	---	ND	---	0.497
90	90/101/113	34.482	1.60	2.70	---	0.497
91	88/91	---	---	ND	---	0.497
92		---	---	ND	---	0.497
93	93/98/100/102	---	---	ND	---	0.745
94		---	---	ND	---	0.497
95		31.245	1.59	2.14	---	0.497
96		---	---	ND	---	0.497

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.689	1.60	(1.98)	---	0.994
98	93/98/100/102	---	---	ND	---	0.745
99		35.119	1.62	0.946	---	0.497
100	93/98/100/102	---	---	ND	---	0.745
101	90/101/113	34.482	1.60	(2.70)	---	0.497
102	93/98/100/102	---	---	ND	---	0.745
103		---	---	ND	---	0.497
104		---	---	ND	---	0.497
105		40.988	1.62	1.14	---	0.497
106		---	---	ND	---	0.497
107	107/124	---	---	ND	---	0.497
108	86/87/97/108/119/125	35.689	1.60	(1.98)	---	0.994
109		---	---	ND	---	0.497
110	110/115	36.578	1.60	3.07	---	0.497
111		---	---	ND	---	0.497
112		---	---	ND	---	0.497
113	90/101/113	34.482	1.60	(2.70)	---	0.497
114		---	---	ND	---	0.497
115	110/115	36.578	1.60	(3.07)	---	0.497
116	85/116/117	---	---	ND	---	0.596
117	85/116/117	---	---	ND	---	0.596
118		39.781	1.60	2.46	---	0.497
119	86/87/97/108/119/125	35.689	1.60	(1.98)	---	0.994
120		---	---	ND	---	0.497
121		---	---	ND	---	0.497
122		---	---	ND	---	0.497
123		---	---	ND	---	0.497
124	107/124	---	---	ND	---	0.497
125	86/87/97/108/119/125	35.689	1.60	(1.98)	---	0.994
126		---	---	ND	---	0.497
127		---	---	ND	---	0.497
128	128/166	---	---	ND	---	0.994
129	129/138/163	43.017	1.28	3.11	---	0.497
130		---	---	ND	---	0.497
131		---	---	ND	---	0.497
132		39.848	1.30	1.16	---	0.497
133		---	---	ND	---	0.497
134	134/143	---	---	ND	---	0.497
135	135/151	37.584	1.26	0.745	---	0.507
136		---	---	ND	---	0.497
137		---	---	ND	---	0.497
138	129/138/163	43.017	1.28	(3.11)	---	0.497
139	139/140	---	---	ND	---	0.497
140	139/140	---	---	ND	---	0.497
141		41.927	1.32	0.533	---	0.497
142		---	---	ND	---	0.497
143	134/143	---	---	ND	---	0.497
144		---	---	ND	---	0.497

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.497
146		---	---	ND	---	0.497
147	147/149	38.556	1.27	2.19	---	0.497
148		---	---	ND	---	0.497
149	147/149	38.556	1.27	(2.19)	---	0.497
150		---	---	ND	---	0.497
151	135/151	37.584	1.26	(0.745)	---	0.507
152		---	---	ND	---	0.497
153	153/168	41.742	1.26	2.25	---	0.596
154		---	---	ND	---	0.497
155		---	---	ND	---	0.497
156	156/157	---	---	ND	---	0.497
157	156/157	---	---	ND	---	0.497
158		---	---	ND	---	0.497
159		---	---	ND	---	0.497
160		---	---	ND	---	0.497
161		---	---	ND	---	0.497
162		---	---	ND	---	0.497
163	129/138/163	43.017	1.28	(3.11)	---	0.497
164		---	---	ND	---	0.497
165		---	---	ND	---	0.497
166	128/166	---	---	ND	---	0.994
167		---	---	ND	---	0.497
168	153/168	41.742	1.26	(2.25)	---	0.596
169		---	---	ND	---	0.497
170		---	---	ND	---	0.497
171	171/173	---	---	ND	---	0.497
172		---	---	ND	---	0.497
173	171/173	---	---	ND	---	0.497
174		---	---	ND	---	0.497
175		---	---	ND	---	0.497
176		---	---	ND	---	0.497
177		---	---	ND	---	0.497
178		---	---	ND	---	0.497
179		---	---	ND	---	0.497
180	180/193	48.735	1.06	0.836	---	0.497
181		---	---	ND	---	0.497
182		---	---	ND	---	0.497
183	183/185	---	---	ND	---	0.497
184		---	---	ND	---	0.497
185	183/185	---	---	ND	---	0.497
186		---	---	ND	---	0.497
187		44.425	1.05	0.558	---	0.497
188		---	---	ND	---	0.497
189		---	---	ND	---	0.497
190		---	---	ND	---	0.497
191		---	---	ND	---	0.497
192		---	---	ND	---	0.497

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.735	1.06	(0.836)	---	0.497
194		---	---	ND	---	0.497
195		---	---	ND	---	0.497
196		---	---	ND	---	0.696
197	197/200	---	---	ND	---	2.48
198	198/199	---	---	ND	---	0.497
199	198/199	---	---	ND	---	0.497
200	197/200	---	---	ND	---	2.48
201		---	---	ND	---	0.497
202		---	---	ND	---	0.497
203		---	---	ND	---	0.497
204		---	---	ND	---	0.497
205		---	---	ND	---	0.497
206		---	---	ND	---	0.497
207		---	---	ND	---	0.497
208		---	---	ND	---	0.497
209		---	---	ND	---	0.497

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0705-02
Lab Sample ID	1070150002
Filename	P80330A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	2.13
Total Trichloro Biphenyls	7.45
Total Tetrachloro Biphenyls	14.3
Total Pentachloro Biphenyls	15.2
Total Hexachloro Biphenyls	10.0
Total Heptachloro Biphenyls	1.39
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	50.5

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-03		
Lab Sample ID	1070150003		
Filename	P80330A_09		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/30/2008 23:56

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.881	3.11	2.0	1.24	62
13C-4-MoCB	3	12.283	3.16	2.0	1.24	62
13C-2,2'-DiCB	4	12.643	1.59	2.0	1.35	67
13C-4,4'-DiCB	15	20.814	1.59	2.0	1.75	87
13C-2,2',6-TrCB	19	17.112	1.05	2.0	1.46	73
13C-3,4,4'-TrCB	37	29.234	1.10	2.0	2.12	106
13C-2,2',6,6'-TeCB	54	21.185	0.82	2.0	1.39	69
13C-3,4,4',5-TeCB	81	36.630	0.79	2.0	2.21	110
13C-3,3',4,4'-TeCB	77	37.217	0.81	2.0	2.15	108
13C-2,2',4,6,6'-PeCB	104	27.842	1.60	2.0	1.41	70
13C-2,3,3',4,4'-PeCB	105	40.906	1.64	2.0	2.02	101
13C-2,3,4,4',5-PeCB	114	40.252	1.59	2.0	1.91	96
13C-2,3',4,4',5-PeCB	118	39.699	1.57	2.0	2.15	108
13C-2,3',4,4',5'-PeCB	123	39.363	1.62	2.0	2.12	106
13C-3,3',4,4',5-PeCB	126	44.126	1.62	2.0	1.85	92
13C-2,2',4,4',6,6'-HxCB	155	34.181	1.28	2.0	1.42	71
13C-HxCB (156/157)	156/157	47.245	1.28	4.0	3.40	85
13C-2,3',4,4',5,5'-HxCB	167	46.071	1.29	2.0	1.75	87
13C-3,3',4,4',5,5'-HxCB	169	50.565	1.31	2.0	1.45	72
13C-2,2',3,4',5,6,6'-HpCB	188	40.252	1.08	2.0	2.11	106
13C-2,3,3',4,4',5,5'-HpCB	189	53.128	1.09	2.0	1.88	94
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.803	0.92	2.0	2.03	102
13C-2,3,3',4,4',5,5',6-OcCB	205	55.714	0.92	2.0	1.79	89
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.482	0.82	2.0	1.72	86
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.632	0.81	2.0	1.83	92
13C--DeCB	209	59.098	0.74	2.0	1.69	84
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.589	1.05	2.0	1.82	91
13C-2,3,3',5,5'-PeCB	111	37.300	1.59	2.0	1.78	89
13C-2,2',3,3',5,5',6-HpCB	178	43.422	1.04	2.0	1.53	76
Recovery Standards						
13C-2,5-DiCB	9	15.566	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.752	0.81	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.416	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.935	1.31	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.240	0.96	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
Filename	P80330A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.493
2		---	---	ND	---	0.493
3		---	---	ND	---	0.493
4		---	---	ND	---	0.493
5		---	---	ND	---	0.493
6		---	---	ND	---	0.493
7		---	---	ND	---	0.493
8		---	---	ND	---	0.493
9		---	---	ND	---	0.493
10		---	---	ND	---	0.493
11		20.059	1.57	0.890	---	0.592
12	12/13	---	---	ND	---	0.493
13	12/13	---	---	ND	---	0.493
14		---	---	ND	---	0.493
15		---	---	ND	---	0.493
16		---	---	ND	---	0.493
17		---	---	ND	---	0.493
18	18/30	---	---	ND	---	0.493
19		---	---	ND	---	0.493
20	20/28	---	---	ND	---	0.592
21	21/33	---	---	ND	---	0.493
22		---	---	ND	---	0.493
23		---	---	ND	---	0.493
24		---	---	ND	---	0.493
25		---	---	ND	---	0.493
26	26/29	---	---	ND	---	0.493
27		---	---	ND	---	0.493
28	20/28	---	---	ND	---	0.592
29	26/29	---	---	ND	---	0.493
30	18/30	---	---	ND	---	0.493
31		---	---	ND	---	0.493
32		---	---	ND	---	0.493
33	21/33	---	---	ND	---	0.493
34		---	---	ND	---	0.493
35		---	---	ND	---	0.493
36		---	---	ND	---	0.493
37		---	---	ND	---	0.493
38		---	---	ND	---	0.493
39		---	---	ND	---	0.493
40	40/41/71	---	---	ND	---	0.493
41	40/41/71	---	---	ND	---	0.493
42		---	---	ND	---	0.493
43		---	---	ND	---	0.493
44	44/47/65	---	---	ND	---	0.592
45	45/51	---	---	ND	---	0.493
46		---	---	ND	---	0.493
47	44/47/65	---	---	ND	---	0.592
48		---	---	ND	---	0.493

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
Filename	P80330A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.493
50	50/53	---	---	ND	---	0.493
51	45/51	---	---	ND	---	0.493
52		---	---	ND	---	0.493
53	50/53	---	---	ND	---	0.493
54		---	---	ND	---	0.493
55		---	---	ND	---	0.493
56		---	---	ND	---	0.493
57		---	---	ND	---	0.493
58		---	---	ND	---	0.493
59	59/62/75	---	---	ND	---	0.493
60		---	---	ND	---	0.493
61	61/70/74/76	32.186	0.78	0.717	---	0.493
62	59/62/75	---	---	ND	---	0.493
63		---	---	ND	---	0.493
64		---	---	ND	---	0.493
65	44/47/65	---	---	ND	---	0.592
66		---	---	ND	---	0.493
67		---	---	ND	---	0.493
68		---	---	ND	---	0.493
69	49/69	---	---	ND	---	0.493
70	61/70/74/76	32.186	0.78	(0.717)	---	0.493
71	40/41/71	---	---	ND	---	0.493
72		---	---	ND	---	0.493
73		---	---	ND	---	0.493
74	61/70/74/76	32.186	0.78	(0.717)	---	0.493
75	59/62/75	---	---	ND	---	0.493
76	61/70/74/76	32.186	0.78	(0.717)	---	0.493
77		---	---	ND	---	0.493
78		---	---	ND	---	0.493
79		---	---	ND	---	0.493
80		---	---	ND	---	0.493
81		---	---	ND	---	0.493
82		---	---	ND	---	0.493
83		---	---	ND	---	0.493
84		---	---	ND	---	0.493
85	85/116/117	---	---	ND	---	0.592
86	86/87/97/108/119/125	---	---	ND	---	0.986
87	86/87/97/108/119/125	---	---	ND	---	0.986
88	88/91	---	---	ND	---	0.493
89		---	---	ND	---	0.493
90	90/101/113	34.450	1.58	0.647	---	0.493
91	88/91	---	---	ND	---	0.493
92		---	---	ND	---	0.493
93	93/98/100/102	---	---	ND	---	0.739
94		---	---	ND	---	0.493
95		---	---	ND	---	0.493
96		---	---	ND	---	0.493

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
Filename	P80330A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.986
98	93/98/100/102	---	---	ND	---	0.739
99		---	---	ND	---	0.493
100	93/98/100/102	---	---	ND	---	0.739
101	90/101/113	34.450	1.58	(0.647)	---	0.493
102	93/98/100/102	---	---	ND	---	0.739
103		---	---	ND	---	0.493
104		---	---	ND	---	0.493
105		---	---	ND	---	0.493
106		---	---	ND	---	0.493
107	107/124	---	---	ND	---	0.493
108	86/87/97/108/119/125	---	---	ND	---	0.986
109		---	---	ND	---	0.493
110	110/115	36.529	1.64	0.805	---	0.493
111		---	---	ND	---	0.493
112		---	---	ND	---	0.493
113	90/101/113	34.450	1.58	(0.647)	---	0.493
114		---	---	ND	---	0.493
115	110/115	36.529	1.64	(0.805)	---	0.493
116	85/116/117	---	---	ND	---	0.592
117	85/116/117	---	---	ND	---	0.592
118		39.732	1.61	0.628	---	0.493
119	86/87/97/108/119/125	---	---	ND	---	0.986
120		---	---	ND	---	0.493
121		---	---	ND	---	0.493
122		---	---	ND	---	0.493
123		---	---	ND	---	0.493
124	107/124	---	---	ND	---	0.493
125	86/87/97/108/119/125	---	---	ND	---	0.986
126		---	---	ND	---	0.493
127		---	---	ND	---	0.493
128	128/166	---	---	ND	---	0.986
129	129/138/163	42.969	1.28	1.18	---	0.493
130		---	---	ND	---	0.493
131		---	---	ND	---	0.493
132		---	---	ND	---	0.493
133		---	---	ND	---	0.493
134	134/143	---	---	ND	---	0.493
135	135/151	---	---	ND	---	0.503
136		---	---	ND	---	0.493
137		---	---	ND	---	0.493
138	129/138/163	42.969	1.28	(1.18)	---	0.493
139	139/140	---	---	ND	---	0.493
140	139/140	---	---	ND	---	0.493
141		---	---	ND	---	0.493
142		---	---	ND	---	0.493
143	134/143	---	---	ND	---	0.493
144		---	---	ND	---	0.493

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
Filename	P80330A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.493
146		---	---	ND	---	0.493
147	147/149	38.508	1.30	0.961	---	0.493
148		---	---	ND	---	0.493
149	147/149	38.508	1.30	(0.961)	---	0.493
150		---	---	ND	---	0.493
151	135/151	---	---	ND	---	0.503
152		---	---	ND	---	0.493
153	153/168	41.694	1.25	0.966	---	0.592
154		---	---	ND	---	0.493
155		---	---	ND	---	0.493
156	156/157	---	---	ND	---	0.493
157	156/157	---	---	ND	---	0.493
158		---	---	ND	---	0.493
159		---	---	ND	---	0.493
160		---	---	ND	---	0.493
161		---	---	ND	---	0.493
162		---	---	ND	---	0.493
163	129/138/163	42.969	1.28	(1.18)	---	0.493
164		---	---	ND	---	0.493
165		---	---	ND	---	0.493
166	128/166	---	---	ND	---	0.986
167		---	---	ND	---	0.493
168	153/168	41.694	1.25	(0.966)	---	0.592
169		---	---	ND	---	0.493
170		---	---	ND	---	0.493
171	171/173	---	---	ND	---	0.493
172		---	---	ND	---	0.493
173	171/173	---	---	ND	---	0.493
174		---	---	ND	---	0.493
175		---	---	ND	---	0.493
176		---	---	ND	---	0.493
177		---	---	ND	---	0.493
178		---	---	ND	---	0.493
179		---	---	ND	---	0.493
180	180/193	48.687	1.05	0.634	---	0.493
181		---	---	ND	---	0.493
182		---	---	ND	---	0.493
183	183/185	---	---	ND	---	0.493
184		---	---	ND	---	0.493
185	183/185	---	---	ND	---	0.493
186		---	---	ND	---	0.493
187		---	---	ND	---	0.493
188		---	---	ND	---	0.493
189		---	---	ND	---	0.493
190		---	---	ND	---	0.493
191		---	---	ND	---	0.493
192		---	---	ND	---	0.493

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
Filename	P80330A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.687	1.05	(0.634)	---	0.493
194		---	---	ND	---	0.493
195		---	---	ND	---	0.493
196		---	---	ND	---	0.690
197	197/200	---	---	ND	---	2.46
198	198/199	---	---	ND	---	0.493
199	198/199	---	---	ND	---	0.493
200	197/200	---	---	ND	---	2.46
201		---	---	ND	---	0.493
202		---	---	ND	---	0.493
203		---	---	ND	---	0.493
204		---	---	ND	---	0.493
205		---	---	ND	---	0.493
206		---	---	ND	---	0.493
207		---	---	ND	---	0.493
208		---	---	ND	---	0.493
209		---	---	ND	---	0.493

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-03
Lab Sample ID	1070150003
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Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.890
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.717
Total Pentachloro Biphenyls	2.08
Total Hexachloro Biphenyls	3.10
Total Heptachloro Biphenyls	0.634
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	7.43

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-04		
Lab Sample ID	1070150004		
Filename	P80330A_10		
Injected By	BAL		
Total Amount Extracted	979 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/31/2008 00:58

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.893	2.95	2.0	0.534	27
13C-4-MoCB	3	12.296	3.00	2.0	0.855	43
13C-2,2'-DiCB	4	12.656	1.61	2.0	0.933	47
13C-4,4'-DiCB	15	20.839	1.61	2.0	1.92	96
13C-2,2',6-TrCB	19	17.137	1.15	2.0	1.38	69
13C-3,4,4'-TrCB	37	29.252	1.07	2.0	2.40	120
13C-2,2',6,6'-TeCB	54	21.186	0.82	2.0	1.45	73
13C-3,4,4',5-TeCB	81	36.664	0.80	2.0	2.35	118
13C-3,3',4,4'-TeCB	77	37.250	0.81	2.0	2.26	113
13C-2,2',4,6,6'-PeCB	104	27.860	1.62	2.0	1.62	81
13C-2,3,3',4,4'-PeCB	105	40.940	1.62	2.0	2.20	110
13C-2,3,4,4',5-PeCB	114	40.269	1.57	2.0	2.08	104
13C-2,3',4,4',5-PeCB	118	39.732	1.62	2.0	2.35	117
13C-2,3',4,4',5'-PeCB	123	39.380	1.56	2.0	2.31	116
13C-3,3',4,4',5-PeCB	126	44.159	1.63	2.0	2.05	103
13C-2,2',4,4',6,6'-HxCB	155	34.215	1.29	2.0	1.66	83
13C-HxCB (156/157)	156/157	47.261	1.27	4.0	3.96	99
13C-2,3',4,4',5,5'-HxCB	167	46.088	1.27	2.0	2.00	100
13C-3,3',4,4',5,5'-HxCB	169	50.565	1.27	2.0	1.74	87
13C-2,2',3,4',5,6,6'-HpCB	188	40.269	1.06	2.0	2.40	120
13C-2,3,3',4,4',5,5'-HpCB	189	53.128	1.06	2.0	2.16	108
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.819	0.91	2.0	2.30	115
13C-2,3,3',4,4',5,5',6-OcCB	205	55.714	0.91	2.0	2.10	105
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.460	0.81	2.0	1.95	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.632	0.80	2.0	2.09	104
13C--DeCB	209	59.077	0.71	2.0	1.89	95
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.607	1.09	2.0	2.03	102
13C-2,3,3',5,5'-PeCB	111	37.334	1.63	2.0	1.95	97
13C-2,2',3,3',5,5',6-HpCB	178	43.438	1.04	2.0	1.73	87
Recovery Standards						
13C-2,5-DiCB	9	15.591	1.63	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.770	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.433	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.969	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.240	0.95	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.511
2		---	---	ND	---	0.511
3		---	---	ND	---	0.511
4		---	---	ND	---	0.511
5		---	---	ND	---	0.511
6		---	---	ND	---	0.511
7		---	---	ND	---	0.511
8		---	---	ND	---	0.511
9		---	---	ND	---	0.511
10		---	---	ND	---	0.511
11		---	---	ND	---	0.613
12	12/13	---	---	ND	---	0.511
13	12/13	---	---	ND	---	0.511
14		---	---	ND	---	0.511
15		---	---	ND	---	0.511
16		---	---	ND	---	0.511
17		---	---	ND	---	0.511
18	18/30	19.688	1.06	0.528	---	0.511
19		---	---	ND	---	0.511
20	20/28	24.640	1.03	1.61	---	0.613
21	21/33	24.909	1.07	0.656	---	0.511
22		25.378	1.07	0.616	---	0.511
23		---	---	ND	---	0.511
24		---	---	ND	---	0.511
25		---	---	ND	---	0.511
26	26/29	---	---	ND	---	0.511
27		---	---	ND	---	0.511
28	20/28	24.640	1.03	(1.61)	---	0.613
29	26/29	---	---	ND	---	0.511
30	18/30	19.688	1.06	(0.528)	---	0.511
31		24.288	1.04	0.955	---	0.511
32		---	---	ND	---	0.511
33	21/33	24.909	1.07	(0.656)	---	0.511
34		---	---	ND	---	0.511
35		---	---	ND	---	0.511
36		---	---	ND	---	0.511
37		29.269	1.07	0.674	---	0.511
38		---	---	ND	---	0.511
39		---	---	ND	---	0.511
40	40/41/71	29.084	0.80	1.18	---	0.511
41	40/41/71	29.084	0.80	(1.18)	---	0.511
42		---	---	ND	---	0.511
43		---	---	ND	---	0.511
44	44/47/65	27.944	0.81	1.45	---	0.613
45	45/51	---	---	ND	---	0.511
46		---	---	ND	---	0.511
47	44/47/65	27.944	0.81	(1.45)	---	0.613
48		---	---	ND	---	0.511

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.374	0.81	0.927	---	0.511
50	50/53	---	---	ND	---	0.511
51	45/51	---	---	ND	---	0.511
52		26.804	0.80	1.65	---	0.511
53	50/53	---	---	ND	---	0.511
54		---	---	ND	---	0.511
55		---	---	ND	---	0.511
56		33.276	0.78	1.07	---	0.511
57		---	---	ND	---	0.511
58		---	---	ND	---	0.511
59	59/62/75	---	---	ND	---	0.511
60		33.511	0.80	0.577	---	0.511
61	61/70/74/76	32.220	0.79	3.26	---	0.511
62	59/62/75	---	---	ND	---	0.511
63		---	---	ND	---	0.511
64		29.352	0.79	0.815	---	0.511
65	44/47/65	27.944	0.81	(1.45)	---	0.613
66		32.555	0.80	1.90	---	0.511
67		---	---	ND	---	0.511
68		---	---	ND	---	0.511
69	49/69	27.374	0.81	(0.927)	---	0.511
70	61/70/74/76	32.220	0.79	(3.26)	---	0.511
71	40/41/71	29.084	0.80	(1.18)	---	0.511
72		---	---	ND	---	0.511
73		---	---	ND	---	0.511
74	61/70/74/76	32.220	0.79	(3.26)	---	0.511
75	59/62/75	---	---	ND	---	0.511
76	61/70/74/76	32.220	0.79	(3.26)	---	0.511
77		---	---	ND	---	0.511
78		---	---	ND	---	0.511
79		---	---	ND	---	0.511
80		---	---	ND	---	0.511
81		---	---	ND	---	0.511
82		---	---	ND	---	0.511
83		---	---	ND	---	0.511
84		32.404	1.51	0.687	---	0.511
85	85/116/117	---	---	ND	---	0.613
86	86/87/97/108/119/125	35.674	1.61	1.60	---	1.02
87	86/87/97/108/119/125	35.674	1.61	(1.60)	---	1.02
88	88/91	---	---	ND	---	0.511
89		---	---	ND	---	0.511
90	90/101/113	34.467	1.63	1.96	---	0.511
91	88/91	---	---	ND	---	0.511
92		---	---	ND	---	0.511
93	93/98/100/102	---	---	ND	---	0.766
94		---	---	ND	---	0.511
95		31.231	1.64	1.63	---	0.511
96		---	---	ND	---	0.511

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.674	1.61	(1.60)	---	1.02
98	93/98/100/102	---	---	ND	---	0.766
99		35.087	1.65	0.773	---	0.511
100	93/98/100/102	---	---	ND	---	0.766
101	90/101/113	34.467	1.63	(1.96)	---	0.511
102	93/98/100/102	---	---	ND	---	0.766
103		---	---	ND	---	0.511
104		---	---	ND	---	0.511
105		40.956	1.63	0.991	---	0.511
106		---	---	ND	---	0.511
107	107/124	---	---	ND	---	0.511
108	86/87/97/108/119/125	35.674	1.61	(1.60)	---	1.02
109		---	---	ND	---	0.511
110	110/115	36.563	1.62	2.67	---	0.511
111		---	---	ND	---	0.511
112		---	---	ND	---	0.511
113	90/101/113	34.467	1.63	(1.96)	---	0.511
114		---	---	ND	---	0.511
115	110/115	36.563	1.62	(2.67)	---	0.511
116	85/116/117	---	---	ND	---	0.613
117	85/116/117	---	---	ND	---	0.613
118		39.749	1.59	1.87	---	0.511
119	86/87/97/108/119/125	35.674	1.61	(1.60)	---	1.02
120		---	---	ND	---	0.511
121		---	---	ND	---	0.511
122		---	---	ND	---	0.511
123		---	---	ND	---	0.511
124	107/124	---	---	ND	---	0.511
125	86/87/97/108/119/125	35.674	1.61	(1.60)	---	1.02
126		---	---	ND	---	0.511
127		---	---	ND	---	0.511
128	128/166	---	---	ND	---	1.02
129	129/138/163	43.002	1.27	2.46	---	0.511
130		---	---	ND	---	0.511
131		---	---	ND	---	0.511
132		39.833	1.28	0.987	---	0.511
133		---	---	ND	---	0.511
134	134/143	---	---	ND	---	0.511
135	135/151	37.569	1.30	0.608	---	0.521
136		---	---	ND	---	0.511
137		---	---	ND	---	0.511
138	129/138/163	43.002	1.27	(2.46)	---	0.511
139	139/140	---	---	ND	---	0.511
140	139/140	---	---	ND	---	0.511
141		---	---	ND	---	0.511
142		---	---	ND	---	0.511
143	134/143	---	---	ND	---	0.511
144		---	---	ND	---	0.511

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.511
146		---	---	ND	---	0.511
147	147/149	38.525	1.27	1.80	---	0.511
148		---	---	ND	---	0.511
149	147/149	38.525	1.27	(1.80)	---	0.511
150		---	---	ND	---	0.511
151	135/151	37.569	1.30	(0.608)	---	0.521
152		---	---	ND	---	0.511
153	153/168	41.711	1.27	1.60	---	0.613
154		---	---	ND	---	0.511
155		---	---	ND	---	0.511
156	156/157	---	---	ND	---	0.511
157	156/157	---	---	ND	---	0.511
158		---	---	ND	---	0.511
159		---	---	ND	---	0.511
160		---	---	ND	---	0.511
161		---	---	ND	---	0.511
162		---	---	ND	---	0.511
163	129/138/163	43.002	1.27	(2.46)	---	0.511
164		---	---	ND	---	0.511
165		---	---	ND	---	0.511
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.511
168	153/168	41.711	1.27	(1.60)	---	0.613
169		---	---	ND	---	0.511
170		---	---	ND	---	0.511
171	171/173	---	---	ND	---	0.511
172		---	---	ND	---	0.511
173	171/173	---	---	ND	---	0.511
174		---	---	ND	---	0.511
175		---	---	ND	---	0.511
176		---	---	ND	---	0.511
177		---	---	ND	---	0.511
178		---	---	ND	---	0.511
179		---	---	ND	---	0.511
180	180/193	48.704	1.06	0.749	---	0.511
181		---	---	ND	---	0.511
182		---	---	ND	---	0.511
183	183/185	---	---	ND	---	0.511
184		---	---	ND	---	0.511
185	183/185	---	---	ND	---	0.511
186		---	---	ND	---	0.511
187		---	---	ND	---	0.511
188		---	---	ND	---	0.511
189		---	---	ND	---	0.511
190		---	---	ND	---	0.511
191		---	---	ND	---	0.511
192		---	---	ND	---	0.511

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.704	1.06	(0.749)	---	0.511
194		---	---	ND	---	0.511
195		---	---	ND	---	0.511
196		---	---	ND	---	0.715
197	197/200	---	---	ND	---	2.55
198	198/199	---	---	ND	---	0.511
199	198/199	---	---	ND	---	0.511
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.511
202		---	---	ND	---	0.511
203		---	---	ND	---	0.511
204		---	---	ND	---	0.511
205		---	---	ND	---	0.511
206		---	---	ND	---	0.511
207		---	---	ND	---	0.511
208		---	---	ND	---	0.511
209		---	---	ND	---	0.511

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-04
Lab Sample ID	1070150004
Filename	P80330A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	5.04
Total Tetrachloro Biphenyls	12.8
Total Pentachloro Biphenyls	12.2
Total Hexachloro Biphenyls	7.45
Total Heptachloro Biphenyls	0.749
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	38.2

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-05		
Lab Sample ID	1070150005		
Filename	P80330A_13		
Injected By	BAL		
Total Amount Extracted	999 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/31/2008 04:07

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.917	2.71	2.0	0.974	49
13C-4-MoCB	3	12.332	2.85	2.0	1.23	62
13C-2,2'-DiCB	4	12.691	1.64	2.0	1.21	60
13C-4,4'-DiCB	15	20.886	1.58	2.0	1.99	100
13C-2,2',6-TrCB	19	17.172	1.09	2.0	1.55	78
13C-3,4,4'-TrCB	37	29.318	1.07	2.0	2.47	123
13C-2,2',6,6'-TeCB	54	21.236	0.79	2.0	1.65	83
13C-3,4,4',5-TeCB	81	36.730	0.81	2.0	2.26	113
13C-3,3',4,4'-TeCB	77	37.317	0.81	2.0	2.20	110
13C-2,2',4,6,6'-PeCB	104	27.909	1.63	2.0	1.68	84
13C-2,3,3',4,4'-PeCB	105	41.006	1.62	2.0	2.14	107
13C-2,3,4,4',5-PeCB	114	40.336	1.62	2.0	2.00	100
13C-2,3',4,4',5-PeCB	118	39.782	1.60	2.0	2.30	115
13C-2,3',4,4',5'-PeCB	123	39.447	1.60	2.0	2.25	112
13C-3,3',4,4',5-PeCB	126	44.226	1.59	2.0	2.01	101
13C-2,2',4,4',6,6'-HxCB	155	34.265	1.31	2.0	1.65	83
13C-HxCB (156/157)	156/157	47.329	1.26	4.0	3.86	97
13C-2,3',4,4',5,5'-HxCB	167	46.155	1.27	2.0	1.93	97
13C-3,3',4,4',5,5'-HxCB	169	50.649	1.26	2.0	1.66	83
13C-2,2',3,4',5,6,6'-HpCB	188	40.319	1.07	2.0	2.61	130
13C-2,3,3',4,4',5,5'-HpCB	189	53.214	1.05	2.0	2.27	113
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.886	0.91	2.0	2.52	126
13C-2,3,3',4,4',5,5',6-OcCB	205	55.801	0.92	2.0	2.09	104
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.547	0.82	2.0	1.95	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.697	0.77	2.0	2.24	112
13C--DeCB	209	59.163	0.72	2.0	1.80	90
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.656	1.07	2.0	2.19	109
13C-2,3,3',5,5'-PeCB	111	37.384	1.66	2.0	1.85	93
13C-2,2',3,3',5,5',6-HpCB	178	43.488	1.08	2.0	1.65	83
Recovery Standards						
13C-2,5-DiCB	9	15.626	1.63	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.836	0.83	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.500	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	43.019	1.32	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.327	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		20.131	1.53	0.688	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.600
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.600
48		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	32.269	0.78	0.866	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.600
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	32.269	0.78	(0.866)	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	32.269	0.78	(0.866)	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	32.269	0.78	(0.866)	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500
85	85/116/117	---	---	ND	---	0.600
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	34.533	1.62	0.990	---	0.500
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		31.280	1.60	0.829	---	0.500
96		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.750
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	34.533	1.62	(0.990)	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.500
110	110/115	36.613	1.60	1.52	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	34.533	1.62	(0.990)	---	0.500
114		---	---	ND	---	0.500
115	110/115	36.613	1.60	(1.52)	---	0.500
116	85/116/117	---	---	ND	---	0.600
117	85/116/117	---	---	ND	---	0.600
118		39.816	1.56	0.944	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.500
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.00
129	129/138/163	43.052	1.24	2.28	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		39.900	1.23	0.920	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	37.619	1.28	0.779	---	0.510
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	43.052	1.24	(2.28)	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500

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NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	38.592	1.24	2.03	---	0.500
148		---	---	ND	---	0.500
149	147/149	38.592	1.24	(2.03)	---	0.500
150		---	---	ND	---	0.500
151	135/151	37.619	1.28	(0.779)	---	0.510
152		---	---	ND	---	0.500
153	153/168	41.778	1.26	1.61	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	43.052	1.24	(2.28)	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.500
168	153/168	41.778	1.26	(1.61)	---	0.600
169		---	---	ND	---	0.500
170		50.045	1.03	0.655	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		45.316	1.07	0.794	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	48.771	1.04	1.50	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	45.098	1.11	0.522	---	0.500
184		---	---	ND	---	0.500
185	183/185	45.098	1.11	(0.522)	---	0.500
186		---	---	ND	---	0.500
187		44.461	1.05	1.01	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.771	1.04	(1.50)	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	50.749	0.90	0.506	---	0.500
199	198/199	50.749	0.90	(0.506)	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-05
Lab Sample ID	1070150005
Filename	P80330A_13

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.688
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.866
Total Pentachloro Biphenyls	4.29
Total Hexachloro Biphenyls	7.62
Total Heptachloro Biphenyls	4.48
Total Octachloro Biphenyls	0.506
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	18.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0705-06		
Lab Sample ID	1070150006		
Filename	P80330A_11		
Injected By	BAL		
Total Amount Extracted	963 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/20/2008
ICAL ID	P80330A02	Received	03/22/2008
CCal Filename(s)	P80330A_03	Extracted	03/26/2008
Method Blank ID	BLANK-15875	Analyzed	03/31/2008 02:01

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.905	2.92	2.0	1.32	66
13C-4-MoCB	3	12.308	2.84	2.0	1.29	64
13C-2,2'-DiCB	4	12.679	1.60	2.0	1.33	67
13C-4,4'-DiCB	15	20.852	1.58	2.0	1.71	85
13C-2,2',6-TrCB	19	17.149	1.07	2.0	1.40	70
13C-3,4,4'-TrCB	37	29.270	1.07	2.0	2.06	103
13C-2,2',6,6'-TeCB	54	21.204	0.80	2.0	1.40	70
13C-3,4,4',5-TeCB	81	36.666	0.80	2.0	2.49	124
13C-3,3',4,4'-TeCB	77	37.253	0.81	2.0	2.41	120
13C-2,2',4,6,6'-PeCB	104	27.879	1.58	2.0	1.38	69
13C-2,3,3',4,4'-PeCB	105	40.942	1.57	2.0	2.16	108
13C-2,3,4,4',5-PeCB	114	40.271	1.61	2.0	1.99	99
13C-2,3',4,4',5-PeCB	118	39.735	1.61	2.0	2.28	114
13C-2,3',4,4',5'-PeCB	123	39.383	1.58	2.0	2.22	111
13C-3,3',4,4',5-PeCB	126	44.145	1.59	2.0	1.93	96
13C-2,2',4,4',6,6'-HxCB	155	34.217	1.25	2.0	1.41	71
13C-HxCB (156/157)	156/157	47.248	1.26	4.0	3.52	88
13C-2,3',4,4',5,5'-HxCB	167	46.074	1.28	2.0	1.83	92
13C-3,3',4,4',5,5'-HxCB	169	50.569	1.27	2.0	1.47	74
13C-2,2',3,4',5,6,6'-HpCB	188	40.271	1.07	2.0	2.37	118
13C-2,3,3',4,4',5,5'-HpCB	189	53.110	1.06	2.0	2.01	100
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.823	0.91	2.0	2.16	108
13C-2,3,3',4,4',5,5',6-OcCB	205	55.718	0.88	2.0	1.85	93
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.464	0.79	2.0	1.69	85
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.636	0.81	2.0	1.93	96
13C--DeCB	209	59.081	0.72	2.0	1.63	81
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.625	1.08	2.0	1.78	89
13C-2,3,3',5,5'-PeCB	111	37.337	1.64	2.0	1.76	88
13C-2,2',3,3',5,5',6-HpCB	178	43.441	1.08	2.0	1.47	74
Recovery Standards						
13C-2,5-DiCB	9	15.603	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.788	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.452	1.68	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.955	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.244	0.93	2.0	NA	NA

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-06
Lab Sample ID	1070150006
Filename	P80330A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.519
2		---	---	ND	---	0.519
3		---	---	ND	---	0.519
4		---	---	ND	---	0.519
5		---	---	ND	---	0.519
6		---	---	ND	---	0.519
7		---	---	ND	---	0.519
8		---	---	ND	---	0.519
9		---	---	ND	---	0.519
10		---	---	ND	---	0.519
11		---	---	ND	---	0.623
12	12/13	---	---	ND	---	0.519
13	12/13	---	---	ND	---	0.519
14		---	---	ND	---	0.519
15		---	---	ND	---	0.519
16		---	---	ND	---	0.519
17		---	---	ND	---	0.519
18	18/30	---	---	ND	---	0.519
19		---	---	ND	---	0.519
20	20/28	---	---	ND	---	0.623
21	21/33	---	---	ND	---	0.519
22		---	---	ND	---	0.519
23		---	---	ND	---	0.519
24		---	---	ND	---	0.519
25		---	---	ND	---	0.519
26	26/29	---	---	ND	---	0.519
27		---	---	ND	---	0.519
28	20/28	---	---	ND	---	0.623
29	26/29	---	---	ND	---	0.519
30	18/30	---	---	ND	---	0.519
31		---	---	ND	---	0.519
32		---	---	ND	---	0.519
33	21/33	---	---	ND	---	0.519
34		---	---	ND	---	0.519
35		---	---	ND	---	0.519
36		---	---	ND	---	0.519
37		---	---	ND	---	0.519
38		---	---	ND	---	0.519
39		---	---	ND	---	0.519
40	40/41/71	---	---	ND	---	0.519
41	40/41/71	---	---	ND	---	0.519
42		---	---	ND	---	0.519
43		---	---	ND	---	0.519
44	44/47/65	---	---	ND	---	0.623
45	45/51	---	---	ND	---	0.519
46		---	---	ND	---	0.519
47	44/47/65	---	---	ND	---	0.623
48		---	---	ND	---	0.519

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-06
Lab Sample ID	1070150006
Filename	P80330A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.519
50	50/53	---	---	ND	---	0.519
51	45/51	---	---	ND	---	0.519
52		---	---	ND	---	0.519
53	50/53	---	---	ND	---	0.519
54		---	---	ND	---	0.519
55		---	---	ND	---	0.519
56		---	---	ND	---	0.519
57		---	---	ND	---	0.519
58		---	---	ND	---	0.519
59	59/62/75	---	---	ND	---	0.519
60		---	---	ND	---	0.519
61	61/70/74/76	---	---	ND	---	0.519
62	59/62/75	---	---	ND	---	0.519
63		---	---	ND	---	0.519
64		---	---	ND	---	0.519
65	44/47/65	---	---	ND	---	0.623
66		---	---	ND	---	0.519
67		---	---	ND	---	0.519
68		---	---	ND	---	0.519
69	49/69	---	---	ND	---	0.519
70	61/70/74/76	---	---	ND	---	0.519
71	40/41/71	---	---	ND	---	0.519
72		---	---	ND	---	0.519
73		---	---	ND	---	0.519
74	61/70/74/76	---	---	ND	---	0.519
75	59/62/75	---	---	ND	---	0.519
76	61/70/74/76	---	---	ND	---	0.519
77		---	---	ND	---	0.519
78		---	---	ND	---	0.519
79		---	---	ND	---	0.519
80		---	---	ND	---	0.519
81		---	---	ND	---	0.519
82		---	---	ND	---	0.519
83		---	---	ND	---	0.519
84		---	---	ND	---	0.519
85	85/116/117	---	---	ND	---	0.623
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.519
89		---	---	ND	---	0.519
90	90/101/113	---	---	ND	---	0.519
91	88/91	---	---	ND	---	0.519
92		---	---	ND	---	0.519
93	93/98/100/102	---	---	ND	---	0.779
94		---	---	ND	---	0.519
95		---	---	ND	---	0.519
96		---	---	ND	---	0.519

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-06
Lab Sample ID	1070150006
Filename	P80330A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.779
99		---	---	ND	---	0.519
100	93/98/100/102	---	---	ND	---	0.779
101	90/101/113	---	---	ND	---	0.519
102	93/98/100/102	---	---	ND	---	0.779
103		---	---	ND	---	0.519
104		---	---	ND	---	0.519
105		---	---	ND	---	0.519
106		---	---	ND	---	0.519
107	107/124	---	---	ND	---	0.519
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.519
110	110/115	---	---	ND	---	0.519
111		---	---	ND	---	0.519
112		---	---	ND	---	0.519
113	90/101/113	---	---	ND	---	0.519
114		---	---	ND	---	0.519
115	110/115	---	---	ND	---	0.519
116	85/116/117	---	---	ND	---	0.623
117	85/116/117	---	---	ND	---	0.623
118		---	---	ND	---	0.519
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.519
121		---	---	ND	---	0.519
122		---	---	ND	---	0.519
123		---	---	ND	---	0.519
124	107/124	---	---	ND	---	0.519
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.519
127		---	---	ND	---	0.519
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.519
130		---	---	ND	---	0.519
131		---	---	ND	---	0.519
132		---	---	ND	---	0.519
133		---	---	ND	---	0.519
134	134/143	---	---	ND	---	0.519
135	135/151	---	---	ND	---	0.530
136		---	---	ND	---	0.519
137		---	---	ND	---	0.519
138	129/138/163	---	---	ND	---	0.519
139	139/140	---	---	ND	---	0.519
140	139/140	---	---	ND	---	0.519
141		---	---	ND	---	0.519
142		---	---	ND	---	0.519
143	134/143	---	---	ND	---	0.519
144		---	---	ND	---	0.519

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

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Lab Sample ID	1070150006
Filename	P80330A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.519
146		---	---	ND	---	0.519
147	147/149	---	---	ND	---	0.519
148		---	---	ND	---	0.519
149	147/149	---	---	ND	---	0.519
150		---	---	ND	---	0.519
151	135/151	---	---	ND	---	0.530
152		---	---	ND	---	0.519
153	153/168	---	---	ND	---	0.623
154		---	---	ND	---	0.519
155		---	---	ND	---	0.519
156	156/157	---	---	ND	---	0.519
157	156/157	---	---	ND	---	0.519
158		---	---	ND	---	0.519
159		---	---	ND	---	0.519
160		---	---	ND	---	0.519
161		---	---	ND	---	0.519
162		---	---	ND	---	0.519
163	129/138/163	---	---	ND	---	0.519
164		---	---	ND	---	0.519
165		---	---	ND	---	0.519
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.519
168	153/168	---	---	ND	---	0.623
169		---	---	ND	---	0.519
170		---	---	ND	---	0.519
171	171/173	---	---	ND	---	0.519
172		---	---	ND	---	0.519
173	171/173	---	---	ND	---	0.519
174		---	---	ND	---	0.519
175		---	---	ND	---	0.519
176		---	---	ND	---	0.519
177		---	---	ND	---	0.519
178		---	---	ND	---	0.519
179		---	---	ND	---	0.519
180	180/193	---	---	ND	---	0.519
181		---	---	ND	---	0.519
182		---	---	ND	---	0.519
183	183/185	---	---	ND	---	0.519
184		---	---	ND	---	0.519
185	183/185	---	---	ND	---	0.519
186		---	---	ND	---	0.519
187		---	---	ND	---	0.519
188		---	---	ND	---	0.519
189		---	---	ND	---	0.519
190		---	---	ND	---	0.519
191		---	---	ND	---	0.519
192		---	---	ND	---	0.519

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-06
Lab Sample ID	1070150006
Filename	P80330A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.519
194		---	---	ND	---	0.519
195		---	---	ND	---	0.519
196		---	---	ND	---	0.727
197	197/200	---	---	ND	---	2.60
198	198/199	---	---	ND	---	0.519
199	198/199	---	---	ND	---	0.519
200	197/200	---	---	ND	---	2.60
201		---	---	ND	---	0.519
202		---	---	ND	---	0.519
203		---	---	ND	---	0.519
204		---	---	ND	---	0.519
205		---	---	ND	---	0.519
206		---	---	ND	---	0.519
207		---	---	ND	---	0.519
208		---	---	ND	---	0.519
209		---	---	ND	---	0.519

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0705-06
Lab Sample ID	1070150006
Filename	P80330A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15875		
Filename	P80330A_07		
Injected By	BAL	Matrix	Water
Total Amount Extracted	866 mL	Extracted	03/26/2008
ICAL ID	P80330A02	Analyzed	03/30/2008 21:50
CCal Filename(s)	P80330A_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.869	1.52	2.0	0.0168	1	IP
13C-4-MoCB	3	12.271	2.53	2.0	0.0758	4	IP
13C-2,2'-DiCB	4	12.631	1.69	2.0	0.0922	5	P
13C-4,4'-DiCB	15	20.801	1.60	2.0	0.545	27	
13C-2,2',6-TrCB	19	17.099	1.10	2.0	0.315	16	P
13C-3,4,4'-TrCB	37	29.217	1.09	2.0	1.12	56	
13C-2,2',6,6'-TeCB	54	21.168	0.82	2.0	0.493	25	P
13C-3,4,4',5-TeCB	81	36.611	0.78	2.0	1.47	74	
13C-3,3',4,4'-TeCB	77	37.198	0.79	2.0	1.46	73	
13C-2,2',4,6,6'-PeCB	104	27.825	1.61	2.0	0.932	47	
13C-2,3,3',4,4'-PeCB	105	40.887	1.63	2.0	1.54	77	
13C-2,3,4,4',5-PeCB	114	40.217	1.55	2.0	1.37	69	
13C-2,3',4,4',5-PeCB	118	39.663	1.60	2.0	1.55	77	
13C-2,3',4,4',5'-PeCB	123	39.328	1.58	2.0	1.45	72	
13C-3,3',4,4',5-PeCB	126	44.090	1.61	2.0	1.60	80	
13C-2,2',4,4',6,6'-HxCB	155	34.163	1.29	2.0	1.13	56	
13C-HxCB (156/157)	156/157	47.193	1.28	4.0	3.11	78	
13C-2,3',4,4',5,5'-HxCB	167	46.019	1.24	2.0	1.51	76	
13C-3,3',4,4',5,5'-HxCB	169	50.496	1.28	2.0	1.56	78	
13C-2,2',3,4',5,6,6'-HpCB	188	40.217	1.05	2.0	1.41	70	
13C-2,3,3',4,4',5,5'-HpCB	189	53.062	1.05	2.0	1.66	83	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.767	0.94	2.0	1.52	76	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.648	0.92	2.0	1.70	85	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.394	0.78	2.0	1.47	73	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.566	0.78	2.0	1.59	80	
13C--DeCB	209	59.011	0.72	2.0	1.38	69	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.572	1.09	2.0	0.963	48	
13C-2,3,3',5,5'-PeCB	111	37.282	1.59	2.0	1.64	82	
13C-2,2',3,3',5,5',6-HpCB	178	43.386	1.07	2.0	1.67	83	
Recovery Standards							
13C-2,5-DiCB	9	15.554	1.55	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.752	0.82	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.398	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.900	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.174	0.91	2.0	NA	NA	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15875
Filename P80330A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.577
2		---	---	ND	---	0.577
3		---	---	ND	---	0.577
4		---	---	ND	---	0.577
5		---	---	ND	---	0.577
6		---	---	ND	---	0.577
7		---	---	ND	---	0.577
8		---	---	ND	---	0.577
9		---	---	ND	---	0.577
10		---	---	ND	---	0.577
11		---	---	ND	---	0.693
12	12/13	---	---	ND	---	0.577
13	12/13	---	---	ND	---	0.577
14		---	---	ND	---	0.577
15		---	---	ND	---	0.577
16		---	---	ND	---	0.577
17		---	---	ND	---	0.577
18	18/30	---	---	ND	---	0.577
19		---	---	ND	---	0.577
20	20/28	---	---	ND	---	0.693
21	21/33	---	---	ND	---	0.577
22		---	---	ND	---	0.577
23		---	---	ND	---	0.577
24		---	---	ND	---	0.577
25		---	---	ND	---	0.577
26	26/29	---	---	ND	---	0.577
27		---	---	ND	---	0.577
28	20/28	---	---	ND	---	0.693
29	26/29	---	---	ND	---	0.577
30	18/30	---	---	ND	---	0.577
31		---	---	ND	---	0.577
32		---	---	ND	---	0.577
33	21/33	---	---	ND	---	0.577
34		---	---	ND	---	0.577
35		---	---	ND	---	0.577
36		---	---	ND	---	0.577
37		---	---	ND	---	0.577
38		---	---	ND	---	0.577
39		---	---	ND	---	0.577
40	40/41/71	---	---	ND	---	0.577
41	40/41/71	---	---	ND	---	0.577
42		---	---	ND	---	0.577
43		---	---	ND	---	0.577
44	44/47/65	---	---	ND	---	0.693
45	45/51	---	---	ND	---	0.577

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15875
Filename P80330A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.577
47	44/47/65	---	---	ND	---	0.693
48		---	---	ND	---	0.577
49	49/69	---	---	ND	---	0.577
50	50/53	---	---	ND	---	0.577
51	45/51	---	---	ND	---	0.577
52		---	---	ND	---	0.577
53	50/53	---	---	ND	---	0.577
54		---	---	ND	---	0.577
55		---	---	ND	---	0.577
56		---	---	ND	---	0.577
57		---	---	ND	---	0.577
58		---	---	ND	---	0.577
59	59/62/75	---	---	ND	---	0.577
60		---	---	ND	---	0.577
61	61/70/74/76	---	---	ND	---	0.577
62	59/62/75	---	---	ND	---	0.577
63		---	---	ND	---	0.577
64		---	---	ND	---	0.577
65	44/47/65	---	---	ND	---	0.693
66		---	---	ND	---	0.577
67		---	---	ND	---	0.577
68		---	---	ND	---	0.577
69	49/69	---	---	ND	---	0.577
70	61/70/74/76	---	---	ND	---	0.577
71	40/41/71	---	---	ND	---	0.577
72		---	---	ND	---	0.577
73		---	---	ND	---	0.577
74	61/70/74/76	---	---	ND	---	0.577
75	59/62/75	---	---	ND	---	0.577
76	61/70/74/76	---	---	ND	---	0.577
77		---	---	ND	---	0.577
78		---	---	ND	---	0.577
79		---	---	ND	---	0.577
80		---	---	ND	---	0.577
81		---	---	ND	---	0.577
82		---	---	ND	---	0.577
83		---	---	ND	---	0.577
84		---	---	ND	---	0.577
85	85/116/117	---	---	ND	---	0.693
86	86/87/97/108/119/125	---	---	ND	---	1.15
87	86/87/97/108/119/125	---	---	ND	---	1.15
88	88/91	---	---	ND	---	0.577
89		---	---	ND	---	0.577
90	90/101/113	---	---	ND	---	0.577

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15875
Filename P80330A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.577
92		---	---	ND	---	0.577
93	93/98/100/102	---	---	ND	---	0.866
94		---	---	ND	---	0.577
95		---	---	ND	---	0.577
96		---	---	ND	---	0.577
97	86/87/97/108/119/125	---	---	ND	---	1.15
98	93/98/100/102	---	---	ND	---	0.866
99		---	---	ND	---	0.577
100	93/98/100/102	---	---	ND	---	0.866
101	90/101/113	---	---	ND	---	0.577
102	93/98/100/102	---	---	ND	---	0.866
103		---	---	ND	---	0.577
104		---	---	ND	---	0.577
105		---	---	ND	---	0.577
106		---	---	ND	---	0.577
107	107/124	---	---	ND	---	0.577
108	86/87/97/108/119/125	---	---	ND	---	1.15
109		---	---	ND	---	0.577
110	110/115	---	---	ND	---	0.577
111		---	---	ND	---	0.577
112		---	---	ND	---	0.577
113	90/101/113	---	---	ND	---	0.577
114		---	---	ND	---	0.577
115	110/115	---	---	ND	---	0.577
116	85/116/117	---	---	ND	---	0.693
117	85/116/117	---	---	ND	---	0.693
118		---	---	ND	---	0.577
119	86/87/97/108/119/125	---	---	ND	---	1.15
120		---	---	ND	---	0.577
121		---	---	ND	---	0.577
122		---	---	ND	---	0.577
123		---	---	ND	---	0.577
124	107/124	---	---	ND	---	0.577
125	86/87/97/108/119/125	---	---	ND	---	1.15
126		---	---	ND	---	0.577
127		---	---	ND	---	0.577
128	128/166	---	---	ND	---	1.15
129	129/138/163	---	---	ND	---	0.577
130		---	---	ND	---	0.577
131		---	---	ND	---	0.577
132		---	---	ND	---	0.577
133		---	---	ND	---	0.577
134	134/143	---	---	ND	---	0.577
135	135/151	---	---	ND	---	0.589

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15875
Filename P80330A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.577
137		---	---	ND	---	0.577
138	129/138/163	---	---	ND	---	0.577
139	139/140	---	---	ND	---	0.577
140	139/140	---	---	ND	---	0.577
141		---	---	ND	---	0.577
142		---	---	ND	---	0.577
143	134/143	---	---	ND	---	0.577
144		---	---	ND	---	0.577
145		---	---	ND	---	0.577
146		---	---	ND	---	0.577
147	147/149	---	---	ND	---	0.577
148		---	---	ND	---	0.577
149	147/149	---	---	ND	---	0.577
150		---	---	ND	---	0.577
151	135/151	---	---	ND	---	0.589
152		---	---	ND	---	0.577
153	153/168	---	---	ND	---	0.693
154		---	---	ND	---	0.577
155		---	---	ND	---	0.577
156	156/157	---	---	ND	---	0.577
157	156/157	---	---	ND	---	0.577
158		---	---	ND	---	0.577
159		---	---	ND	---	0.577
160		---	---	ND	---	0.577
161		---	---	ND	---	0.577
162		---	---	ND	---	0.577
163	129/138/163	---	---	ND	---	0.577
164		---	---	ND	---	0.577
165		---	---	ND	---	0.577
166	128/166	---	---	ND	---	1.15
167		---	---	ND	---	0.577
168	153/168	---	---	ND	---	0.693
169		---	---	ND	---	0.577
170		---	---	ND	---	0.577
171	171/173	---	---	ND	---	0.577
172		---	---	ND	---	0.577
173	171/173	---	---	ND	---	0.577
174		---	---	ND	---	0.577
175		---	---	ND	---	0.577
176		---	---	ND	---	0.577
177		---	---	ND	---	0.577
178		---	---	ND	---	0.577
179		---	---	ND	---	0.577
180	180/193	---	---	ND	---	0.577

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15875
Filename P80330A_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.577
182		---	---	ND	---	0.577
183	183/185	---	---	ND	---	0.577
184		---	---	ND	---	0.577
185	183/185	---	---	ND	---	0.577
186		---	---	ND	---	0.577
187		---	---	ND	---	0.577
188		---	---	ND	---	0.577
189		---	---	ND	---	0.577
190		---	---	ND	---	0.577
191		---	---	ND	---	0.577
192		---	---	ND	---	0.577
193	180/193	---	---	ND	---	0.577
194		---	---	ND	---	0.577
195		---	---	ND	---	0.577
196		---	---	ND	---	0.808
197	197/200	---	---	ND	---	2.89
198	198/199	---	---	ND	---	0.577
199	198/199	---	---	ND	---	0.577
200	197/200	---	---	ND	---	2.89
201		---	---	ND	---	0.577
202		---	---	ND	---	0.577
203		---	---	ND	---	0.577
204		---	---	ND	---	0.577
205		---	---	ND	---	0.577
206		---	---	ND	---	0.577
207		---	---	ND	---	0.577
208		---	---	ND	---	0.577
209		---	---	ND	---	0.577

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15875
Filename P80330A_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15876		
Filename	P80330A_04	Matrix	Water
Total Amount Extracted	831 mL	Dilution	NA
ICAL ID	P80330A02	Extracted	03/26/2008
CCal Filename(s)	P80330A_03	Analyzed	03/30/2008 18:43
Method Blank ID	BLANK-15875	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.832	83	2.0	0.648	32
3	1.0	0.827	83	2.0	0.688	34
4	1.0	0.910	91	2.0	0.721	36
15	1.0	0.862	86	2.0	1.10	55
19	1.0	0.867	87	2.0	0.843	42
37	1.0	0.918	92	2.0	1.65	82
54	1.0	0.974	97	2.0	0.994	50
81	1.0	0.911	91	2.0	2.18	109
77	1.0	0.931	93	2.0	2.13	107
104	1.0	0.871	87	2.0	1.37	68
105	1.0	0.870	87	2.0	2.32	116
114	1.0	0.903	90	2.0	2.05	103
118	1.0	0.867	87	2.0	2.28	114
123	1.0	0.841	84	2.0	2.19	110
126	1.0	0.866	87	2.0	2.50	125
155	1.0	0.893	89	2.0	1.43	72
156/157	2.0	1.76	88	4.0	4.47	112
167	1.0	0.916	92	2.0	2.11	105
169	1.0	0.949	95	2.0	2.31	116
188	1.0	0.858	86	2.0	1.66	83
189	1.0	0.992	99	2.0	2.30	115
202	1.0	0.937	94	2.0	1.84	92
205	1.0	0.915	91	2.0	2.29	115
206	1.0	0.960	96	2.0	2.00	100
208	1.0	1.00	100	2.0	2.07	104
209	1.0	0.925	93	2.0	1.89	94

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15877		
Filename	P80330A_05	Matrix	Water
Total Amount Extracted	814 mL	Dilution	NA
ICAL ID	P80403A02	Extracted	03/26/2008
CCal Filename(s)	P80330A_03	Analyzed	03/30/2008 19:45
Method Blank ID	BLANK-15875	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	0.864	86	2.0	0.438	22	P
3	1.0	0.878	88	2.0	0.387	22	P
4	1.0	1.03	123	2.0	0.523	26	P
15	1.0	1.12	112	2.0	0.726	36	
19	1.0	1.11	111	2.0	0.541	27	P
37	1.0	1.05	105	2.0	1.25	63	
54	1.0	1.10	110	2.0	0.723	36	
81	1.0	1.07	107	2.0	1.63	81	
77	1.0	1.11	111	2.0	1.57	78	
104	1.0	1.02	102	2.0	1.03	52	
105	1.0	1.02	102	2.0	1.73	86	
114	1.0	1.05	105	2.0	1.54	77	
118	1.0	1.02	102	2.0	1.72	86	
123	1.0	1.01	101	2.0	1.65	83	
126	1.0	1.03	103	2.0	1.82	91	
155	1.0	1.05	105	2.0	1.16	58	
156/157	2.0	2.05	103	4.0	3.43	86	
167	1.0	1.13	113	2.0	1.69	85	
169	1.0	1.11	111	2.0	1.74	87	
188	1.0	1.03	103	2.0	1.44	72	
189	1.0	1.17	117	2.0	1.79	90	
202	1.0	1.13	113	2.0	1.56	78	
205	1.0	1.08	108	2.0	1.80	90	
206	1.0	1.16	116	2.0	1.54	77	
208	1.0	1.19	119	2.0	1.68	84	
209	1.0	1.13	113	2.0	1.42	71	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15876	Spike 2 ID	LCSD-15877
Spike 1 Filename	P80330A_04	Spike 2 Filename	P80330A_05

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	83	86	3.6
4-MoCB	3	83	88	5.8
2,2'-DiCB	4	91	123	29.9
4,4'-DiCB	15	86	112	26.3
2,2',6-TrCB	19	87	111	24.2
3,4,4'-TrCB	37	92	105	13.2
2,2',6,6'-TeCB	54	97	110	12.6
3,3',4,4'-TeCB	77	93	111	17.6
3,4,4',5-TeCB	81	91	107	16.2
2,2',4,6,6'-PeCB	104	87	102	15.9
2,3,3',4,4'-PeCB	105	87	102	15.9
2,3,4,4',5-PeCB	114	90	105	15.4
2,3',4,4',5-PeCB	118	87	102	15.9
2,3',4,4',5'-PeCB	123	84	101	18.4
3,3',4,4',5-PeCB	126	87	103	16.8
2,2',4,4',6,6'-HxCB	155	89	105	16.5
(156/157)	156/157	88	103	15.7
2,3',4,4',5,5'-HxCB	167	92	113	20.5
3,3',4,4',5,5'-HxCB	169	95	111	15.5
2,2',3,4',5,6,6'-HpCB	188	86	103	18.0
2,3,3',4,4',5,5'-HpCB	189	99	117	16.7
2,2',3,3',5,5',6,6'-OcCB	202	94	113	18.4
2,3,3',4,4',5,5',6-OcCB	205	91	108	17.1
2,2',3,3',4,4',5,5',6-NoCB	206	96	116	18.9
2,2',3,3',4,5,5',6,6'-NoCB	208	100	119	17.4
Decachlorobiphenyl	209	93	113	19.4

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

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April 4, 2008
Sampling Event

GSI Water Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, OR 97204
P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
April 4, 2008 Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on April 4, 2008. Eight stormwater samples were collected from City Outfalls 22C, 22D, 45, 46, 47, and 53A and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
  - Total Metals – EPA 200.8
  - Total Mercury – WPCL SOP M-10.02
  - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
  - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
  - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
  - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
  - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the laboratory report QA/QC review are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs, and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with thirty exceptions, which were flagged “P” on the sample specific quality control measurements results in the laboratory report. Pace reports that target analyte concentrations associated with poorly recovered internal standards should be considered as estimated levels (possibly false negatives). Refer to the Pace report for further discussion. It is our opinion that the data are useable for the intended purpose.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs by EPA 8270C. A laboratory control sample/duplicate laboratory control sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/ duplicate laboratory control samples (LCS/LCDS) were processed during the laboratory analysis of PAHs, phthalates, and SVOCs. All laboratory control sample recoveries were within laboratory control limits. The relative percent difference (RPD) for 2,4-dimethylphenol in the replicate LCS/DLCS analysis was outside control criteria. CAS notes that because spike recoveries in the LCS/DLCS were within acceptance limits, the analytical batch was in control and no further corrective action was appropriate.

Other

The TA laboratory report for PAHs and phthalates indicates that the method reporting limits were elevated in one or more samples due to sample matrix effects.

A field decontamination blank (FDB) was collected and analyzed for metals, PAHs, phthalates, SVOCs, and PCB Congeners. Zinc was detected in the field blank at a concentration of 0.91 ug/L. The zinc result for sample FO080508 is considered biased high (less than 10 times the FDB detection). Zinc concentrations for the remaining samples are greater than 10 times the FDB concentration.

PCB congener 11 was detected at a low estimated concentration in the FDB and was also detected at low concentrations in samples FO080511, FO080512, FO080513, and FO080509. Because the PCB congener 11 concentrations in these samples are less than 5 times the FDB estimated concentration, the total PCB concentrations for these samples are considered biased slightly high.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 4/4/08
Page: 1 of 1
Collected By: DJH JSM

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C) ORION Combo*	Field: Conductivity (umhos/cm) ORION Combo*	Field: pH (pH units) ORION Combo*
FO 080507	13939 N RIVERGATE	53A-SW2	4/4/08	0730	G	●	●	●	●	●	●	9.7	229	6.8
FO 080508	6330 N. N. FRONT	22C-SW2	↓	0810	G	●	●	●	●	●	●	7.5	116	7.0
FO 080509	4899 N. PORT CENTER	47-SW2	↓	0845	G	●	●	●	●	●	●	7.7	21	7.1

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1016	Time:	Time:	Time:
Printed Name: DAVE HUTCHISON	Printed Name:	Printed Name:	Printed Name:
Date: 4/4/08	Date:	Date:	Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature:	Signature:	Signature:	Signature:
Time: 1016	Time:	Time:	Time:
Printed Name: KRIS DANTS	Printed Name:	Printed Name:	Printed Name:
Date: 4/4/08	Date:	Date:	Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 4/4/08
Page: 1 of 1
Collected By: JXB/MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080510	9030 NW St. Helens Rd	22D-SW1	4/4/08	0750	G							7.1	313	7.1
FO 080511	N. Essex & Rivers	45-SW1	4/4/08	0832	G							7.6	38	7.1
FO 080512	Union Pacific Railyard	46-SW1	4/4/08	0901	G							7.8	50	7.4
FO 080513	duplicate	DUP	4/4/08	—	G							—	—	—
FO 080514	Field decon blank	FDB	4/4/08	0855	G							—	—	—
6														
7														
8														
9														
10														

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1059	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 4/4/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 1059	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Kristy Morris Date: 4/4/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080507** **Sample Collected:** 04/04/08 07:30 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-53A-AAA170		
	13939 N RIVERGATE BLVD	**System ID:**	AM03300
Sample Point Code:	53A_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	229	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	9.7	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	246	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0403	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	24.6	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.38	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	46.1	µg/L	0.4	EPA 200.8	04/07/08
COPPER	20.2	µg/L	0.2	EPA 200.8	04/07/08
LEAD	10.7	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	6.21	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	655	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.591	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Chrysene	0.0195	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080507** **Sample Collected:** 04/04/08 07:30 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03300
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Fluoranthene	0.112	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Fluorene	0.0779	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Naphthalene	0.0309	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Phenanthrene	0.128	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Pyrene	0.0739	µg/L	0.0388	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080507 **Sample Collected:** 04/04/08 07:30 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03300
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	0.46	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	04/10/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	0.34	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	0.21	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	0.63	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	0.27	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080507** **Sample Collected:** 04/04/08 07:30 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-53A-AAA170		
	13939 N RIVERGATE BLVD	**System ID:**	AM03300
Sample Point Code:	53A_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	0.59	µg/L	0.50	EPA 8270	04/10/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08

End of Report for Sample ID: FO080507

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080508** **Sample Collected:** 04/04/08 08:10 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-22C-AAJ635 6330 NW FRONT AVE - FROM OUTFALL	**System ID:**	AM03301
Sample Point Code:	22C_SW2	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	116	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	7.5	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0061	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.09	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	0.88	µg/L	0.4	EPA 200.8	04/07/08
COPPER	1.41	µg/L	0.2	EPA 200.8	04/07/08
LEAD	0.71	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	0.78	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	5.01	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.569	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.0101	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	0.0109	µg/L	0.00971	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

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Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080508** **Sample Collected:** 04/04/08 08:10 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03301
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Fluoranthene	0.0356	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Fluorene	0.0903	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	0.0132	µg/L	0.00971	EPA 8270M-SIM	04/05/08
Naphthalene	0.0979	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Pyrene	0.0398	µg/L	0.0194	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080508** **Sample Collected:** 04/04/08 08:10 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AM03301
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	0.50	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	04/10/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080508** **Sample Collected:** 04/04/08 08:10 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-22C-AAJ635 6330 NW FRONT AVE - FROM OUTFALL	**System ID:**	AM03301
Sample Point Code:	22C_SW2	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08

End of Report for Sample ID: FO080508

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080509** **Sample Collected:** 04/04/08 08:45 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03302
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	21	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	7.7	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	150	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0190	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.05	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.37	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	8.48	µg/L	0.4	EPA 200.8	04/07/08
COPPER	22.0	µg/L	0.2	EPA 200.8	04/07/08
LEAD	18.5	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	5.39	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	156	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0200	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0200	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Anthracene	0.0202	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	<0.0500	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	0.0584	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.0971	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	0.0836	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	0.0670	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	3.29	µg/L	1.00	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	04/05/08
Chrysene	0.135	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.0500	µg/L	0.0500	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080509** **Sample Collected:** 04/04/08 08:45 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03302
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	04/05/08
Fluoranthene	0.336	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Fluorene	0.0207	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	<0.0500	µg/L	0.0500	EPA 8270M-SIM	04/05/08
Naphthalene	0.0534	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Phenanthrene	0.150	µg/L	0.0200	EPA 8270M-SIM	04/05/08
Pyrene	0.199	µg/L	0.100	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.3	µg/L	4.3	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.3	µg/L	4.3	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.22	µg/L	0.22	EPA 8270	04/10/08
2-Chloronaphthalene	<0.22	µg/L	0.22	EPA 8270	04/10/08
2-Chlorophenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
2-Methylnaphthalene	<0.22	µg/L	0.22	EPA 8270	04/10/08
2-Methylphenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
2-Nitroaniline	<0.22	µg/L	0.22	EPA 8270	04/10/08
2-Nitrophenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.2	µg/L	2.2	EPA 8270	04/10/08
3-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.2	µg/L	2.2	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
4-Chloroaniline	<0.22	µg/L	0.22	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.22	µg/L	0.22	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080509** **Sample Collected:** 04/04/08 08:45 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-47-AAT620
4299 N PORT CENTER WAY-NEAR SWAN ISL PS
Sample Point Code: 47_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03302
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
4-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	04/10/08
4-Nitrophenol	<2.2	µg/L	2.2	EPA 8270	04/10/08
Acenaphthene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Acenaphthylene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Anthracene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzo(a)anthracene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Benzoic acid	<5.3	µg/L	5.3	EPA 8270	04/10/08
Benzyl alcohol	<5.3	µg/L	5.3	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.22	µg/L	0.22	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.22	µg/L	0.22	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.22	µg/L	0.22	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	6.7	µg/L	1.1	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.22	µg/L	0.22	EPA 8270	04/10/08
Chrysene	0.22	µg/L	0.22	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Dibenzofuran	<0.22	µg/L	0.22	EPA 8270	04/10/08
Diethyl phthalate	<0.22	µg/L	0.22	EPA 8270	04/10/08
Dimethyl phthalate	<0.22	µg/L	0.22	EPA 8270	04/10/08
Di-n-butyl phthalate	0.66	µg/L	0.22	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.22	µg/L	0.22	EPA 8270	04/10/08
Fluoranthene	0.36	µg/L	0.22	EPA 8270	04/10/08
Fluorene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Hexachlorobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Hexachlorobutadiene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.1	µg/L	1.1	EPA 8270	04/10/08
Hexachloroethane	<0.22	µg/L	0.22	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Isophorone	<0.22	µg/L	0.22	EPA 8270	04/10/08
Naphthalene	<0.22	µg/L	0.22	EPA 8270	04/10/08
Nitrobenzene	<0.22	µg/L	0.22	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.22	µg/L	0.22	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080509** **Sample Collected:** 04/04/08 08:45 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-47-AAT620		
	4299 N PORT CENTER WAY-NEAR SWAN ISL PS	**System ID:**	AM03302
Sample Point Code:	47_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	DJH/JJM

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.22	µg/L	0.22	EPA 8270	04/10/08
Pentachlorophenol	<1.1	µg/L	1.1	EPA 8270	04/10/08
Phenanthrene	0.24	µg/L	0.22	EPA 8270	04/10/08
Phenol	<0.53	µg/L	0.53	EPA 8270	04/10/08
Pyrene	0.29	µg/L	0.22	EPA 8270	04/10/08

End of Report for Sample ID: FO080509

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080510** **Sample Collected:** 04/04/08 07:50 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03303
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	313	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	7.1	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	21	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0055	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.60	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.11	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	1.89	µg/L	0.4	EPA 200.8	04/07/08
COPPER	5.64	µg/L	0.2	EPA 200.8	04/07/08
LEAD	2.30	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	1.47	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	42.6	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	0.0176	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	0.0186	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.0262	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	0.0289	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	0.0149	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Chrysene	0.0331	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	04/05/08

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080510** **Sample Collected:** 04/04/08 07:50 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03303
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	04/05/08
Fluoranthene	0.0864	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	0.0140	µg/L	0.00980	EPA 8270M-SIM	04/05/08
Naphthalene	0.0634	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Phenanthrene	0.0558	µg/L	0.0196	EPA 8270M-SIM	04/05/08
Pyrene	0.0505	µg/L	0.0196	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080510** **Sample Collected:** 04/04/08 07:50 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03303
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	04/10/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	1.0	µg/L	1.0	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080510**
Sample Collected: 04/04/08 07:50
Sample Received: 04/04/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03303
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08

End of Report for Sample ID: FO080510

Report Date: 05/14/08
Validated By:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080511** **Sample Collected:** 04/04/08 08:32 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03304
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	38	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	7.6	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	148	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0403	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.74	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.73	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	24.5	µg/L	0.4	EPA 200.8	04/07/08
COPPER	35.7	µg/L	0.2	EPA 200.8	04/07/08
LEAD	24.9	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	19.7	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	536	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Anthracene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	0.0415	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	0.0467	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.0872	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	0.0672	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	0.0375	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	1.48	µg/L	0.962	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Chrysene	0.109	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

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LABORATORY ANALYSIS REPORT

Sample ID: FO080511 **Sample Collected:** 04/04/08 08:32 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03304
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Fluoranthene	0.217	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Fluorene	<0.0385	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	0.0384	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Naphthalene	0.0752	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Phenanthrene	0.147	µg/L	0.0385	EPA 8270M-SIM	04/05/08
Pyrene	0.0931	µg/L	0.0385	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	04/10/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080511** **Sample Collected:** 04/04/08 08:32 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-45-ABC319
N ESSEX & RIVER
Sample Point Code: 45_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03304
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
4-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	04/10/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	2.8	µg/L	0.97	EPA 8270	04/10/08
Butyl benzyl phthalate	0.35	µg/L	0.20	EPA 8270	04/10/08
Chrysene	0.23	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	0.22	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	0.28	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	0.38	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	0.24	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080511** **Sample Collected:** 04/04/08 08:32 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-45-ABC319		
	N ESSEX & RIVER	**System ID:**	AM03304
Sample Point Code:	45_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<0.97	µg/L	0.97	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
Pyrene	0.29	µg/L	0.20	EPA 8270	04/10/08

End of Report for Sample ID: FO080511

Report Date: 05/14/08 **Validated By:**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080512** **Sample Collected:** 04/04/08 09:01 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-46-AMR809		
	UNION PACIFIC RAILYARD	**System ID:**	AM03305
Sample Point Code:	46_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	50	µmhos/cm	1	SM 2510 B	04/04/08
pH (FIELD)	7.4	pH Units	0.1	SM 4500-H B	04/04/08
TEMPERATURE	7.8	Deg. C	0.1	SM 2550 B	04/04/08
GENERAL					
TOTAL SUSPENDED SOLIDS	230	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0189	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.25	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.63	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	12.7	µg/L	0.4	EPA 200.8	04/07/08
COPPER	36.8	µg/L	0.2	EPA 200.8	04/07/08
LEAD	22.9	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	6.56	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	389	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Anthracene	0.0568	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	0.0885	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	0.0830	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.173	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	0.113	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	0.0713	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	3.09	µg/L	0.971	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Chrysene	0.234	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	0.0203	µg/L	0.0194	EPA 8270M-SIM	04/05/08

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LABORATORY ANALYSIS REPORT

Sample ID: FO080512 **Sample Collected:** 04/04/08 09:01 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03305
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	04/05/08
Fluoranthene	0.503	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Fluorene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	0.0515	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Naphthalene	0.0824	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Phenanthrene	0.234	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Pyrene	0.186	µg/L	0.0388	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080512** **Sample Collected:** 04/04/08 09:01 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03305
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	0.37	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	0.24	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	04/10/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	4.6	µg/L	1.0	EPA 8270	04/10/08
Butyl benzyl phthalate	0.33	µg/L	0.20	EPA 8270	04/10/08
Chrysene	0.41	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	0.26	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	0.56	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080512**

Sample Collected: 04/04/08 09:01
Sample Received: 04/04/08

Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-46-AMR809
UNION PACIFIC RAILYARD
Sample Point Code: 46_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM03305
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	04/10/08
Phenanthrene	0.29	µg/L	0.20	EPA 8270	04/10/08
Phenol	0.53	µg/L	0.50	EPA 8270	04/10/08
Pyrene	0.59	µg/L	0.20	EPA 8270	04/10/08

End of Report for Sample ID: FO080512

Report Date: 05/14/08

Validated By:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080513** **Sample Collected:** 04/04/08 00:00 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03306
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	150	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	0.0342	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	1.68	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	0.73	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	24.4	µg/L	0.4	EPA 200.8	04/07/08
COPPER	36.8	µg/L	0.2	EPA 200.8	04/07/08
LEAD	25.3	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	20.1	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	540	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Anthracene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	0.0443	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	0.0506	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	0.0963	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	0.0797	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	0.0493	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	2.03	µg/L	0.971	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Chrysene	0.132	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<1.94	µg/L	1.94	EPA 8270M-SIM	04/05/08
Fluoranthene	0.218	µg/L	0.0388	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080513 **Sample Collected:** 04/04/08 00:00 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 2 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03306
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0388	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	0.0440	µg/L	0.0194	EPA 8270M-SIM	04/05/08
Naphthalene	0.0493	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Phenanthrene	0.161	µg/L	0.0388	EPA 8270M-SIM	04/05/08
Pyrene	0.102	µg/L	0.0388	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	04/10/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
4-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080513 **Sample Collected:** 04/04/08 00:00 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 3 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03306
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	04/10/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	2.2	µg/L	0.97	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	0.22	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	0.28	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	0.22	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	0.21	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<0.97	µg/L	0.97	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	<0.49	µg/L	0.49	EPA 8270	04/10/08
Pyrene	0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080513 **Sample Collected:** 04/04/08 00:00 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 4 of 4

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM03306
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO080513

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080514 **Sample Collected:** 04/04/08 08:55 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 1 of 4

System ID: AM03307
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: The result for Zinc was verified by re-analysis of a second aliquot.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	04/04/08
METALS					
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-10.02	04/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	04/07/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	04/07/08
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	04/07/08
COPPER	<0.20	µg/L	0.2	EPA 200.8	04/07/08
LEAD	<0.10	µg/L	0.1	EPA 200.8	04/07/08
NICKEL	<0.20	µg/L	0.2	EPA 200.8	04/07/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/07/08
ZINC	0.91	µg/L	0.5	EPA 200.8	04/07/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/10/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Acenaphthylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Anthracene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Benzo(a)anthracene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Benzo(a)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Benzo(b)fluoranthene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Benzo(ghi)perylene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Benzo(k)fluoranthene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Bis(2-ethylhexyl) phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Butyl benzyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Chrysene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Dibenzo(a,h)anthracene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Diethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Dimethyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Di-n-butyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Di-n-octyl phthalate	<0.962	µg/L	0.962	EPA 8270M-SIM	04/05/08
Fluoranthene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080514 **Sample Collected:** 04/04/08 08:55 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 2 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AM03307
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: The result for Zinc was verified by re-analysis of a second aliquot.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Indeno(1,2,3-cd)pyrene	<0.00962	µg/L	0.00962	EPA 8270M-SIM	04/05/08
Naphthalene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Phenanthrene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
Pyrene	<0.0192	µg/L	0.0192	EPA 8270M-SIM	04/05/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	04/10/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	04/10/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	04/10/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	04/10/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080514** **Sample Collected:** 04/04/08 08:55 **Sample Received:** 04/04/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Report Page: Page 3 of 4

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AM03307
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: The result for Zinc was verified by re-analysis of a second aliquot.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	04/10/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	04/10/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	04/10/08
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	04/10/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	04/10/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	04/10/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	04/10/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	04/10/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	04/10/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	04/10/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	04/10/08
Phenol	<0.50	µg/L	0.50	EPA 8270	04/10/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	04/10/08

Report Date: 05/14/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080514**
Sample Collected: 04/04/08 08:55
Sample Received: 04/04/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK

Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: DIWTR

System ID: AM03307
EID File # : 1020.005
LocCode: PORTHASW
Collected By: JXB/MJS

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: The result for Zinc was verified by re-analysis of a second aliquot.

Test Parameter	Result	Units	MRL	Method	Analysis Date

End of Report for Sample ID: FO080514

Report Date: 05/14/08
Validated By:

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

May 8, 2008 Analytical Report for Service Request No: K0802968

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 1000
Portland, OR 97204

RE: Portland Harbor Stormwater Samp

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on April 07, 2008. For your reference, these analyses have been assigned our service request number K0802968.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0802968
Project:	Portland Harbor Stormwater Sample	**Date Received:**	04/07/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 04/07/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for 2,4-Dimethylphenol in the replicate Laboratory Control Samples (LCS/DLCS) analyses (KWG0803303-1 and KWG0803303-2) was outside control criteria. All spike recoveries in the LCS/DLCS were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 5/13/08

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: KD802968

PAGE 1 OF 1 COC #

PROJECT NAME: PORTLAND HARBOR STORMWATER SAMP

PROJECT NUMBER:

PROJECT MANAGER: JENNIFER SHACKELFORD

COMPANY/ADDRESS: WA11 CITY OF PORTLAND BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PCP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level SVOCs EPA 8270C	PAH + Phthalates EPA 8270C-SIM			REMARKS
FO 080507	4/4/08	0730		STORM WATER	1																X					
FO 080508	"	0810		"	1																X					
FO 080509	"	0845		"	1																X					
FO 080510	"	0750		"	1																X					
FO 080511	"	0832		"	1																X					
FO 080512	"	0901		"	1																X					∞
FO 080513	"	-		"	1																X					
FO 080514	"	0855		"	1																X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. #

Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run Low-Level analysis for full 8270 list. Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Rona Klech	Printed Name:	Printed Name:	Printed Name:
Date/Time: 4/7/08 0955	Date/Time: 4/7/08 0955	Date/Time: 4/7/08	Date/Time: 4/7/08 1100
Firm: City of Portland BES	Firm: CAS	Firm:	Firm: CAS

PC Lean

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: City of Portland Service Request K08 2968

Received: 4-7-08 Opened: 4-7-08 By: DW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? CAS cooler
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** _____ _____ _____ _____
   Temperature Blank (°C): _____ _____ _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080507
Lab Code: K0802968-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Phenol	**0.59**		0.50	1	04/10/08	04/22/08	KWG0803303	
2-Chlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzyl Alcohol	ND	U	5.0	1	04/10/08	04/22/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2-Methylphenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Methylphenol†	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Isophorone	**0.27**		0.20	1	04/10/08	04/22/08	KWG0803303	
2-Nitrophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.0	1	04/10/08	04/22/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Benzoic Acid	ND	U	5.0	1	04/10/08	04/22/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Dimethyl Phthalate	**0.34**		0.20	1	04/10/08	04/22/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080507
Lab Code: K0802968-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**0.46**		0.20	1	04/10/08	04/22/08	KWG0803303	
3-Nitroaniline	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.0	1	04/10/08	04/22/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Nitroaniline	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Pentachlorophenol	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Di-n-butyl Phthalate	**0.21**		0.20	1	04/10/08	04/22/08	KWG0803303	
Fluoranthene	**0.63**		0.20	1	04/10/08	04/22/08	KWG0803303	
Pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080507
Lab Code: K0802968-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	77	21-119	04/22/08	Acceptable
Phenol-d6	79	31-121	04/22/08	Acceptable
Nitrobenzene-d5	78	29-121	04/22/08	Acceptable
2-Fluorobiphenyl	80	25-109	04/22/08	Acceptable
2,4,6-Tribromophenol	92	30-131	04/22/08	Acceptable
Terphenyl-d14	61	20-140	04/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080508
Lab Code: K0802968-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Phenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2-Chlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzyl Alcohol	ND	U	5.0	1	04/10/08	04/22/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2-Methylphenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Methylphenol†	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2-Nitrophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.0	1	04/10/08	04/22/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
Benzoic Acid	ND	U	5.0	1	04/10/08	04/22/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.50	1	04/10/08	04/22/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080508
Lab Code: K0802968-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**0.50**		0.20	1	04/10/08	04/22/08	KWG0803303	
3-Nitroaniline	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.0	1	04/10/08	04/22/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Nitroaniline	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Pentachlorophenol	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Di-n-butyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Fluoranthene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/22/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	04/10/08	04/22/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/22/08	KWG0803303	

Comments:

Client:	Portland, City of	**Service Request:**	K0802968
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	04/04/2008
Sample Matrix:	Water	**Date Received:**	04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080508	**Units:**	ug/L
Lab Code:	K0802968-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	21-119	04/22/08	Acceptable
Phenol-d6	69	31-121	04/22/08	Acceptable
Nitrobenzene-d5	67	29-121	04/22/08	Acceptable
2-Fluorobiphenyl	70	25-109	04/22/08	Acceptable
2,4,6-Tribromophenol	88	30-131	04/22/08	Acceptable
Terphenyl-d14	84	20-140	04/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080509
Lab Code: K0802968-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Phenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
2-Chlorophenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Benzyl Alcohol	ND	U	5.3	1	04/10/08	04/24/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
2-Methylphenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
Hexachloroethane	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Methylphenol†	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
Nitrobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Isophorone	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
2-Nitrophenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.3	1	04/10/08	04/24/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
Benzoic Acid	ND	U	5.3	1	04/10/08	04/24/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Naphthalene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Chloroaniline	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.1	1	04/10/08	04/24/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.53	1	04/10/08	04/24/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
2-Nitroaniline	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Acenaphthylene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	

Comments:

Client:	Portland, City of	**Service Request:**	K0802968
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	04/04/2008
Sample Matrix:	Water	**Date Received:**	04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080509	**Units:**	ug/L
Lab Code:	K0802968-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
3-Nitroaniline	ND	U	1.1	1	04/10/08	04/24/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.3	1	04/10/08	04/24/08	KWG0803303	
Dibenzofuran	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Nitrophenol	ND	U	2.2	1	04/10/08	04/24/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Fluorene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Diethyl Phthalate	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Nitroaniline	ND	U	1.1	1	04/10/08	04/24/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.2	1	04/10/08	04/24/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Hexachlorobenzene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Pentachlorophenol	ND	U	1.1	1	04/10/08	04/24/08	KWG0803303	
Phenanthrene	**0.24**		0.22	1	04/10/08	04/24/08	KWG0803303	
Anthracene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Di-n-butyl Phthalate	**0.66**		0.22	1	04/10/08	04/24/08	KWG0803303	
Fluoranthene	**0.36**		0.22	1	04/10/08	04/24/08	KWG0803303	
Pyrene	**0.29**		0.22	1	04/10/08	04/24/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.2	1	04/10/08	04/24/08	KWG0803303	
Benz(a)anthracene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Chrysene	**0.22**		0.22	1	04/10/08	04/24/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	**6.7**		1.1	1	04/10/08	04/24/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.22	1	04/10/08	04/24/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080509
Lab Code: K0802968-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	21-119	04/24/08	Acceptable
Phenol-d6	78	31-121	04/24/08	Acceptable
Nitrobenzene-d5	71	29-121	04/24/08	Acceptable
2-Fluorobiphenyl	74	25-109	04/24/08	Acceptable
2,4,6-Tribromophenol	84	30-131	04/24/08	Acceptable
Terphenyl-d14	56	20-140	04/24/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080510
Lab Code: K0802968-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Phenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzyl Alcohol	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Methylphenol†	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitrophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Benzoic Acid	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080510
Lab Code: K0802968-004

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pentachlorophenol	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Di-n-butyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	**1.0**		1.0	1	04/10/08	04/28/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080510
Lab Code: K0802968-004

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	72	21-119	04/28/08	Acceptable
Phenol-d6	83	31-121	04/28/08	Acceptable
Nitrobenzene-d5	78	29-121	04/28/08	Acceptable
2-Fluorobiphenyl	77	25-109	04/28/08	Acceptable
2,4,6-Tribromophenol	97	30-131	04/28/08	Acceptable
Terphenyl-d14	83	20-140	04/28/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080511
Lab Code: K0802968-005

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Phenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Chlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzyl Alcohol	ND	U	4.9	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Methylphenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Methylphenol†	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitrophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2,4-Dimethylphenol	ND	U	3.9	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Benzoic Acid	ND	U	4.9	1	04/10/08	04/28/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dimethyl Phthalate	**0.28**		0.20	1	04/10/08	04/28/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client:	Portland, City of	**Service Request:**	K0802968
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	04/04/2008
Sample Matrix:	Water	**Date Received:**	04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080511	**Units:**	ug/L
Lab Code:	K0802968-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3-Nitroaniline	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrophenol	ND	U	3.9	1	04/10/08	04/28/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Diethyl Phthalate	**0.22**		0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitroaniline	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pentachlorophenol	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Di-n-butyl Phthalate	**0.38**		0.20	1	04/10/08	04/28/08	KWG0803303	
Fluoranthene	**0.24**		0.20	1	04/10/08	04/28/08	KWG0803303	
Pyrene	**0.29**		0.20	1	04/10/08	04/28/08	KWG0803303	
Butyl Benzyl Phthalate	**0.35**		0.20	1	04/10/08	04/28/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Chrysene	**0.23**		0.20	1	04/10/08	04/28/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	**2.8**		0.97	1	04/10/08	04/28/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080511
Lab Code: K0802968-005

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	72	21-119	04/28/08	Acceptable
Phenol-d6	83	31-121	04/28/08	Acceptable
Nitrobenzene-d5	80	29-121	04/28/08	Acceptable
2-Fluorobiphenyl	67	25-109	04/28/08	Acceptable
2,4,6-Tribromophenol	84	30-131	04/28/08	Acceptable
Terphenyl-d14	69	20-140	04/28/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080512
Lab Code: K0802968-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Phenol	**0.53**		0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzyl Alcohol	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Methylphenol†	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitrophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Benzoic Acid	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080512
Lab Code: K0802968-006

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pentachlorophenol	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
Phenanthrene	**0.29**		0.20	1	04/10/08	04/28/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Di-n-butyl Phthalate	**0.26**		0.20	1	04/10/08	04/28/08	KWG0803303	
Fluoranthene	**0.56**		0.20	1	04/10/08	04/28/08	KWG0803303	
Pyrene	**0.59**		0.20	1	04/10/08	04/28/08	KWG0803303	
Butyl Benzyl Phthalate	**0.33**		0.20	1	04/10/08	04/28/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Chrysene	**0.41**		0.20	1	04/10/08	04/28/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	**4.6**		1.0	1	04/10/08	04/28/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(b)fluoranthene	**0.37**		0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(g,h,i)perylene	**0.24**		0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client:	Portland, City of	**Service Request:**	K0802968
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	04/04/2008
Sample Matrix:	Water	**Date Received:**	04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080512	**Units:**	ug/L
Lab Code:	K0802968-006	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	21-119	04/28/08	Acceptable
Phenol-d6	89	31-121	04/28/08	Acceptable
Nitrobenzene-d5	83	29-121	04/28/08	Acceptable
2-Fluorobiphenyl	70	25-109	04/28/08	Acceptable
2,4,6-Tribromophenol	89	30-131	04/28/08	Acceptable
Terphenyl-d14	72	20-140	04/28/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080513
Lab Code: K0802968-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Phenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Chlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzyl Alcohol	ND	U	4.9	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Methylphenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Methylphenol†	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitrophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2,4-Dimethylphenol	ND	U	3.9	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
Benzoic Acid	ND	U	4.9	1	04/10/08	04/28/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.49	1	04/10/08	04/28/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dimethyl Phthalate	**0.28**		0.20	1	04/10/08	04/28/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080513
Lab Code: K0802968-007

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3-Nitroaniline	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrophenol	ND	U	3.9	1	04/10/08	04/28/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Diethyl Phthalate	**0.22**		0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitroaniline	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pentachlorophenol	ND	U	0.97	1	04/10/08	04/28/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Di-n-butyl Phthalate	**0.22**		0.20	1	04/10/08	04/28/08	KWG0803303	
Fluoranthene	**0.21**		0.20	1	04/10/08	04/28/08	KWG0803303	
Pyrene	**0.20**		0.20	1	04/10/08	04/28/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	**2.2**		0.97	1	04/10/08	04/28/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080513
Lab Code: K0802968-007

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	74	21-119	04/28/08	Acceptable
Phenol-d6	86	31-121	04/28/08	Acceptable
Nitrobenzene-d5	82	29-121	04/28/08	Acceptable
2-Fluorobiphenyl	70	25-109	04/28/08	Acceptable
2,4,6-Tribromophenol	87	30-131	04/28/08	Acceptable
Terphenyl-d14	57	20-140	04/28/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0802968
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	04/04/2008
Sample Matrix:	Water	**Date Received:**	04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080514	**Units:**	ug/L
Lab Code:	K0802968-008	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Phenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzyl Alcohol	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Methylphenol†	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitrophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4-Dimethylphenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
Benzoic Acid	ND	U	5.0	1	04/10/08	04/28/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.50	1	04/10/08	04/28/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080514
Lab Code: K0802968-008

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrophenol	ND	U	4.0	1	04/10/08	04/28/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Nitroaniline	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pentachlorophenol	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Di-n-butyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/28/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	04/10/08	04/28/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/28/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: 04/04/2008
Date Received: 04/07/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080514
Lab Code: K0802968-008

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	64	21-119	04/28/08	Acceptable
Phenol-d6	75	31-121	04/28/08	Acceptable
Nitrobenzene-d5	83	29-121	04/28/08	Acceptable
2-Fluorobiphenyl	73	25-109	04/28/08	Acceptable
2,4,6-Tribromophenol	54	30-131	04/28/08	Acceptable
Terphenyl-d14	84	20-140	04/28/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0803303-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Phenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
2-Chlorophenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
1,3-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
1,4-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
1,2-Dichlorobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Benzyl Alcohol	ND	U	4.9	1	04/10/08	04/21/08	KWG0803303	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
2-Methylphenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
Hexachloroethane	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Methylphenol†	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
Nitrobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Isophorone	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
2-Nitrophenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
2,4-Dimethylphenol	ND	U	3.9	1	04/10/08	04/21/08	KWG0803303	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
2,4-Dichlorophenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
Benzoic Acid	ND	U	4.9	1	04/10/08	04/21/08	KWG0803303	
1,2,4-Trichlorobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Naphthalene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Chloroaniline	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Hexachlorobutadiene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Chloro-3-methylphenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
2-Methylnaphthalene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Hexachlorocyclopentadiene	ND	U	0.97	1	04/10/08	04/21/08	KWG0803303	
2,4,6-Trichlorophenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
2,4,5-Trichlorophenol	ND	U	0.49	1	04/10/08	04/21/08	KWG0803303	
2-Chloronaphthalene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
2-Nitroaniline	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Acenaphthylene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Dimethyl Phthalate	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
2,6-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0803303-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
3-Nitroaniline	ND	U	0.97	1	04/10/08	04/21/08	KWG0803303	
2,4-Dinitrophenol	ND	U	3.9	1	04/10/08	04/21/08	KWG0803303	
Dibenzofuran	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Nitrophenol	ND	U	2.0	1	04/10/08	04/21/08	KWG0803303	
2,4-Dinitrotoluene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Fluorene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Diethyl Phthalate	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Nitroaniline	ND	U	0.97	1	04/10/08	04/21/08	KWG0803303	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	04/10/08	04/21/08	KWG0803303	
N-Nitrosodiphenylamine	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Hexachlorobenzene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Pentachlorophenol	ND	U	0.97	1	04/10/08	04/21/08	KWG0803303	
Phenanthrene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Anthracene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Di-n-butyl Phthalate	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Fluoranthene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Pyrene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Butyl Benzyl Phthalate	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
3,3'-Dichlorobenzidine	ND	U	2.0	1	04/10/08	04/21/08	KWG0803303	
Benz(a)anthracene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Chrysene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Bis(2-ethylhexyl) Phthalate	ND	U	0.97	1	04/10/08	04/21/08	KWG0803303	
Di-n-octyl Phthalate	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Benzo(b)fluoranthene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Benzo(k)fluoranthene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Benzo(a)pyrene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Dibenz(a,h)anthracene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	
Benzo(g,h,i)perylene	ND	U	0.20	1	04/10/08	04/21/08	KWG0803303	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0803303-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	73	21-119	04/21/08	Acceptable
Phenol-d6	74	31-121	04/21/08	Acceptable
Nitrobenzene-d5	76	29-121	04/21/08	Acceptable
2-Fluorobiphenyl	70	25-109	04/21/08	Acceptable
2,4,6-Tribromophenol	75	30-131	04/21/08	Acceptable
Terphenyl-d14	86	20-140	04/21/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080507	K0802968-001	77	79	78	80	92	61
FO 080508	K0802968-002	66	69	67	70	88	84
FO 080509	K0802968-003	66	78	71	74	84	56
FO 080510	K0802968-004	72	83	78	77	97	83
FO 080511	K0802968-005	72	83	80	67	84	69
FO 080512	K0802968-006	82	89	83	70	89	72
FO 080513	K0802968-007	74	86	82	70	87	57
FO 080514	K0802968-008	64	75	83	73	54	84
Method Blank	KWG0803303-3	73	74	76	70	75	86
Lab Control Sample	KWG0803303-1	76	74	75	71	88	83
Duplicate Lab Control Sample	KWG0803303-2	79	77	80	76	96	87

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	21-119	Sur5 = 2,4,6-Tribromophenol	30-131
Sur2 = Phenol-d6	31-121	Sur6 = Terphenyl-d14	20-140
Sur3 = Nitrobenzene-d5	29-121		
Sur4 = 2-Fluorobiphenyl	25-109		

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Extracted: 04/10/2008
Date Analyzed: 04/21/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0803303

	Lab Control Sample KWG0803303-1 Lab Control Spike			Duplicate Lab Control Sample KWG0803303-2 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**		**RPD Limit**
Bis(2-chloroethyl) Ether	3.53	5.00	71	3.61	5.00	72	39-115	2		30
Phenol	3.69	5.00	74	3.84	5.00	77	39-117	4		30
2-Chlorophenol	3.86	5.00	77	3.91	5.00	78	40-113	1		30
1,3-Dichlorobenzene	2.32	5.00	46	2.12	5.00	42	18-71	9		30
1,4-Dichlorobenzene	2.34	5.00	47	2.28	5.00	46	19-73	3		30
1,2-Dichlorobenzene	2.54	5.00	51	2.53	5.00	51	22-78	0		30
Benzyl Alcohol	3.73	5.00	75	3.78	5.00	76	37-119	1		30
Bis(2-chloroisopropyl) Ether	3.28	5.00	66	3.31	5.00	66	35-113	1		30
2-Methylphenol	3.26	5.00	65	3.58	5.00	72	26-113	9		30
Hexachloroethane	1.80	5.00	36	1.61	5.00	32	11-62	11		30
N-Nitrosodi-n-propylamine	3.52	5.00	70	3.69	5.00	74	32-117	5		30
4-Methylphenol	3.42	5.00	68	3.76	5.00	75	25-118	9		30
Nitrobenzene	3.62	5.00	72	3.68	5.00	74	37-116	2		30
Isophorone	3.73	5.00	75	3.89	5.00	78	39-112	4		30
2-Nitrophenol	4.33	5.00	87	4.34	5.00	87	42-116	0		30
2,4-Dimethylphenol	2.31	5.00	46	3.15	5.00	63	10-113	31	*	30
Bis(2-chloroethoxy)methane	3.89	5.00	78	3.99	5.00	80	40-113	3		30
2,4-Dichlorophenol	3.95	5.00	79	4.17	5.00	83	39-115	5		30
Benzoic Acid	4.36	15.0	29	4.19	15.0	28	10-102	4		30
1,2,4-Trichlorobenzene	2.68	5.00	54	2.63	5.00	53	21-78	2		30
Naphthalene	3.30	5.00	66	3.51	5.00	70	33-98	6		30
4-Chloroaniline	3.19	5.00	64	3.89	5.00	78	10-119	20		30
Hexachlorobutadiene	2.12	5.00	42	1.61	5.00	32	10-61	27		30
4-Chloro-3-methylphenol	4.01	5.00	80	4.19	5.00	84	37-119	4		30
2-Methylnaphthalene	3.21	5.00	64	3.29	5.00	66	32-95	2		30
Hexachlorocyclopentadiene	1.12	5.00	22	0.938	5.00	19	10-39	18		30
2,4,6-Trichlorophenol	4.00	5.00	80	4.27	5.00	85	40-117	7		30
2,4,5-Trichlorophenol	4.02	5.00	80	4.19	5.00	84	44-116	4		30
2-Chloronaphthalene	3.17	5.00	63	3.20	5.00	64	21-115	1		30
2-Nitroaniline	3.94	5.00	79	4.16	5.00	83	43-124	5		30
Acenaphthylene	3.58	5.00	72	3.77	5.00	75	41-114	5		30
Dimethyl Phthalate	3.97	5.00	79	4.08	5.00	82	47-117	3		30
2,6-Dinitrotoluene	4.14	5.00	83	4.39	5.00	88	45-120	6		30
Acenaphthene	3.59	5.00	72	3.75	5.00	75	38-106	4		30
3-Nitroaniline	4.08	5.00	82	4.18	5.00	84	31-125	2		30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0802968
Date Extracted: 04/10/2008
Date Analyzed: 04/21/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0803303

Analyte Name	Lab Control Sample KWG0803303-1 Lab Control Spike Result	Expected	%Rec	Duplicate Lab Control Sample KWG0803303-2 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD	RPD Limit
2,4-Dinitrophenol	2.99	5.00	60	2.83	5.00	57	10-121	5	30
Dibenzofuran	3.72	5.00	74	3.86	5.00	77	40-107	4	30
4-Nitrophenol	3.95	5.00	79	3.99	5.00	80	43-133	1	30
2,4-Dinitrotoluene	4.25	5.00	85	4.38	5.00	88	47-125	3	30
Fluorene	3.79	5.00	76	3.89	5.00	78	40-112	3	30
4-Chlorophenyl Phenyl Ether	3.67	5.00	73	3.73	5.00	75	39-108	2	30
Diethyl Phthalate	4.00	5.00	80	4.13	5.00	83	47-120	3	30
4-Nitroaniline	4.04	5.00	81	4.24	5.00	85	36-128	5	30
2-Methyl-4,6-dinitrophenol	3.93	5.00	79	4.17	5.00	83	19-127	6	30
N-Nitrosodiphenylamine	3.66	5.00	73	3.86	5.00	77	36-114	5	30
4-Bromophenyl Phenyl Ether	3.91	5.00	78	4.08	5.00	82	43-110	4	30
Hexachlorobenzene	3.68	5.00	74	3.70	5.00	74	42-107	1	30
Pentachlorophenol	3.96	5.00	79	3.96	5.00	79	28-114	0	30
Phenanthrene	3.63	5.00	73	3.80	5.00	76	43-110	5	30
Anthracene	3.56	5.00	71	3.79	5.00	76	40-110	6	30
Di-n-butyl Phthalate	3.92	5.00	78	4.12	5.00	82	45-135	5	30
Fluoranthene	3.77	5.00	75	3.84	5.00	77	42-119	2	30
Pyrene	3.75	5.00	75	3.83	5.00	77	43-118	2	30
Butyl Benzyl Phthalate	3.98	5.00	80	4.06	5.00	81	48-124	2	30
3,3'-Dichlorobenzidine	3.62	5.00	72	3.90	5.00	78	15-108	7	30
Benz(a)anthracene	3.85	5.00	77	3.84	5.00	77	45-112	0	30
Chrysene	3.85	5.00	77	3.83	5.00	77	47-112	0	30
Bis(2-ethylhexyl) Phthalate	4.08	5.00	82	4.14	5.00	83	32-149	2	30
Di-n-octyl Phthalate	4.31	5.00	86	4.23	5.00	85	49-127	2	30
Benzo(b)fluoranthene	3.87	5.00	77	3.79	5.00	76	45-115	2	30
Benzo(k)fluoranthene	4.03	5.00	81	3.83	5.00	77	46-115	5	30
Benzo(a)pyrene	4.16	5.00	83	4.03	5.00	81	40-117	3	30
Indeno(1,2,3-cd)pyrene	3.94	5.00	79	3.82	5.00	76	44-119	3	30
Dibenz(a,h)anthracene	4.01	5.00	80	3.88	5.00	78	45-118	3	30
Benzo(g,h,i)perylene	3.97	5.00	79	3.91	5.00	78	45-116	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

April 30, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 04/04/08 13:20. The following list is a summary of the Work Orders contained in this report, generated on 04/30/08 15:47.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRD0178	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080507	PRD0178-01	Water	04/04/08 07:30	04/04/08 13:20
FO 080508	PRD0178-02	Water	04/04/08 08:10	04/04/08 13:20
FO 080509	PRD0178-03	Water	04/04/08 08:45	04/04/08 13:20
FO 080510	PRD0178-04	Water	04/04/08 07:50	04/04/08 13:20
FO 080511	PRD0178-05	Water	04/04/08 08:32	04/04/08 13:20
FO 080512	PRD0178-06	Water	04/04/08 09:01	04/04/08 13:20
FO 080513	PRD0178-07	Water	04/04/08 00:00	04/04/08 13:20
FO 080514	PRD0178-08	Water	04/04/08 08:55	04/04/08 13:20

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-01 (FO 080507)		**Water**				**Sampled: 04/04/08 07:30**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**0.585**	*0.511*	0.971	ug/l	1x	8040211	04/05/08 12:45	04/08/08 22:24	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	**0.591**	*0.0194*	0.0194	"	"	"	"	04/10/08 23:52	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.0194*	0.0194	"	2x	"	"	04/11/08 14:37	**RL1**
Benzo (a) pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	**RL1**
Benzo (b) fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	**RL1**
Benzo (ghi) perylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Benzo (k) fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	**RL1**
Chrysene	"	**0.0195**	*0.0194*	0.0194	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.112**	*0.0194*	0.0194	"	1x	"	"	04/10/08 23:52	
Fluorene	"	**0.0779**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.0194*	0.0194	"	2x	"	"	04/11/08 14:37	**RL1**
Naphthalene	"	**0.0309**	*0.0194*	0.0194	"	1x	"	"	04/10/08 23:52	
Phenanthrene	"	**0.128**	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	**0.0739**	*0.0388*	0.0388	"	2x	"	"	04/11/08 14:37	
Surrogate(s): Fluorene-d10			*102%*		*25 - 125 %*	*1x*			*04/10/08 23:52*	
Pyrene-d10			*56.5%*		*23 - 150 %*	*2x*			*04/11/08 14:37*	
Benzo (a) pyrene-d12			*46.8%*		*10 - 125 %*	*"*			*"*	
PRD0178-02 (FO 080508)		**Water**				**Sampled: 04/04/08 08:10**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**0.568**	*0.511*	0.971	ug/l	1x	8040211	04/05/08 12:45	04/08/08 22:56	**J**
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	**0.569**	*0.0194*	0.0194	"	"	"	"	04/11/08 14:08	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0101**	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-02 (FO 080508)		**Water**			**Sampled: 04/04/08 08:10**					
Chrysene	EPA 8270m	ND	*0.00971*	0.00971	ug/l	1x	8040211	04/05/08 12:45	04/11/08 14:08	
Dibenzo (a,h) anthracene	"	**0.0109**	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.0356**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.0903**	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0132**	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0979**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	**0.0398**	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*98.1%*		*25 - 125 %*	"			"	
Pyrene-d10			*86.1%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*79.7%*		*10 - 125 %*	"			"	
PRD0178-03 (FO 080509)		**Water**			**Sampled: 04/04/08 08:45**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**3.29**	*0.526*	1.00	ug/l	1x	8040211	04/05/08 12:45	04/09/08 00:01	
Butyl benzyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.526*	1.00	"	"	"	"	"	
Acenaphthene	"	ND	*0.0200*	0.0200	"	"	"	"	04/11/08 04:09	
Acenaphthylene	"	ND	*0.0200*	0.0200	"	"	"	"	"	
Anthracene	"	**0.0202**	*0.0200*	0.0200	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.0500*	0.0500	"	5x	"	"	04/10/08 20:58	**RL1**
Benzo (a) pyrene	"	**0.0584**	*0.0500*	0.0500	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0971**	*0.0500*	0.0500	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0836**	*0.0500*	0.0500	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0670**	*0.0500*	0.0500	"	"	"	"	"	
Chrysene	"	**0.135**	*0.0500*	0.0500	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0500*	0.0500	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.336**	*0.0200*	0.0200	"	1x	"	"	04/11/08 04:09	
Fluorene	"	**0.0207**	*0.0200*	0.0200	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.0500*	0.0500	"	5x	"	"	04/10/08 20:58	**RL1**
Naphthalene	"	**0.0534**	*0.0200*	0.0200	"	1x	"	"	04/11/08 04:09	
Phenanthrene	"	**0.150**	*0.0200*	0.0200	"	"	"	"	"	
Pyrene	"	**0.199**	*0.100*	0.100	"	5x	"	"	04/10/08 20:58	
Surrogate(s): Fluorene-d10			*93.9%*		*25 - 125 %*	*1x*			*04/11/08 04:09*	
Pyrene-d10			*87.7%*		*23 - 150 %*	*5x*			*04/10/08 20:58*	
Benzo (a) pyrene-d12			*77.6%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-04 (FO 080510)		**Water**			**Sampled: 04/04/08 07:50**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**0.700**	*0.516*	0.980	ug/l	1x	8040211	04/05/08 12:45	04/08/08 23:29	**J**
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Acenaphthene	"	ND	*0.0196*	0.0196	"	"	"	"	04/12/08 17:12	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0176**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0186**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0262**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0289**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0149**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0331**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.0864**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0140**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	**0.0634**	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0558**	*0.0196*	0.0196	"	"	"	"	"	
Pyrene	"	**0.0505**	*0.0196*	0.0196	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*104%*		*25 - 125 %*	"			"	
Pyrene-d10			*63.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*94.7%*		*10 - 125 %*	"			"	
PRD0178-05 (FO 080511)		**Water**			**Sampled: 04/04/08 08:32**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**1.48**	*0.506*	0.962	ug/l	1x	8040211	04/05/08 12:45	04/09/08 00:33	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Acenaphthene	"	ND	*0.0385*	0.0385	"	2x	"	"	04/12/08 17:42	**RL1**
Acenaphthylene	"	ND	*0.0385*	0.0385	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0385*	0.0385	"	"	"	"	"	**RL1**
Benzo (a) anthracene	"	**0.0415**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0467**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0872**	*0.0192*	0.0192	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0672**	*0.0385*	0.0385	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0375**	*0.0192*	0.0192	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-05 (FO 080511)		**Water**			**Sampled: 04/04/08 08:32**					
Chrysene	EPA 8270m	**0.109**	*0.0192*	0.0192	ug/l	2x	8040211	04/05/08 12:45	04/12/08 17:42	
Dibenzo (a,h) anthracene	"	ND	*0.0192*	0.0192	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.217**	*0.0385*	0.0385	"	"	"	"	"	
Fluorene	"	ND	*0.0385*	0.0385	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.0384**	*0.0192*	0.0192	"	"	"	"	"	
Naphthalene	"	**0.0752**	*0.0385*	0.0385	"	"	"	"	"	
Phenanthrene	"	**0.147**	*0.0385*	0.0385	"	"	"	"	"	
Pyrene	"	**0.0931**	*0.0385*	0.0385	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*72.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*37.5%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*43.4%*		*10 - 125 %*	"			"	
PRD0178-06 (FO 080512)		**Water**			**Sampled: 04/04/08 09:01**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**3.09**	*0.511*	0.971	ug/l	1x	8040211	04/05/08 12:45	04/09/08 01:06	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.02*	1.94	"	2x	"	"	04/10/08 05:53	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	1x	"	"	04/09/08 01:06	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0388*	0.0388	"	2x	"	"	04/12/08 16:11	**RL1**
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Anthracene	"	**0.0568**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0885**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0830**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.173**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.113**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0713**	*0.0194*	0.0194	"	"	"	"	"	
Chrysene	"	**0.234**	*0.0194*	0.0194	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0203**	*0.0194*	0.0194	"	"	"	"	"	
Fluoranthene	"	**0.503**	*0.0388*	0.0388	"	"	"	"	"	
Fluorene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.0515**	*0.0194*	0.0194	"	"	"	"	"	
Naphthalene	"	**0.0824**	*0.0388*	0.0388	"	"	"	"	"	
Phenanthrene	"	**0.234**	*0.0388*	0.0388	"	"	"	"	"	
Pyrene	"	**0.186**	*0.0388*	0.0388	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*73.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*42.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*75.9%*		*10 - 125 %*	"			"	

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-07 (FO 080513)		**Water**			**Sampled: 04/04/08 00:00**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.03**	*0.511*	0.971	ug/l	1x	8040211	04/05/08 12:45	04/09/08 01:38	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.02*	1.94	"	2x	"	"	04/10/08 05:20	**RL1**
Diethyl phthalate	"	ND	*0.511*	0.971	"	1x	"	"	04/09/08 01:38	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0388*	0.0388	"	2x	"	"	04/12/08 16:41	**RL1**
Acenaphthylene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Anthracene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Benzo (a) anthracene	"	**0.0443**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0506**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0963**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0797**	*0.0388*	0.0388	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0493**	*0.0194*	0.0194	"	"	"	"	"	
Chrysene	"	**0.132**	*0.0194*	0.0194	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.218**	*0.0388*	0.0388	"	"	"	"	"	
Fluorene	"	ND	*0.0388*	0.0388	"	"	"	"	"	**RL1**
Indeno (1,2,3-cd) pyrene	"	**0.0440**	*0.0194*	0.0194	"	"	"	"	"	
Naphthalene	"	**0.0493**	*0.0388*	0.0388	"	"	"	"	"	
Phenanthrene	"	**0.161**	*0.0388*	0.0388	"	"	"	"	"	
Pyrene	"	**0.102**	*0.0388*	0.0388	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*74.2%*		*25 - 125 %*	"			"	
Pyrene-d10			*43.9%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*60.4%*		*10 - 125 %*	"			"	
PRD0178-08 (FO 080514)		**Water**			**Sampled: 04/04/08 08:55**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.506*	0.962	ug/l	1x	8040211	04/05/08 12:45	04/08/08 21:51	
Butyl benzyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.506*	0.962	"	"	"	"	"	
Acenaphthene	"	ND	*0.0192*	0.0192	"	"	"	"	04/08/08 02:51	
Acenaphthylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Anthracene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00962*	0.00962	"	"	"	"	"	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRD0178-08 (FO 080514)		**Water**			**Sampled: 04/04/08 08:55**					
Chrysene	EPA 8270m	ND	*0.00962*	0.00962	ug/l	1x	8040211	04/05/08 12:45	04/08/08 02:51	
Dibenzo (a,h) anthracene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Fluoranthene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Fluorene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00962*	0.00962	"	"	"	"	"	
Naphthalene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Phenanthrene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Pyrene	"	ND	*0.0192*	0.0192	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*105%*		*25 - 125 %*	"			"	
Pyrene-d10			*111%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*103%*		*10 - 125 %*	"			"	

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8040211 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8040211-BLK1)									**Extracted: 04/05/08 12:45**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	0.526	1.00	ug/l	1x	--	--	--	--	--	--	04/08/08 16:25	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	04/08/08 11:13	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 84.0%*			*Limits: 25-125%*	"							*04/08/08 11:13*	
Pyrene-d10		*58.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*89.7%*			*10-125%*	"							"	
LCS (8040211-BS1)									**Extracted: 04/05/08 12:45**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.64	1.05	2.00	ug/l	2x	--	4.00	91.1%	(20-150)	--	--	04/08/08 18:03	
Butyl benzyl phthalate	"	3.16	1.05	2.00	"	"	--	"	78.9%	"	--	--	"	
Di-n-butyl phthalate	"	3.29	1.05	2.00	"	"	--	"	82.3%	"	--	--	"	
Di-n-octyl phthalate	"	3.03	1.05	2.00	"	"	--	"	75.8%	"	--	--	"	
Diethyl phthalate	"	3.16	1.05	2.00	"	"	--	"	79.1%	"	--	--	"	
Dimethyl phthalate	"	3.21	1.05	2.00	"	"	--	"	80.3%	"	--	--	"	
Acenaphthene	"	2.35	0.0400	0.0400	"	"	--	2.50	94.0%	(35-120)	--	--	04/08/08 01:50	
Acenaphthylene	"	2.34	0.0400	0.0400	"	"	--	"	93.6%	(34-116)	--	--	"	
Anthracene	"	2.54	0.0400	0.0400	"	"	--	"	102%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.32	0.0200	0.0200	"	"	--	"	92.9%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.38	0.0200	0.0200	"	"	--	"	95.1%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.67	0.0200	0.0200	"	"	--	"	107%	(37-131)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8040211 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8040211-BS1)									**Extracted: 04/05/08 12:45**					
Benzo (ghi) perylene	EPA 8270m	1.87	0.0400	0.0400	ug/l	2x	--	2.50	74.6%	(26-126)	--	--	04/08/08 01:50	
Benzo (k) fluoranthene	"	2.51	0.0200	0.0200	"	"	--	"	101%	(18-145)	--	--	"	
Chrysene	"	2.36	0.0200	0.0200	"	"	--	"	94.5%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.97	0.0200	0.0200	"	"	--	"	78.7%	(20-141)	--	--	"	
Fluoranthene	"	2.40	0.0400	0.0400	"	"	--	"	96.0%	(31-125)	--	--	"	
Fluorene	"	2.27	0.0400	0.0400	"	"	--	"	90.9%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	1.94	0.0200	0.0200	"	"	--	"	77.7%	(30-135)	--	--	"	
Naphthalene	"	2.37	0.0400	0.0400	"	"	--	"	94.8%	(30-113)	--	--	"	
Phenanthrene	"	2.26	0.0400	0.0400	"	"	--	"	90.3%	(34-126)	--	--	"	
Pyrene	"	2.37	0.0400	0.0400	"	"	--	"	94.9%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 88.7%*			*Limits: 25-125%*	"							*04/08/08 01:50*	
Pyrene-d10		*94.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*94.0%*			*10-125%*	"							"	
LCS Dup (8040211-BSD1)									**Extracted: 04/05/08 12:45**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.68	1.05	2.00	ug/l	2x	--	4.00	92.0%	(20-150)	1.02%	(50)	04/08/08 18:36	
Butyl benzyl phthalate	"	3.25	1.05	2.00	"	"	--	"	81.3%	"	3.02%	"	"	
Di-n-butyl phthalate	"	3.30	1.05	2.00	"	"	--	"	82.6%	"	0.341%	"	"	
Di-n-octyl phthalate	"	3.17	1.05	2.00	"	"	--	"	79.2%	"	4.39%	"	"	
Diethyl phthalate	"	3.15	1.05	2.00	"	"	--	"	78.7%	"	0.452%	"	"	
Dimethyl phthalate	"	3.19	1.05	2.00	"	"	--	"	79.6%	"	0.786%	"	"	
Acenaphthene	"	2.15	0.0400	0.0400	"	"	--	2.50	86.1%	(35-120)	8.74%	(35)	04/08/08 02:21	
Acenaphthylene	"	2.13	0.0400	0.0400	"	"	--	"	85.1%	(34-116)	9.49%	"	"	
Anthracene	"	2.39	0.0400	0.0400	"	"	--	"	95.4%	(24-119)	6.36%	"	"	
Benzo (a) anthracene	"	2.20	0.0200	0.0200	"	"	--	"	88.2%	(36-128)	5.20%	"	"	
Benzo (a) pyrene	"	2.28	0.0200	0.0200	"	"	--	"	91.3%	(17-128)	4.08%	"	"	
Benzo (b) fluoranthene	"	2.69	0.0200	0.0200	"	"	--	"	108%	(37-131)	0.877%	"	"	
Benzo (ghi) perylene	"	1.79	0.0400	0.0400	"	"	--	"	71.4%	(26-126)	4.41%	"	"	
Benzo (k) fluoranthene	"	2.31	0.0200	0.0200	"	"	--	"	92.2%	(18-145)	8.68%	"	"	
Chrysene	"	2.23	0.0200	0.0200	"	"	--	"	89.1%	(16-137)	5.91%	"	"	
Dibenzo (a,h) anthracene	"	1.87	0.0200	0.0200	"	"	--	"	74.8%	(20-141)	5.07%	"	"	
Fluoranthene	"	2.28	0.0400	0.0400	"	"	--	"	91.4%	(31-125)	4.96%	"	"	
Fluorene	"	2.25	0.0400	0.0400	"	"	--	"	90.0%	(27-124)	1.08%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.86	0.0200	0.0200	"	"	--	"	74.4%	(30-135)	4.27%	"	"	
Naphthalene	"	2.25	0.0400	0.0400	"	"	--	"	90.0%	(30-113)	5.15%	"	"	
Phenanthrene	"	2.15	0.0400	0.0400	"	"	--	"	86.0%	(34-126)	4.84%	"	"	
Pyrene	"	2.22	0.0400	0.0400	"	"	--	"	89.0%	(21-141)	6.45%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 88.2%*			*Limits: 25-125%*	"							*04/08/08 02:21*	
Pyrene-d10		*89.1%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8040211 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8040211-BSD1)													**Extracted: 04/05/08 12:45**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 90.5%*			*Limits: 10-125%*	*2x*							*04/08/08 02:21*	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 15:47

Notes and Definitions

Report Specific Notes:

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W. International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PRD0178

CLIENT: City of Portland
INVOICE TO: Charles Lytle
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 36238
PROJECT NAME: Outfall Number Stormwater Study
PROJECT NUMBER:
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE / REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PAH+PHTHALATES (8) EPA 8270 - SIM	PCB (8) (Aroclor) 209 congeners	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO080507	4/4/08 0730	X	X	W	2		
2	FO 080508	0810	X	X	W	2		
3	FO 080509	0845	X	X	W	2		
4	FO 080510	0750	X	X	W	2		
5	FO 080511	0832	X	X	W	2		
6	FO 080512	0901	X	X	W	2		
7	FO 080513	-	X	X	W	2		
8	FO 080514	0855	X	X	W	2		
9								
10								

RELEASED BY: Sabrina Higgins FIRM: City of Portland DATE: 4/4/08 TIME: 12:20
PRINT NAME: Sabrina Higgins
RECEIVED BY: Bob F FIRM: TAP DATE: 4/4/08 TIME: 12:20
PRINT NAME: Bob F

RELEASED BY: Bob F FIRM: TAP DATE: 4/4/08 TIME: 13:20
PRINT NAME: Bob F
RECEIVED BY: Jessica Pva FIRM: TAP DATE: 4-4-08 TIME: 13:20
PRINT NAME: Jessica Pva

ADDITIONAL REMARKS: (8) USE CUSTOM PAH/PHTHALATES LIST AS FOR USC PROJECT WITH LOW LOQ'S
(8) (8) PLEASE SEND PCB 209 CONGENERS TO PACE ANALYTICAL

TEMP: 2.1

TAL-1000.0907

PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Received by: (section A) Date: 4-4-08 Time: 13:20 Initials: MP

Unpacked by: (section B) Date: 4-4-08 Initials: MP

Logged-in by: Date: 4/4/08 Initials: JI

Work Order No.: PRD0178

Client: City of Portland

Project: Portland Harbor

***ESI Clients (see Section C)

Cooler Temperature (IR): 2.1 C plastic glass NA (oil/air samples, ESI client)

Temperature Blank: _____ C

Temperature out of range:
___Not enough Ice
___No Ice
___Ice Melted
___Wlin 4 Hours
___Other

A

Custody Seals: (#____)

Signature: Y N Dated:_____

✓ None

Container Type:
- 1 #Cooler(s)
- ____#Box(s)
- ____None (___#Other:_____)

Coolant Type:
- ____Gel Ice
- ✓ Loose Ice
- ____None

Packing Material:
- ____Bubble Bags
- ____Styrofoam Cubbies
- ✓ None (____Other:_____)

Received from:
- ✓ TA Courier
- ____Senvoy
- ____UPS
- ____Fed Ex
- ____Client
- ____TDP
- ____DHL
- ____SDS
- ____Mid-Valley
- ____GS/TA
- ____GS/Senvoy
- ____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:
- Intact? Y N
- # Containers Match COC? Y N none given
- IDs Match COC? Y N

For Analyses Requested:
- Correct Type & Preservation? Y N
- Adequate Volume? Y N
- Within Hold Time? Y N

Volatiles/ Oil Quality:
- VOAs/ Syringes free of Headspace? Y N NA
- TB on COC? not provided Y N NA

Metals
- HNO3 Preserved? Y N NA
- Dissolved Metals Filtered? Y N NA

C

***ESI Clients Only:

Temperature Blank: ___ C not provided

All preserved bottles checked Y N NA (voas/soils/all unp.)

All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS Was the tracking paper keepable? YES NO

If circled NO what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments:_____

PM Reviewed:_____ (Initial/Date)

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

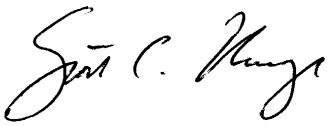
Pace Project #: 1070986
Sample Receipt Date: 04/08/2008
Client Project #: PRD0178
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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Report Prepared Date:
April 23, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on eight samples submitted by a representative of the Test America. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ppt and were corrected for the amount of sample extracted.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 0-162%. With thirty exceptions, flagged "P" on the results tables, the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Also, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained. However, target analyte concentrations associated with poorly recovered internal standards should be considered as estimated levels. The client was contacted concerning the low recoveries of selected analytes and approved the results for submission.

Selected native and labeled analytes in the extracts exhibited isotope ratios outside of the target ranges for this method and were flagged "I" on the results tables.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 95-114%, with relative percent differences of 0.9-6.8%. These results indicate high levels of accuracy and precision for this project.

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Appendix A

Sample Management

1152

SUBCONTRACT ORDER

TestAmerica Portland

PRD0178

1070986

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: 2.2 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRD0178-01	**Water**		Sampled: **04/04/08 07:30**	1070986001
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 07:30	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-02	**Water**		Sampled: **04/04/08 08:10**	002
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:10	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-03	**Water**		Sampled: **04/04/08 08:45**	003
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-04	**Water**		Sampled: **04/04/08 07:50**	004
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 07:50	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-05	**Water**		Sampled: **04/04/08 08:32**	005
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:32	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-06	**Water**		Sampled: **04/04/08 09:01**	006
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 09:01	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Released By — 4-7-08 Date/Time

Received By — 4/8/08 0945 Date/Time — T= 2.2°C

Released By — Date/Time

Received By — Date/Time

SUBCONTRACT ORDER

TestAmerica Portland

PRD0178

1070986

Analysis	Units	Due	Expires	Comments
Sample ID: PRD0178-07	**Water**		Sampled: **04/04/08 00:00**	007
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-08	**Water**		Sampled: **04/04/08 08:55**	008
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:55	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

SUBCONTRACT ORDER

TestAmerica Portland

PRD0178

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRD0178-01	**Water**		Sampled: 04/04/08 07:30	FO080507
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 07:30	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-02	**Water**		Sampled: 04/04/08 08:10	FO080508
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:10	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-03	**Water**		Sampled: 04/04/08 08:45	FO080509
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:45	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-04	**Water**		Sampled: 04/04/08 07:50	FO080510
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 07:50	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-05	**Water**		Sampled: 04/04/08 08:32	FO080511
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:32	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-06	**Water**		Sampled: 04/04/08 09:01	FO080512
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 09:01	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Released By	4-7-08 Date/Time	Received By	04/09/08 (via Fax) Date/Time
Released By	Date/Time	Received By	Date/Time

SUBCONTRACT ORDER

TestAmerica Portland

PRD0178

Analysis	Units	Due	Expires	Comments
Sample ID: PRD0178-07	**Water**		Sampled: 04/04/08 00:00	FO 080513
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 00:00	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRD0178-08	**Water**		Sampled: 04/04/08 08:55	FO 080514
1668 Coplanar PCBs - SUB	ug/l	04/17/08	10/01/08 08:55	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America-Portland Project # 1070986

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z1AE8701928184 42

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other paper

Thermometer Used 230194010, ~~72310129~~ Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.2°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and initials of person examining contents: VT 4/8/08

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☐Yes	☑No	☐N/A	12. received 2 containers for sample PRD0178-02 not indicated on C
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13. one is PRD00178-02 labeled
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 04/09/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-01 F0080507		
Lab Sample ID	1070986001		
Filename	P80411A_13		
Injected By	BPG		
Total Amount Extracted	998 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 02:00

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.893	5.30	2.0	0.00273	0	IP
13C-4-MoCB	3	12.296	3.28	2.0	0.0511	3	P
13C-2,2'-DiCB	4	12.655	1.44	2.0	0.0632	3	P
13C-4,4'-DiCB	15	20.815	1.50	2.0	0.906	45	
13C-2,2',6-TrCB	19	17.113	1.10	2.0	0.391	20	P
13C-3,4,4'-TrCB	37	29.209	1.02	2.0	1.59	79	
13C-2,2',6,6'-TeCB	54	21.177	0.80	2.0	0.794	40	
13C-3,4,4',5-TeCB	81	36.604	0.78	2.0	1.61	81	
13C-3,3',4,4'-TeCB	77	37.191	0.76	2.0	1.62	81	
13C-2,2',4,6,6'-PeCB	104	27.817	1.62	2.0	1.43	71	
13C-2,3,3',4,4'-PeCB	105	40.880	1.52	2.0	1.64	82	
13C-2,3,4,4',5-PeCB	114	40.209	1.51	2.0	1.56	78	
13C-2,3',4,4',5-PeCB	118	39.656	1.55	2.0	1.74	87	
13C-2,3',4,4',5'-PeCB	123	39.320	1.52	2.0	1.71	86	
13C-3,3',4,4',5-PeCB	126	44.083	1.50	2.0	1.47	74	
13C-2,2',4,4',6,6'-HxCB	155	34.156	1.28	2.0	1.89	94	
13C-HxCB (156/157)	156/157	47.185	1.22	4.0	3.43	86	
13C-2,3',4,4',5,5'-HxCB	167	46.011	1.22	2.0	1.73	87	
13C-3,3',4,4',5,5'-HxCB	169	50.488	1.25	2.0	1.45	72	
13C-2,2',3,4',5,6,6'-HpCB	188	40.209	1.06	2.0	2.51	125	
13C-2,3,3',4,4',5,5'-HpCB	189	53.049	1.03	2.0	1.82	91	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.743	0.92	2.0	2.28	114	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.635	0.87	2.0	2.04	102	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.381	0.77	2.0	1.93	97	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.553	0.79	2.0	1.88	94	
13C--DeCB	209	58.998	0.71	2.0	2.02	101	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.581	0.98	2.0	1.35	68	
13C-2,3,3',5,5'-PeCB	111	37.275	1.60	2.0	1.68	84	
13C-2,2',3,3',5,5',6-HpCB	178	43.362	1.06	2.0	1.70	85	
Recovery Standards							
13C-2,5-DiCB	9	15.579	1.48	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.744	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.390	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.892	1.25	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.161	0.90	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.501
2		---	---	ND	---	0.501
3		---	---	ND	---	0.501
4		---	---	ND	---	0.501
5		---	---	ND	---	0.501
6		---	---	ND	---	0.501
7		---	---	ND	---	0.501
8		---	---	ND	---	0.501
9		---	---	ND	---	0.501
10		---	---	ND	---	0.501
11		---	---	ND	---	0.601
12	12/13	---	---	ND	---	0.501
13	12/13	---	---	ND	---	0.501
14		---	---	ND	---	0.501
15		---	---	ND	---	0.501
16		---	---	ND	---	0.501
17		---	---	ND	---	0.501
18	18/30	19.665	1.05	0.895	---	0.501
19		---	---	ND	---	0.501
20	20/28	24.598	0.97	1.37	---	0.601
21	21/33	---	---	ND	---	0.501
22		---	---	ND	---	0.501
23		---	---	ND	---	0.501
24		---	---	ND	---	0.501
25		---	---	ND	---	0.501
26	26/29	---	---	ND	---	0.501
27		---	---	ND	---	0.501
28	20/28	24.598	0.97	(1.37)	---	0.601
29	26/29	---	---	ND	---	0.501
30	18/30	19.665	1.05	(0.895)	---	0.501
31		24.246	1.01	0.800	---	0.501
32		21.445	0.96	0.716	---	0.501
33	21/33	---	---	ND	---	0.501
34		---	---	ND	---	0.501
35		---	---	ND	---	0.501
36		---	---	ND	---	0.501
37		---	---	ND	---	0.501
38		---	---	ND	---	0.501
39		---	---	ND	---	0.501
40	40/41/71	29.041	0.77	0.829	---	0.501
41	40/41/71	29.041	0.77	(0.829)	---	0.501
42		---	---	ND	---	0.501
43		---	---	ND	---	0.501
44	44/47/65	27.901	0.76	1.69	---	0.601
45	45/51	---	---	ND	---	0.501
46		---	---	ND	---	0.501
47	44/47/65	27.901	0.76	(1.69)	---	0.601
48		---	---	ND	---	0.501

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.331	0.77	1.31	---	0.501
50	50/53	---	---	ND	---	0.501
51	45/51	---	---	ND	---	0.501
52		26.761	0.76	2.57	---	0.501
53	50/53	---	---	ND	---	0.501
54		---	---	ND	---	0.501
55		---	---	ND	---	0.501
56		33.233	0.72	0.591	---	0.501
57		---	---	ND	---	0.501
58		---	---	ND	---	0.501
59	59/62/75	---	---	ND	---	0.501
60		---	---	ND	---	0.501
61	61/70/74/76	32.160	0.74	2.19	---	0.501
62	59/62/75	---	---	ND	---	0.501
63		---	---	ND	---	0.501
64		29.310	0.77	0.651	---	0.501
65	44/47/65	27.901	0.76	(1.69)	---	0.601
66		32.512	0.73	1.22	---	0.501
67		---	---	ND	---	0.501
68		---	---	ND	---	0.501
69	49/69	27.331	0.77	(1.31)	---	0.501
70	61/70/74/76	32.160	0.74	(2.19)	---	0.501
71	40/41/71	29.041	0.77	(0.829)	---	0.501
72		---	---	ND	---	0.501
73		---	---	ND	---	0.501
74	61/70/74/76	32.160	0.74	(2.19)	---	0.501
75	59/62/75	---	---	ND	---	0.501
76	61/70/74/76	32.160	0.74	(2.19)	---	0.501
77		---	---	ND	---	0.501
78		---	---	ND	---	0.501
79		---	---	ND	---	0.501
80		---	---	ND	---	0.501
81		---	---	ND	---	0.501
82		---	---	ND	---	0.501
83		---	---	ND	---	0.501
84		32.361	1.59	0.971	---	0.501
85	85/116/117	---	---	ND	---	0.601
86	86/87/97/108/119/125	35.615	1.58	1.48	---	1.00
87	86/87/97/108/119/125	35.615	1.58	(1.48)	---	1.00
88	88/91	---	---	ND	---	0.501
89		---	---	ND	---	0.501
90	90/101/113	34.424	1.54	2.26	---	0.501
91	88/91	---	---	ND	---	0.501
92		---	---	ND	---	0.501
93	93/98/100/102	---	---	ND	---	0.751
94		---	---	ND	---	0.501
95		31.188	1.57	2.18	---	0.501
96		---	---	ND	---	0.501

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.615	1.58	(1.48)	---	1.00
98	93/98/100/102	---	---	ND	---	0.751
99		35.044	1.50	0.995	---	0.501
100	93/98/100/102	---	---	ND	---	0.751
101	90/101/113	34.424	1.54	(2.26)	---	0.501
102	93/98/100/102	---	---	ND	---	0.751
103		---	---	ND	---	0.501
104		---	---	ND	---	0.501
105		40.897	1.51	0.624	---	0.501
106		---	---	ND	---	0.501
107	107/124	---	---	ND	---	0.501
108	86/87/97/108/119/125	35.615	1.58	(1.48)	---	1.00
109		---	---	ND	---	0.501
110	110/115	36.503	1.53	2.99	---	0.501
111		---	---	ND	---	0.501
112		---	---	ND	---	0.501
113	90/101/113	34.424	1.54	(2.26)	---	0.501
114		---	---	ND	---	0.501
115	110/115	36.503	1.53	(2.99)	---	0.501
116	85/116/117	---	---	ND	---	0.601
117	85/116/117	---	---	ND	---	0.601
118		39.689	1.52	1.44	---	0.501
119	86/87/97/108/119/125	35.615	1.58	(1.48)	---	1.00
120		---	---	ND	---	0.501
121		---	---	ND	---	0.501
122		---	---	ND	---	0.501
123		---	---	ND	---	0.501
124	107/124	---	---	ND	---	0.501
125	86/87/97/108/119/125	35.615	1.58	(1.48)	---	1.00
126		---	---	ND	---	0.501
127		---	---	ND	---	0.501
128	128/166	---	---	ND	---	1.00
129	129/138/163	42.926	1.21	2.07	---	0.501
130		---	---	ND	---	0.501
131		---	---	ND	---	0.501
132		39.773	1.21	0.769	---	0.501
133		---	---	ND	---	0.501
134	134/143	---	---	ND	---	0.501
135	135/151	37.509	1.31	0.560	---	0.511
136		---	---	ND	---	0.501
137		---	---	ND	---	0.501
138	129/138/163	42.926	1.21	(2.07)	---	0.501
139	139/140	---	---	ND	---	0.501
140	139/140	---	---	ND	---	0.501
141		---	---	ND	---	0.501
142		---	---	ND	---	0.501
143	134/143	---	---	ND	---	0.501
144		---	---	ND	---	0.501

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.501
146		---	---	ND	---	0.501
147	147/149	38.465	1.21	1.53	---	0.501
148		---	---	ND	---	0.501
149	147/149	38.465	1.21	(1.53)	---	0.501
150		---	---	ND	---	0.501
151	135/151	37.509	1.31	(0.560)	---	0.511
152		---	---	ND	---	0.501
153	153/168	41.651	1.20	1.38	---	0.601
154		---	---	ND	---	0.501
155		---	---	ND	---	0.501
156	156/157	---	---	ND	---	0.501
157	156/157	---	---	ND	---	0.501
158		---	---	ND	---	0.501
159		---	---	ND	---	0.501
160		---	---	ND	---	0.501
161		---	---	ND	---	0.501
162		---	---	ND	---	0.501
163	129/138/163	42.926	1.21	(2.07)	---	0.501
164		---	---	ND	---	0.501
165		---	---	ND	---	0.501
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.501
168	153/168	41.651	1.20	(1.38)	---	0.601
169		---	---	ND	---	0.501
170		---	---	ND	---	0.501
171	171/173	---	---	ND	---	0.501
172		---	---	ND	---	0.501
173	171/173	---	---	ND	---	0.501
174		---	---	ND	---	0.501
175		---	---	ND	---	0.501
176		---	---	ND	---	0.501
177		---	---	ND	---	0.501
178		---	---	ND	---	0.501
179		---	---	ND	---	0.501
180	180/193	48.610	1.05	0.533	---	0.501
181		---	---	ND	---	0.501
182		---	---	ND	---	0.501
183	183/185	---	---	ND	---	0.501
184		---	---	ND	---	0.501
185	183/185	---	---	ND	---	0.501
186		---	---	ND	---	0.501
187		---	---	ND	---	0.501
188		---	---	ND	---	0.501
189		---	---	ND	---	0.501
190		---	---	ND	---	0.501
191		---	---	ND	---	0.501
192		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.610	1.05	(0.533)	---	0.501
194		---	---	ND	---	0.501
195		---	---	ND	---	0.501
196		---	---	ND	---	0.701
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.501
199	198/199	---	---	ND	---	0.501
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.501
202		---	---	ND	---	0.501
203		---	---	ND	---	0.501
204		---	---	ND	---	0.501
205		---	---	ND	---	0.501
206		---	---	ND	---	0.501
207		---	---	ND	---	0.501
208		---	---	ND	---	0.501
209		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-01 F0080507
Lab Sample ID	1070986001
Filename	P80411A_13

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.78
Total Tetrachloro Biphenyls	11.1
Total Pentachloro Biphenyls	12.9
Total Hexachloro Biphenyls	6.31
Total Heptachloro Biphenyls	0.533
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	34.6

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-02 F0080508		
Lab Sample ID	1070986002		
Filename	P80411A_14		
Injected By	BPG		
Total Amount Extracted	992 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 03:03

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.917	2.98	2.0	1.13	57
13C-4-MoCB	3	12.308	2.92	2.0	1.28	64
13C-2,2'-DiCB	4	12.679	1.62	2.0	1.23	61
13C-4,4'-DiCB	15	20.838	1.48	2.0	1.50	75
13C-2,2',6-TrCB	19	17.136	1.07	2.0	1.49	74
13C-3,4,4'-TrCB	37	29.225	1.02	2.0	1.85	92
13C-2,2',6,6'-TeCB	54	21.193	0.79	2.0	1.53	77
13C-3,4,4',5-TeCB	81	36.620	0.76	2.0	1.75	88
13C-3,3',4,4'-TeCB	77	37.207	0.76	2.0	1.81	90
13C-2,2',4,6,6'-PeCB	104	27.833	1.61	2.0	1.82	91
13C-2,3,3',4,4'-PeCB	105	40.879	1.53	2.0	1.88	94
13C-2,3,4,4',5-PeCB	114	40.225	1.53	2.0	1.83	91
13C-2,3',4,4',5-PeCB	118	39.672	1.53	2.0	1.96	98
13C-2,3',4,4',5'-PeCB	123	39.336	1.52	2.0	1.96	98
13C-3,3',4,4',5-PeCB	126	44.099	1.54	2.0	1.75	87
13C-2,2',4,4',6,6'-HxCB	155	34.172	1.27	2.0	1.83	92
13C-HxCB (156/157)	156/157	47.184	1.22	4.0	3.56	89
13C-2,3',4,4',5,5'-HxCB	167	46.010	1.23	2.0	1.70	85
13C-3,3',4,4',5,5'-HxCB	169	50.487	1.25	2.0	1.56	78
13C-2,2',3,4',5,6,6'-HpCB	188	40.225	1.07	2.0	2.55	128
13C-2,3,3',4,4',5,5'-HpCB	189	53.048	1.01	2.0	1.91	95
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.759	0.91	2.0	2.18	109
13C-2,3,3',4,4',5,5',6-OcCB	205	55.634	0.87	2.0	2.13	107
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.380	0.80	2.0	1.96	98
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.552	0.79	2.0	2.01	101
13C--DeCB	209	58.997	0.71	2.0	2.02	101
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.597	1.01	2.0	1.86	93
13C-2,3,3',5,5'-PeCB	111	37.274	1.59	2.0	1.91	95
13C-2,2',3,3',5,5',6-HpCB	178	43.377	1.07	2.0	1.66	83
Recovery Standards						
13C-2,5-DiCB	9	15.590	1.50	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.760	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.406	1.58	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.908	1.25	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.160	0.88	2.0	NA	NA

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-02 F0080508
Lab Sample ID	1070986002
Filename	P80411A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.504
2		---	---	ND	---	0.504
3		---	---	ND	---	0.504
4		---	---	ND	---	0.504
5		---	---	ND	---	0.504
6		---	---	ND	---	0.504
7		---	---	ND	---	0.504
8		---	---	ND	---	0.504
9		---	---	ND	---	0.504
10		---	---	ND	---	0.504
11		---	---	ND	---	0.605
12	12/13	---	---	ND	---	0.504
13	12/13	---	---	ND	---	0.504
14		---	---	ND	---	0.504
15		---	---	ND	---	0.504
16		---	---	ND	---	0.504
17		---	---	ND	---	0.504
18	18/30	---	---	ND	---	0.504
19		---	---	ND	---	0.504
20	20/28	---	---	ND	---	0.605
21	21/33	---	---	ND	---	0.504
22		---	---	ND	---	0.504
23		---	---	ND	---	0.504
24		---	---	ND	---	0.504
25		---	---	ND	---	0.504
26	26/29	---	---	ND	---	0.504
27		---	---	ND	---	0.504
28	20/28	---	---	ND	---	0.605
29	26/29	---	---	ND	---	0.504
30	18/30	---	---	ND	---	0.504
31		---	---	ND	---	0.504
32		---	---	ND	---	0.504
33	21/33	---	---	ND	---	0.504
34		---	---	ND	---	0.504
35		---	---	ND	---	0.504
36		---	---	ND	---	0.504
37		---	---	ND	---	0.504
38		---	---	ND	---	0.504
39		---	---	ND	---	0.504
40	40/41/71	---	---	ND	---	0.504
41	40/41/71	---	---	ND	---	0.504
42		---	---	ND	---	0.504
43		---	---	ND	---	0.504
44	44/47/65	---	---	ND	---	0.605
45	45/51	---	---	ND	---	0.504
46		---	---	ND	---	0.504
47	44/47/65	---	---	ND	---	0.605
48		---	---	ND	---	0.504

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-02 F0080508
Lab Sample ID	1070986002
Filename	P80411A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.504
50	50/53	---	---	ND	---	0.504
51	45/51	---	---	ND	---	0.504
52		---	---	ND	---	0.504
53	50/53	---	---	ND	---	0.504
54		---	---	ND	---	0.504
55		---	---	ND	---	0.504
56		---	---	ND	---	0.504
57		---	---	ND	---	0.504
58		---	---	ND	---	0.504
59	59/62/75	---	---	ND	---	0.504
60		---	---	ND	---	0.504
61	61/70/74/76	---	---	ND	---	0.504
62	59/62/75	---	---	ND	---	0.504
63		---	---	ND	---	0.504
64		---	---	ND	---	0.504
65	44/47/65	---	---	ND	---	0.605
66		---	---	ND	---	0.504
67		---	---	ND	---	0.504
68		---	---	ND	---	0.504
69	49/69	---	---	ND	---	0.504
70	61/70/74/76	---	---	ND	---	0.504
71	40/41/71	---	---	ND	---	0.504
72		---	---	ND	---	0.504
73		---	---	ND	---	0.504
74	61/70/74/76	---	---	ND	---	0.504
75	59/62/75	---	---	ND	---	0.504
76	61/70/74/76	---	---	ND	---	0.504
77		---	---	ND	---	0.504
78		---	---	ND	---	0.504
79		---	---	ND	---	0.504
80		---	---	ND	---	0.504
81		---	---	ND	---	0.504
82		---	---	ND	---	0.504
83		---	---	ND	---	0.504
84		---	---	ND	---	0.504
85	85/116/117	---	---	ND	---	0.605
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.504
89		---	---	ND	---	0.504
90	90/101/113	---	---	ND	---	0.504
91	88/91	---	---	ND	---	0.504
92		---	---	ND	---	0.504
93	93/98/100/102	---	---	ND	---	0.756
94		---	---	ND	---	0.504
95		---	---	ND	---	0.504
96		---	---	ND	---	0.504

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-02 F0080508
Lab Sample ID	1070986002
Filename	P80411A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.756
99		---	---	ND	---	0.504
100	93/98/100/102	---	---	ND	---	0.756
101	90/101/113	---	---	ND	---	0.504
102	93/98/100/102	---	---	ND	---	0.756
103		---	---	ND	---	0.504
104		---	---	ND	---	0.504
105		---	---	ND	---	0.504
106		---	---	ND	---	0.504
107	107/124	---	---	ND	---	0.504
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.504
110	110/115	---	---	ND	---	0.504
111		---	---	ND	---	0.504
112		---	---	ND	---	0.504
113	90/101/113	---	---	ND	---	0.504
114		---	---	ND	---	0.504
115	110/115	---	---	ND	---	0.504
116	85/116/117	---	---	ND	---	0.605
117	85/116/117	---	---	ND	---	0.605
118		---	---	ND	---	0.504
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.504
121		---	---	ND	---	0.504
122		---	---	ND	---	0.504
123		---	---	ND	---	0.504
124	107/124	---	---	ND	---	0.504
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.504
127		---	---	ND	---	0.504
128	128/166	---	---	ND	---	1.01
129	129/138/163	---	---	ND	---	0.504
130		---	---	ND	---	0.504
131		---	---	ND	---	0.504
132		---	---	ND	---	0.504
133		---	---	ND	---	0.504
134	134/143	---	---	ND	---	0.504
135	135/151	---	---	ND	---	0.514
136		---	---	ND	---	0.504
137		---	---	ND	---	0.504
138	129/138/163	---	---	ND	---	0.504
139	139/140	---	---	ND	---	0.504
140	139/140	---	---	ND	---	0.504
141		---	---	ND	---	0.504
142		---	---	ND	---	0.504
143	134/143	---	---	ND	---	0.504
144		---	---	ND	---	0.504

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

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Lab Sample ID	1070986002
Filename	P80411A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.504
146		---	---	ND	---	0.504
147	147/149	---	---	ND	---	0.504
148		---	---	ND	---	0.504
149	147/149	---	---	ND	---	0.504
150		---	---	ND	---	0.504
151	135/151	---	---	ND	---	0.514
152		---	---	ND	---	0.504
153	153/168	---	---	ND	---	0.605
154		---	---	ND	---	0.504
155		---	---	ND	---	0.504
156	156/157	---	---	ND	---	0.504
157	156/157	---	---	ND	---	0.504
158		---	---	ND	---	0.504
159		---	---	ND	---	0.504
160		---	---	ND	---	0.504
161		---	---	ND	---	0.504
162		---	---	ND	---	0.504
163	129/138/163	---	---	ND	---	0.504
164		---	---	ND	---	0.504
165		---	---	ND	---	0.504
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.504
168	153/168	---	---	ND	---	0.605
169		---	---	ND	---	0.504
170		---	---	ND	---	0.504
171	171/173	---	---	ND	---	0.504
172		---	---	ND	---	0.504
173	171/173	---	---	ND	---	0.504
174		---	---	ND	---	0.504
175		---	---	ND	---	0.504
176		---	---	ND	---	0.504
177		---	---	ND	---	0.504
178		---	---	ND	---	0.504
179		---	---	ND	---	0.504
180	180/193	---	---	ND	---	0.504
181		---	---	ND	---	0.504
182		---	---	ND	---	0.504
183	183/185	---	---	ND	---	0.504
184		---	---	ND	---	0.504
185	183/185	---	---	ND	---	0.504
186		---	---	ND	---	0.504
187		---	---	ND	---	0.504
188		---	---	ND	---	0.504
189		---	---	ND	---	0.504
190		---	---	ND	---	0.504
191		---	---	ND	---	0.504
192		---	---	ND	---	0.504

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-02 F0080508
Lab Sample ID	1070986002
Filename	P80411A_14

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.504
194		---	---	ND	---	0.504
195		---	---	ND	---	0.504
196		---	---	ND	---	0.706
197	197/200	---	---	ND	---	2.52
198	198/199	---	---	ND	---	0.504
199	198/199	---	---	ND	---	0.504
200	197/200	---	---	ND	---	2.52
201		---	---	ND	---	0.504
202		---	---	ND	---	0.504
203		---	---	ND	---	0.504
204		---	---	ND	---	0.504
205		---	---	ND	---	0.504
206		---	---	ND	---	0.504
207		---	---	ND	---	0.504
208		---	---	ND	---	0.504
209		---	---	ND	---	0.504

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-02 F0080508
Lab Sample ID	1070986002
Filename	P80411A_14

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-03 F0080509		
Lab Sample ID	1070986003		
Filename	P80411A_15		
Injected By	BPG		
Total Amount Extracted	927 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 04:06

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.893	2.71	2.0	0.181	9	P
13C-4-MoCB	3	12.296	3.05	2.0	0.550	28	
13C-2,2'-DiCB	4	12.668	1.61	2.0	0.571	29	
13C-4,4'-DiCB	15	20.828	1.50	2.0	1.55	77	
13C-2,2',6-TrCB	19	17.125	1.06	2.0	1.05	52	
13C-3,4,4'-TrCB	37	29.227	1.00	2.0	1.82	91	
13C-2,2',6,6'-TeCB	54	21.178	0.80	2.0	1.38	69	
13C-3,4,4',5-TeCB	81	36.638	0.75	2.0	1.68	84	
13C-3,3',4,4'-TeCB	77	37.225	0.78	2.0	1.58	79	
13C-2,2',4,6,6'-PeCB	104	27.835	1.57	2.0	1.76	88	
13C-2,3,3',4,4'-PeCB	105	40.914	1.56	2.0	1.71	86	
13C-2,3,4,4',5-PeCB	114	40.244	1.52	2.0	1.59	80	
13C-2,3',4,4',5-PeCB	118	39.690	1.53	2.0	1.82	91	
13C-2,3',4,4',5'-PeCB	123	39.355	1.53	2.0	1.78	89	
13C-3,3',4,4',5-PeCB	126	44.134	1.50	2.0	1.47	74	
13C-2,2',4,4',6,6'-HxCB	155	34.174	1.27	2.0	1.95	98	
13C-HxCB (156/157)	156/157	47.219	1.23	4.0	3.42	86	
13C-2,3',4,4',5,5'-HxCB	167	46.045	1.23	2.0	1.57	78	
13C-3,3',4,4',5,5'-HxCB	169	50.539	1.21	2.0	1.40	70	
13C-2,2',3,4',5,6,6'-HpCB	188	40.227	1.06	2.0	2.49	124	
13C-2,3,3',4,4',5,5'-HpCB	189	53.098	1.00	2.0	1.77	89	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.777	0.92	2.0	2.06	103	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.705	0.88	2.0	2.01	100	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.451	0.78	2.0	1.92	96	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.602	0.80	2.0	1.77	89	
13C--DeCB	209	59.068	0.70	2.0	2.00	100	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.599	1.03	2.0	1.89	94	
13C-2,3,3',5,5'-PeCB	111	37.309	1.59	2.0	1.74	87	
13C-2,2',3,3',5,5',6-HpCB	178	43.396	1.06	2.0	1.61	80	
Recovery Standards							
13C-2,5-DiCB	9	15.580	1.50	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.762	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.408	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.926	1.25	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.231	0.90	2.0	NA	NA	

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-03 F0080509
Lab Sample ID	1070986003
Filename	P80411A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.539
2		---	---	ND	---	0.539
3		---	---	ND	---	0.539
4		---	---	ND	---	0.539
5		---	---	ND	---	0.539
6		---	---	ND	---	0.539
7		---	---	ND	---	0.539
8		---	---	ND	---	0.539
9		---	---	ND	---	0.539
10		---	---	ND	---	0.539
11		20.073	1.45	1.19	---	0.647
12	12/13	---	---	ND	---	0.539
13	12/13	---	---	ND	---	0.539
14		---	---	ND	---	0.539
15		---	---	ND	---	0.539
16		---	---	ND	---	0.539
17		---	---	ND	---	0.539
18	18/30	---	---	ND	---	0.539
19		---	---	ND	---	0.539
20	20/28	---	---	ND	---	0.647
21	21/33	---	---	ND	---	0.539
22		---	---	ND	---	0.539
23		---	---	ND	---	0.539
24		---	---	ND	---	0.539
25		---	---	ND	---	0.539
26	26/29	---	---	ND	---	0.539
27		---	---	ND	---	0.539
28	20/28	---	---	ND	---	0.647
29	26/29	---	---	ND	---	0.539
30	18/30	---	---	ND	---	0.539
31		---	---	ND	---	0.539
32		---	---	ND	---	0.539
33	21/33	---	---	ND	---	0.539
34		---	---	ND	---	0.539
35		---	---	ND	---	0.539
36		---	---	ND	---	0.539
37		---	---	ND	---	0.539
38		---	---	ND	---	0.539
39		---	---	ND	---	0.539
40	40/41/71	---	---	ND	---	0.539
41	40/41/71	---	---	ND	---	0.539
42		---	---	ND	---	0.539
43		---	---	ND	---	0.539
44	44/47/65	---	---	ND	---	0.647
45	45/51	---	---	ND	---	0.539
46		---	---	ND	---	0.539
47	44/47/65	---	---	ND	---	0.647
48		---	---	ND	---	0.539

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

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Lab Sample ID	1070986003
Filename	P80411A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.539
50	50/53	---	---	ND	---	0.539
51	45/51	---	---	ND	---	0.539
52		26.795	0.76	0.539	---	0.539
53	50/53	---	---	ND	---	0.539
54		---	---	ND	---	0.539
55		---	---	ND	---	0.539
56		---	---	ND	---	0.539
57		---	---	ND	---	0.539
58		---	---	ND	---	0.539
59	59/62/75	---	---	ND	---	0.539
60		---	---	ND	---	0.539
61	61/70/74/76	32.195	0.73	1.01	---	0.539
62	59/62/75	---	---	ND	---	0.539
63		---	---	ND	---	0.539
64		---	---	ND	---	0.539
65	44/47/65	---	---	ND	---	0.647
66		---	---	ND	---	0.539
67		---	---	ND	---	0.539
68		---	---	ND	---	0.539
69	49/69	---	---	ND	---	0.539
70	61/70/74/76	32.195	0.73	(1.01)	---	0.539
71	40/41/71	---	---	ND	---	0.539
72		---	---	ND	---	0.539
73		---	---	ND	---	0.539
74	61/70/74/76	32.195	0.73	(1.01)	---	0.539
75	59/62/75	---	---	ND	---	0.539
76	61/70/74/76	32.195	0.73	(1.01)	---	0.539
77		---	---	ND	---	0.539
78		---	---	ND	---	0.539
79		---	---	ND	---	0.539
80		---	---	ND	---	0.539
81		---	---	ND	---	0.539
82		---	---	ND	---	0.539
83		---	---	ND	---	0.539
84		---	---	ND	---	0.539
85	85/116/117	---	---	ND	---	0.647
86	86/87/97/108/119/125	---	---	ND	---	1.08
87	86/87/97/108/119/125	---	---	ND	---	1.08
88	88/91	---	---	ND	---	0.539
89		---	---	ND	---	0.539
90	90/101/113	34.442	1.57	0.565	---	0.539
91	88/91	---	---	ND	---	0.539
92		---	---	ND	---	0.539
93	93/98/100/102	---	---	ND	---	0.809
94		---	---	ND	---	0.539
95		---	---	ND	---	0.539
96		---	---	ND	---	0.539

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-03 F0080509
Lab Sample ID	1070986003
Filename	P80411A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.08
98	93/98/100/102	---	---	ND	---	0.809
99		---	---	ND	---	0.539
100	93/98/100/102	---	---	ND	---	0.809
101	90/101/113	34.442	1.57	(0.565)	---	0.539
102	93/98/100/102	---	---	ND	---	0.809
103		---	---	ND	---	0.539
104		---	---	ND	---	0.539
105		---	---	ND	---	0.539
106		---	---	ND	---	0.539
107	107/124	---	---	ND	---	0.539
108	86/87/97/108/119/125	---	---	ND	---	1.08
109		---	---	ND	---	0.539
110	110/115	36.538	1.56	0.777	---	0.539
111		---	---	ND	---	0.539
112		---	---	ND	---	0.539
113	90/101/113	34.442	1.57	(0.565)	---	0.539
114		---	---	ND	---	0.539
115	110/115	36.538	1.56	(0.777)	---	0.539
116	85/116/117	---	---	ND	---	0.647
117	85/116/117	---	---	ND	---	0.647
118		---	---	ND	---	0.539
119	86/87/97/108/119/125	---	---	ND	---	1.08
120		---	---	ND	---	0.539
121		---	---	ND	---	0.539
122		---	---	ND	---	0.539
123		---	---	ND	---	0.539
124	107/124	---	---	ND	---	0.539
125	86/87/97/108/119/125	---	---	ND	---	1.08
126		---	---	ND	---	0.539
127		---	---	ND	---	0.539
128	128/166	---	---	ND	---	1.08
129	129/138/163	42.960	1.21	0.954	---	0.539
130		---	---	ND	---	0.539
131		---	---	ND	---	0.539
132		---	---	ND	---	0.539
133		---	---	ND	---	0.539
134	134/143	---	---	ND	---	0.539
135	135/151	---	---	ND	---	0.550
136		---	---	ND	---	0.539
137		---	---	ND	---	0.539
138	129/138/163	42.960	1.21	(0.954)	---	0.539
139	139/140	---	---	ND	---	0.539
140	139/140	---	---	ND	---	0.539
141		---	---	ND	---	0.539
142		---	---	ND	---	0.539
143	134/143	---	---	ND	---	0.539
144		---	---	ND	---	0.539

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-03 F0080509
Lab Sample ID	1070986003
Filename	P80411A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.539
146		---	---	ND	---	0.539
147	147/149	38.500	1.24	0.666	---	0.539
148		---	---	ND	---	0.539
149	147/149	38.500	1.24	(0.666)	---	0.539
150		---	---	ND	---	0.539
151	135/151	---	---	ND	---	0.550
152		---	---	ND	---	0.539
153	153/168	41.686	1.23	0.716	---	0.647
154		---	---	ND	---	0.539
155		---	---	ND	---	0.539
156	156/157	---	---	ND	---	0.539
157	156/157	---	---	ND	---	0.539
158		---	---	ND	---	0.539
159		---	---	ND	---	0.539
160		---	---	ND	---	0.539
161		---	---	ND	---	0.539
162		---	---	ND	---	0.539
163	129/138/163	42.960	1.21	(0.954)	---	0.539
164		---	---	ND	---	0.539
165		---	---	ND	---	0.539
166	128/166	---	---	ND	---	1.08
167		---	---	ND	---	0.539
168	153/168	41.686	1.23	(0.716)	---	0.647
169		---	---	ND	---	0.539
170		---	---	ND	---	0.539
171	171/173	---	---	ND	---	0.539
172		---	---	ND	---	0.539
173	171/173	---	---	ND	---	0.539
174		---	---	ND	---	0.539
175		---	---	ND	---	0.539
176		---	---	ND	---	0.539
177		---	---	ND	---	0.539
178		---	---	ND	---	0.539
179		---	---	ND	---	0.539
180	180/193	48.661	1.01	0.549	---	0.539
181		---	---	ND	---	0.539
182		---	---	ND	---	0.539
183	183/185	---	---	ND	---	0.539
184		---	---	ND	---	0.539
185	183/185	---	---	ND	---	0.539
186		---	---	ND	---	0.539
187		---	---	ND	---	0.539
188		---	---	ND	---	0.539
189		---	---	ND	---	0.539
190		---	---	ND	---	0.539
191		---	---	ND	---	0.539
192		---	---	ND	---	0.539

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

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Lab Sample ID	1070986003
Filename	P80411A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.661	1.01	(0.549)	---	0.539
194		---	---	ND	---	0.539
195		---	---	ND	---	0.539
196		---	---	ND	---	0.755
197	197/200	---	---	ND	---	2.70
198	198/199	---	---	ND	---	0.539
199	198/199	---	---	ND	---	0.539
200	197/200	---	---	ND	---	2.70
201		---	---	ND	---	0.539
202		---	---	ND	---	0.539
203		---	---	ND	---	0.539
204		---	---	ND	---	0.539
205		---	---	ND	---	0.539
206		---	---	ND	---	0.539
207		---	---	ND	---	0.539
208		---	---	ND	---	0.539
209		---	---	ND	---	0.539

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
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*= See Discussion
! = Outside QC Limits
RT = Retention Time
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ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRD0178-03 F0080509
Lab Sample ID	1070986003
Filename	P80411A_15

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	1.19
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.55
Total Pentachloro Biphenyls	1.34
Total Hexachloro Biphenyls	2.34
Total Heptachloro Biphenyls	0.549
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	6.97

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-04 F0080510		
Lab Sample ID	1070986004		
Filename	P80411A_16		
Injected By	BPG		
Total Amount Extracted	982 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 05:09

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	0.37	2.0	0.00247	0	IP
13C-4-MoCB	3	12.331	2.74	2.0	0.0191	1	P
13C-2,2'-DiCB	4	12.679	1.69	2.0	0.0231	1	P
13C-4,4'-DiCB	15	20.861	1.54	2.0	0.670	33	
13C-2,2',6-TrCB	19	17.159	1.17	2.0	0.217	11	P
13C-3,4,4'-TrCB	37	29.257	1.01	2.0	1.47	73	
13C-2,2',6,6'-TeCB	54	21.209	0.78	2.0	0.568	28	
13C-3,4,4',5-TeCB	81	36.653	0.76	2.0	1.56	78	
13C-3,3',4,4'-TeCB	77	37.239	0.76	2.0	1.54	77	
13C-2,2',4,6,6'-PeCB	104	27.849	1.60	2.0	1.29	65	
13C-2,3,3',4,4'-PeCB	105	40.912	1.56	2.0	1.57	78	
13C-2,3,4,4',5-PeCB	114	40.258	1.51	2.0	1.58	79	
13C-2,3',4,4',5-PeCB	118	39.704	1.52	2.0	1.74	87	
13C-2,3',4,4',5'-PeCB	123	39.369	1.52	2.0	1.65	83	
13C-3,3',4,4',5-PeCB	126	44.131	1.54	2.0	1.54	77	
13C-2,2',4,4',6,6'-HxCB	155	34.188	1.29	2.0	1.98	99	
13C-HxCB (156/157)	156/157	47.233	1.22	4.0	3.34	84	
13C-2,3',4,4',5,5'-HxCB	167	46.060	1.24	2.0	1.67	84	
13C-3,3',4,4',5,5'-HxCB	169	50.537	1.23	2.0	1.35	68	
13C-2,2',3,4',5,6,6'-HpCB	188	40.241	1.06	2.0	2.99	150	
13C-2,3,3',4,4',5,5'-HpCB	189	53.090	1.06	2.0	1.93	97	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.791	0.91	2.0	2.36	118	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.698	0.87	2.0	2.19	110	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.422	0.79	2.0	2.07	103	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.594	0.80	2.0	1.99	100	
13C--DeCB	209	59.039	0.71	2.0	2.18	109	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.613	1.05	2.0	1.08	54	
13C-2,3,3',5,5'-PeCB	111	37.323	1.60	2.0	1.68	84	
13C-2,2',3,3',5,5',6-HpCB	178	43.410	1.09	2.0	1.66	83	
Recovery Standards							
13C-2,5-DiCB	9	15.614	1.53	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.776	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.439	1.58	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.941	1.25	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.202	0.88	2.0	NA	NA	

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.509
2		---	---	ND	---	0.509
3		---	---	ND	---	0.509
4		---	---	ND	---	0.509
5		---	---	ND	---	0.509
6		---	---	ND	---	0.509
7		---	---	ND	---	0.509
8		---	---	ND	---	0.509
9		---	---	ND	---	0.509
10		---	---	ND	---	0.509
11		---	---	ND	---	0.611
12	12/13	---	---	ND	---	0.509
13	12/13	---	---	ND	---	0.509
14		---	---	ND	---	0.509
15		---	---	ND	---	0.509
16		---	---	ND	---	0.509
17		---	---	ND	---	0.509
18	18/30	---	---	ND	---	0.509
19		---	---	ND	---	0.509
20	20/28	---	---	ND	---	0.611
21	21/33	---	---	ND	---	0.509
22		---	---	ND	---	0.509
23		---	---	ND	---	0.509
24		---	---	ND	---	0.509
25		---	---	ND	---	0.509
26	26/29	---	---	ND	---	0.509
27		---	---	ND	---	0.509
28	20/28	---	---	ND	---	0.611
29	26/29	---	---	ND	---	0.509
30	18/30	---	---	ND	---	0.509
31		---	---	ND	---	0.509
32		---	---	ND	---	0.509
33	21/33	---	---	ND	---	0.509
34		---	---	ND	---	0.509
35		---	---	ND	---	0.509
36		---	---	ND	---	0.509
37		---	---	ND	---	0.509
38		---	---	ND	---	0.509
39		---	---	ND	---	0.509
40	40/41/71	---	---	ND	---	0.509
41	40/41/71	---	---	ND	---	0.509
42		---	---	ND	---	0.509
43		---	---	ND	---	0.509
44	44/47/65	---	---	ND	---	0.611
45	45/51	---	---	ND	---	0.509
46		---	---	ND	---	0.509
47	44/47/65	---	---	ND	---	0.611
48		---	---	ND	---	0.509

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.509
50	50/53	---	---	ND	---	0.509
51	45/51	---	---	ND	---	0.509
52		---	---	ND	---	0.509
53	50/53	---	---	ND	---	0.509
54		---	---	ND	---	0.509
55		---	---	ND	---	0.509
56		---	---	ND	---	0.509
57		---	---	ND	---	0.509
58		---	---	ND	---	0.509
59	59/62/75	---	---	ND	---	0.509
60		---	---	ND	---	0.509
61	61/70/74/76	---	---	ND	---	0.509
62	59/62/75	---	---	ND	---	0.509
63		---	---	ND	---	0.509
64		---	---	ND	---	0.509
65	44/47/65	---	---	ND	---	0.611
66		---	---	ND	---	0.509
67		---	---	ND	---	0.509
68		---	---	ND	---	0.509
69	49/69	---	---	ND	---	0.509
70	61/70/74/76	---	---	ND	---	0.509
71	40/41/71	---	---	ND	---	0.509
72		---	---	ND	---	0.509
73		---	---	ND	---	0.509
74	61/70/74/76	---	---	ND	---	0.509
75	59/62/75	---	---	ND	---	0.509
76	61/70/74/76	---	---	ND	---	0.509
77		---	---	ND	---	0.509
78		---	---	ND	---	0.509
79		---	---	ND	---	0.509
80		---	---	ND	---	0.509
81		---	---	ND	---	0.509
82		---	---	ND	---	0.509
83		---	---	ND	---	0.509
84		---	---	ND	---	0.509
85	85/116/117	---	---	ND	---	0.611
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.509
89		---	---	ND	---	0.509
90	90/101/113	---	---	ND	---	0.509
91	88/91	---	---	ND	---	0.509
92		---	---	ND	---	0.509
93	93/98/100/102	---	---	ND	---	0.764
94		---	---	ND	---	0.509
95		---	---	ND	---	0.509
96		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.764
99		---	---	ND	---	0.509
100	93/98/100/102	---	---	ND	---	0.764
101	90/101/113	---	---	ND	---	0.509
102	93/98/100/102	---	---	ND	---	0.764
103		---	---	ND	---	0.509
104		---	---	ND	---	0.509
105		---	---	ND	---	0.509
106		---	---	ND	---	0.509
107	107/124	---	---	ND	---	0.509
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.509
110	110/115	---	---	ND	---	0.509
111		---	---	ND	---	0.509
112		---	---	ND	---	0.509
113	90/101/113	---	---	ND	---	0.509
114		---	---	ND	---	0.509
115	110/115	---	---	ND	---	0.509
116	85/116/117	---	---	ND	---	0.611
117	85/116/117	---	---	ND	---	0.611
118		---	---	ND	---	0.509
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.509
121		---	---	ND	---	0.509
122		---	---	ND	---	0.509
123		---	---	ND	---	0.509
124	107/124	---	---	ND	---	0.509
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.509
127		---	---	ND	---	0.509
128	128/166	---	---	ND	---	1.02
129	129/138/163	42.974	1.21	0.591	---	0.509
130		---	---	ND	---	0.509
131		---	---	ND	---	0.509
132		---	---	ND	---	0.509
133		---	---	ND	---	0.509
134	134/143	---	---	ND	---	0.509
135	135/151	---	---	ND	---	0.519
136		---	---	ND	---	0.509
137		---	---	ND	---	0.509
138	129/138/163	42.974	1.21	(0.591)	---	0.509
139	139/140	---	---	ND	---	0.509
140	139/140	---	---	ND	---	0.509
141		---	---	ND	---	0.509
142		---	---	ND	---	0.509
143	134/143	---	---	ND	---	0.509
144		---	---	ND	---	0.509

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.509
146		---	---	ND	---	0.509
147	147/149	---	---	ND	---	0.509
148		---	---	ND	---	0.509
149	147/149	---	---	ND	---	0.509
150		---	---	ND	---	0.509
151	135/151	---	---	ND	---	0.519
152		---	---	ND	---	0.509
153	153/168	---	---	ND	---	0.611
154		---	---	ND	---	0.509
155		---	---	ND	---	0.509
156	156/157	---	---	ND	---	0.509
157	156/157	---	---	ND	---	0.509
158		---	---	ND	---	0.509
159		---	---	ND	---	0.509
160		---	---	ND	---	0.509
161		---	---	ND	---	0.509
162		---	---	ND	---	0.509
163	129/138/163	42.974	1.21	(0.591)	---	0.509
164		---	---	ND	---	0.509
165		---	---	ND	---	0.509
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.509
168	153/168	---	---	ND	---	0.611
169		---	---	ND	---	0.509
170		---	---	ND	---	0.509
171	171/173	---	---	ND	---	0.509
172		---	---	ND	---	0.509
173	171/173	---	---	ND	---	0.509
174		---	---	ND	---	0.509
175		---	---	ND	---	0.509
176		---	---	ND	---	0.509
177		---	---	ND	---	0.509
178		---	---	ND	---	0.509
179		---	---	ND	---	0.509
180	180/193	---	---	ND	---	0.509
181		---	---	ND	---	0.509
182		---	---	ND	---	0.509
183	183/185	---	---	ND	---	0.509
184		---	---	ND	---	0.509
185	183/185	---	---	ND	---	0.509
186		---	---	ND	---	0.509
187		---	---	ND	---	0.509
188		---	---	ND	---	0.509
189		---	---	ND	---	0.509
190		---	---	ND	---	0.509
191		---	---	ND	---	0.509
192		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.509
194		---	---	ND	---	0.509
195		---	---	ND	---	0.509
196		---	---	ND	---	0.713
197	197/200	---	---	ND	---	2.55
198	198/199	---	---	ND	---	0.509
199	198/199	---	---	ND	---	0.509
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.509
202		---	---	ND	---	0.509
203		---	---	ND	---	0.509
204		---	---	ND	---	0.509
205		---	---	ND	---	0.509
206		---	---	ND	---	0.509
207		---	---	ND	---	0.509
208		---	---	ND	---	0.509
209		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-04 F0080510
Lab Sample ID	1070986004
Filename	P80411A_16

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	0.591
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	0.591

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-05 F0080511		
Lab Sample ID	1070986005		
Filename	P80411A_17		
Injected By	BPG		
Total Amount Extracted	1000 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 06:11

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.917	3.08	2.0	0.322	16	P
13C-4-MoCB	3	12.320	2.95	2.0	0.682	34	
13C-2,2'-DiCB	4	12.680	1.57	2.0	0.726	36	
13C-4,4'-DiCB	15	20.852	1.49	2.0	1.55	77	
13C-2,2',6-TrCB	19	17.149	1.08	2.0	1.17	59	
13C-3,4,4'-TrCB	37	29.261	1.01	2.0	1.89	94	
13C-2,2',6,6'-TeCB	54	21.212	0.79	2.0	1.48	74	
13C-3,4,4',5-TeCB	81	36.673	0.76	2.0	1.55	78	
13C-3,3',4,4'-TeCB	77	37.260	0.78	2.0	1.55	77	
13C-2,2',4,6,6'-PeCB	104	27.869	1.58	2.0	1.94	97	
13C-2,3,3',4,4'-PeCB	105	40.949	1.57	2.0	1.51	76	
13C-2,3,4,4',5-PeCB	114	40.278	1.50	2.0	1.60	80	
13C-2,3',4,4',5-PeCB	118	39.741	1.53	2.0	1.70	85	
13C-2,3',4,4',5'-PeCB	123	39.389	1.55	2.0	1.87	94	
13C-3,3',4,4',5-PeCB	126	44.169	1.50	2.0	1.70	85	
13C-2,2',4,4',6,6'-HxCB	155	34.208	1.28	2.0	1.89	95	
13C-HxCB (156/157)	156/157	47.271	1.20	4.0	2.97	74	
13C-2,3',4,4',5,5'-HxCB	167	46.097	1.23	2.0	1.42	71	
13C-3,3',4,4',5,5'-HxCB	169	50.591	1.24	2.0	1.23	62	
13C-2,2',3,4',5,6,6'-HpCB	188	40.261	1.05	2.0	2.71	136	
13C-2,3,3',4,4',5,5'-HpCB	189	53.164	0.99	2.0	1.85	93	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.812	0.92	2.0	2.13	107	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.750	0.87	2.0	2.02	101	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.496	0.78	2.0	1.89	94	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.625	0.78	2.0	1.82	91	
13C--DeCB	209	59.113	0.72	2.0	1.95	97	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.616	1.02	2.0	1.88	94	
13C-2,3,3',5,5'-PeCB	111	37.344	1.60	2.0	1.71	86	
13C-2,2',3,3',5,5',6-HpCB	178	43.431	1.05	2.0	1.72	86	
Recovery Standards							
13C-2,5-DiCB	9	15.604	1.50	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.779	0.78	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.442	1.58	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.961	1.24	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.276	0.87	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.498
2		---	---	ND	---	0.498
3		---	---	ND	---	0.498
4		---	---	ND	---	0.498
5		---	---	ND	---	0.498
6		---	---	ND	---	0.498
7		---	---	ND	---	0.498
8		---	---	ND	---	0.498
9		---	---	ND	---	0.498
10		---	---	ND	---	0.498
11		20.097	1.44	0.812	---	0.597
12	12/13	---	---	ND	---	0.498
13	12/13	---	---	ND	---	0.498
14		---	---	ND	---	0.498
15		---	---	ND	---	0.498
16		---	---	ND	---	0.498
17		---	---	ND	---	0.498
18	18/30	---	---	ND	---	0.498
19		---	---	ND	---	0.498
20	20/28	---	---	ND	---	0.597
21	21/33	---	---	ND	---	0.498
22		---	---	ND	---	0.498
23		---	---	ND	---	0.498
24		---	---	ND	---	0.498
25		---	---	ND	---	0.498
26	26/29	---	---	ND	---	0.498
27		---	---	ND	---	0.498
28	20/28	---	---	ND	---	0.597
29	26/29	---	---	ND	---	0.498
30	18/30	---	---	ND	---	0.498
31		---	---	ND	---	0.498
32		---	---	ND	---	0.498
33	21/33	---	---	ND	---	0.498
34		---	---	ND	---	0.498
35		---	---	ND	---	0.498
36		---	---	ND	---	0.498
37		---	---	ND	---	0.498
38		---	---	ND	---	0.498
39		---	---	ND	---	0.498
40	40/41/71	---	---	ND	---	0.498
41	40/41/71	---	---	ND	---	0.498
42		---	---	ND	---	0.498
43		---	---	ND	---	0.498
44	44/47/65	27.936	0.76	0.655	---	0.597
45	45/51	---	---	ND	---	0.498
46		---	---	ND	---	0.498
47	44/47/65	27.936	0.76	(0.655)	---	0.597
48		---	---	ND	---	0.498

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.498
50	50/53	---	---	ND	---	0.498
51	45/51	---	---	ND	---	0.498
52		26.812	0.75	0.971	---	0.498
53	50/53	---	---	ND	---	0.498
54		---	---	ND	---	0.498
55		---	---	ND	---	0.498
56		---	---	ND	---	0.498
57		---	---	ND	---	0.498
58		---	---	ND	---	0.498
59	59/62/75	---	---	ND	---	0.498
60		---	---	ND	---	0.498
61	61/70/74/76	32.229	0.72	1.41	---	0.498
62	59/62/75	---	---	ND	---	0.498
63		---	---	ND	---	0.498
64		---	---	ND	---	0.498
65	44/47/65	27.936	0.76	(0.655)	---	0.597
66		32.581	0.75	0.607	---	0.498
67		---	---	ND	---	0.498
68		---	---	ND	---	0.498
69	49/69	---	---	ND	---	0.498
70	61/70/74/76	32.229	0.72	(1.41)	---	0.498
71	40/41/71	---	---	ND	---	0.498
72		---	---	ND	---	0.498
73		---	---	ND	---	0.498
74	61/70/74/76	32.229	0.72	(1.41)	---	0.498
75	59/62/75	---	---	ND	---	0.498
76	61/70/74/76	32.229	0.72	(1.41)	---	0.498
77		---	---	ND	---	0.498
78		---	---	ND	---	0.498
79		---	---	ND	---	0.498
80		---	---	ND	---	0.498
81		---	---	ND	---	0.498
82		---	---	ND	---	0.498
83		---	---	ND	---	0.498
84		32.413	1.58	0.792	---	0.498
85	85/116/117	---	---	ND	---	0.597
86	86/87/97/108/119/125	35.683	1.57	1.69	---	0.996
87	86/87/97/108/119/125	35.683	1.57	(1.69)	---	0.996
88	88/91	---	---	ND	---	0.498
89		---	---	ND	---	0.498
90	90/101/113	34.476	1.58	2.24	---	0.498
91	88/91	---	---	ND	---	0.498
92		---	---	ND	---	0.498
93	93/98/100/102	---	---	ND	---	0.747
94		---	---	ND	---	0.498
95		31.240	1.54	1.78	---	0.498
96		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.683	1.57	(1.69)	---	0.996
98	93/98/100/102	---	---	ND	---	0.747
99		35.096	1.56	0.720	---	0.498
100	93/98/100/102	---	---	ND	---	0.747
101	90/101/113	34.476	1.58	(2.24)	---	0.498
102	93/98/100/102	---	---	ND	---	0.747
103		---	---	ND	---	0.498
104		---	---	ND	---	0.498
105		40.966	1.49	0.976	---	0.498
106		---	---	ND	---	0.498
107	107/124	---	---	ND	---	0.498
108	86/87/97/108/119/125	35.683	1.57	(1.69)	---	0.996
109		---	---	ND	---	0.498
110	110/115	36.572	1.56	3.04	---	0.498
111		---	---	ND	---	0.498
112		---	---	ND	---	0.498
113	90/101/113	34.476	1.58	(2.24)	---	0.498
114		---	---	ND	---	0.498
115	110/115	36.572	1.56	(3.04)	---	0.498
116	85/116/117	---	---	ND	---	0.597
117	85/116/117	---	---	ND	---	0.597
118		39.758	1.51	2.13	---	0.498
119	86/87/97/108/119/125	35.683	1.57	(1.69)	---	0.996
120		---	---	ND	---	0.498
121		---	---	ND	---	0.498
122		---	---	ND	---	0.498
123		---	---	ND	---	0.498
124	107/124	---	---	ND	---	0.498
125	86/87/97/108/119/125	35.683	1.57	(1.69)	---	0.996
126		---	---	ND	---	0.498
127		---	---	ND	---	0.498
128	128/166	---	---	ND	---	0.996
129	129/138/163	42.995	1.21	5.01	---	0.498
130		---	---	ND	---	0.498
131		---	---	ND	---	0.498
132		39.842	1.23	1.40	---	0.498
133		---	---	ND	---	0.498
134	134/143	---	---	ND	---	0.498
135	135/151	37.562	1.29	1.13	---	0.508
136		---	---	ND	---	0.498
137		---	---	ND	---	0.498
138	129/138/163	42.995	1.21	(5.01)	---	0.498
139	139/140	---	---	ND	---	0.498
140	139/140	---	---	ND	---	0.498
141		41.905	1.24	0.779	---	0.498
142		---	---	ND	---	0.498
143	134/143	---	---	ND	---	0.498
144		---	---	ND	---	0.498

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.498
146		---	---	ND	---	0.498
147	147/149	38.534	1.22	3.04	---	0.498
148		---	---	ND	---	0.498
149	147/149	38.534	1.22	(3.04)	---	0.498
150		---	---	ND	---	0.498
151	135/151	37.562	1.29	(1.13)	---	0.508
152		---	---	ND	---	0.498
153	153/168	41.720	1.23	2.99	---	0.597
154		---	---	ND	---	0.498
155		---	---	ND	---	0.498
156	156/157	---	---	ND	---	0.498
157	156/157	---	---	ND	---	0.498
158		43.414	1.24	0.500	---	0.498
159		---	---	ND	---	0.498
160		---	---	ND	---	0.498
161		---	---	ND	---	0.498
162		---	---	ND	---	0.498
163	129/138/163	42.995	1.21	(5.01)	---	0.498
164		---	---	ND	---	0.498
165		---	---	ND	---	0.498
166	128/166	---	---	ND	---	0.996
167		---	---	ND	---	0.498
168	153/168	41.720	1.23	(2.99)	---	0.597
169		---	---	ND	---	0.498
170		49.987	1.01	0.815	---	0.498
171	171/173	---	---	ND	---	0.498
172		---	---	ND	---	0.498
173	171/173	---	---	ND	---	0.498
174		45.259	0.99	0.945	---	0.498
175		---	---	ND	---	0.498
176		---	---	ND	---	0.498
177		45.711	1.03	0.506	---	0.498
178		---	---	ND	---	0.498
179		---	---	ND	---	0.498
180	180/193	48.713	1.02	1.95	---	0.498
181		---	---	ND	---	0.498
182		---	---	ND	---	0.498
183	183/185	45.041	1.06	0.653	---	0.498
184		---	---	ND	---	0.498
185	183/185	45.041	1.06	(0.653)	---	0.498
186		---	---	ND	---	0.498
187		44.403	1.05	1.12	---	0.498
188		---	---	ND	---	0.498
189		---	---	ND	---	0.498
190		---	---	ND	---	0.498
191		---	---	ND	---	0.498
192		---	---	ND	---	0.498

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.713	1.02	(1.95)	---	0.498
194		---	---	ND	---	0.498
195		---	---	ND	---	0.498
196		---	---	ND	---	0.697
197	197/200	---	---	ND	---	2.49
198	198/199	50.692	0.87	0.547	---	0.498
199	198/199	50.692	0.87	(0.547)	---	0.498
200	197/200	---	---	ND	---	2.49
201		---	---	ND	---	0.498
202		---	---	ND	---	0.498
203		---	---	ND	---	0.498
204		---	---	ND	---	0.498
205		---	---	ND	---	0.498
206		---	---	ND	---	0.498
207		---	---	ND	---	0.498
208		---	---	ND	---	0.498
209		---	---	ND	---	0.498

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRD0178-05 F0080511
Lab Sample ID	1070986005
Filename	P80411A_17

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.812
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	3.64
Total Pentachloro Biphenyls	13.4
Total Hexachloro Biphenyls	14.9
Total Heptachloro Biphenyls	5.99
Total Octachloro Biphenyls	0.547
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	39.2

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-06 F0080512		
Lab Sample ID	1070986006		
Filename	P80411A_18		
Injected By	BPG		
Total Amount Extracted	997 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 07:14

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	2.87	2.0	0.174	9	P
13C-4-MoCB	3	12.344	2.75	2.0	0.489	24	P
13C-2,2'-DiCB	4	12.704	1.56	2.0	0.483	24	P
13C-4,4'-DiCB	15	20.887	1.51	2.0	1.34	67	
13C-2,2',6-TrCB	19	17.173	1.12	2.0	1.04	52	
13C-3,4,4'-TrCB	37	29.310	1.02	2.0	1.91	95	
13C-2,2',6,6'-TeCB	54	21.244	0.80	2.0	1.18	59	
13C-3,4,4',5-TeCB	81	36.738	0.76	2.0	1.48	74	
13C-3,3',4,4'-TeCB	77	37.342	0.77	2.0	1.44	72	
13C-2,2',4,6,6'-PeCB	104	27.901	1.62	2.0	1.93	96	
13C-2,3,3',4,4'-PeCB	105	41.031	1.57	2.0	1.57	79	
13C-2,3,4,4',5-PeCB	114	40.360	1.53	2.0	1.55	78	
13C-2,3',4,4',5-PeCB	118	39.807	1.52	2.0	1.72	86	
13C-2,3',4,4',5'-PeCB	123	39.471	1.52	2.0	1.71	85	
13C-3,3',4,4',5-PeCB	126	44.267	1.52	2.0	1.36	68	
13C-2,2',4,4',6,6'-HxCB	155	34.256	1.26	2.0	2.44	122	
13C-HxCB (156/157)	156/157	47.386	1.21	4.0	3.59	90	
13C-2,3',4,4',5,5'-HxCB	167	46.213	1.22	2.0	1.74	87	
13C-3,3',4,4',5,5'-HxCB	169	50.740	1.21	2.0	1.44	72	
13C-2,2',3,4',5,6,6'-HpCB	188	40.343	1.05	2.0	3.17	159	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.291	1.02	2.0	1.94	97	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.911	0.91	2.0	2.40	120	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.900	0.86	2.0	2.08	104	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.645	0.77	2.0	1.93	96	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.752	0.77	2.0	1.93	96	
13C--DeCB	209	59.240	0.71	2.0	2.04	102	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.665	1.00	2.0	1.65	82	
13C-2,3,3',5,5'-PeCB	111	37.409	1.59	2.0	1.98	99	
13C-2,2',3,3',5,5',6-HpCB	178	43.529	1.06	2.0	1.70	85	
Recovery Standards							
13C-2,5-DiCB	9	15.627	1.49	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.828	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.508	1.58	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	43.060	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.404	0.87	2.0	NA	NA	

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.502
2		---	---	ND	---	0.502
3		---	---	ND	---	0.502
4		---	---	ND	---	0.502
5		---	---	ND	---	0.502
6		---	---	ND	---	0.502
7		---	---	ND	---	0.502
8		---	---	ND	---	0.502
9		---	---	ND	---	0.502
10		---	---	ND	---	0.502
11		20.132	1.46	1.17	---	0.602
12	12/13	---	---	ND	---	0.502
13	12/13	---	---	ND	---	0.502
14		---	---	ND	---	0.502
15		---	---	ND	---	0.502
16		---	---	ND	---	0.502
17		---	---	ND	---	0.502
18	18/30	---	---	ND	---	0.502
19		---	---	ND	---	0.502
20	20/28	---	---	ND	---	0.602
21	21/33	---	---	ND	---	0.502
22		---	---	ND	---	0.502
23		---	---	ND	---	0.502
24		---	---	ND	---	0.502
25		---	---	ND	---	0.502
26	26/29	---	---	ND	---	0.502
27		---	---	ND	---	0.502
28	20/28	---	---	ND	---	0.602
29	26/29	---	---	ND	---	0.502
30	18/30	---	---	ND	---	0.502
31		---	---	ND	---	0.502
32		---	---	ND	---	0.502
33	21/33	---	---	ND	---	0.502
34		---	---	ND	---	0.502
35		---	---	ND	---	0.502
36		---	---	ND	---	0.502
37		---	---	ND	---	0.502
38		---	---	ND	---	0.502
39		---	---	ND	---	0.502
40	40/41/71	---	---	ND	---	0.502
41	40/41/71	---	---	ND	---	0.502
42		---	---	ND	---	0.502
43		---	---	ND	---	0.502
44	44/47/65	---	---	ND	---	0.602
45	45/51	---	---	ND	---	0.502
46		---	---	ND	---	0.502
47	44/47/65	---	---	ND	---	0.602
48		---	---	ND	---	0.502

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.502
50	50/53	---	---	ND	---	0.502
51	45/51	---	---	ND	---	0.502
52		26.861	0.76	0.541	---	0.502
53	50/53	---	---	ND	---	0.502
54		---	---	ND	---	0.502
55		---	---	ND	---	0.502
56		---	---	ND	---	0.502
57		---	---	ND	---	0.502
58		---	---	ND	---	0.502
59	59/62/75	---	---	ND	---	0.502
60		---	---	ND	---	0.502
61	61/70/74/76	32.278	0.74	0.864	---	0.502
62	59/62/75	---	---	ND	---	0.502
63		---	---	ND	---	0.502
64		---	---	ND	---	0.502
65	44/47/65	---	---	ND	---	0.602
66		---	---	ND	---	0.502
67		---	---	ND	---	0.502
68		---	---	ND	---	0.502
69	49/69	---	---	ND	---	0.502
70	61/70/74/76	32.278	0.74	(0.864)	---	0.502
71	40/41/71	---	---	ND	---	0.502
72		---	---	ND	---	0.502
73		---	---	ND	---	0.502
74	61/70/74/76	32.278	0.74	(0.864)	---	0.502
75	59/62/75	---	---	ND	---	0.502
76	61/70/74/76	32.278	0.74	(0.864)	---	0.502
77		---	---	ND	---	0.502
78		---	---	ND	---	0.502
79		---	---	ND	---	0.502
80		---	---	ND	---	0.502
81		---	---	ND	---	0.502
82		---	---	ND	---	0.502
83		---	---	ND	---	0.502
84		---	---	ND	---	0.502
85	85/116/117	---	---	ND	---	0.602
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.502
89		---	---	ND	---	0.502
90	90/101/113	34.525	1.54	0.671	---	0.502
91	88/91	---	---	ND	---	0.502
92		---	---	ND	---	0.502
93	93/98/100/102	---	---	ND	---	0.753
94		---	---	ND	---	0.502
95		31.288	1.55	0.646	---	0.502
96		---	---	ND	---	0.502

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.753
99		---	---	ND	---	0.502
100	93/98/100/102	---	---	ND	---	0.753
101	90/101/113	34.525	1.54	(0.671)	---	0.502
102	93/98/100/102	---	---	ND	---	0.753
103		---	---	ND	---	0.502
104		---	---	ND	---	0.502
105		---	---	ND	---	0.502
106		---	---	ND	---	0.502
107	107/124	---	---	ND	---	0.502
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.502
110	110/115	36.621	1.59	0.952	---	0.502
111		---	---	ND	---	0.502
112		---	---	ND	---	0.502
113	90/101/113	34.525	1.54	(0.671)	---	0.502
114		---	---	ND	---	0.502
115	110/115	36.621	1.59	(0.952)	---	0.502
116	85/116/117	---	---	ND	---	0.602
117	85/116/117	---	---	ND	---	0.602
118		39.840	1.45	0.580	---	0.502
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.502
121		---	---	ND	---	0.502
122		---	---	ND	---	0.502
123		---	---	ND	---	0.502
124	107/124	---	---	ND	---	0.502
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.502
127		---	---	ND	---	0.502
128	128/166	---	---	ND	---	1.00
129	129/138/163	43.077	1.23	1.29	---	0.502
130		---	---	ND	---	0.502
131		---	---	ND	---	0.502
132		---	---	ND	---	0.502
133		---	---	ND	---	0.502
134	134/143	---	---	ND	---	0.502
135	135/151	---	---	ND	---	0.512
136		---	---	ND	---	0.502
137		---	---	ND	---	0.502
138	129/138/163	43.077	1.23	(1.29)	---	0.502
139	139/140	---	---	ND	---	0.502
140	139/140	---	---	ND	---	0.502
141		---	---	ND	---	0.502
142		---	---	ND	---	0.502
143	134/143	---	---	ND	---	0.502
144		---	---	ND	---	0.502

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.502
146		---	---	ND	---	0.502
147	147/149	38.599	1.23	0.946	---	0.502
148		---	---	ND	---	0.502
149	147/149	38.599	1.23	(0.946)	---	0.502
150		---	---	ND	---	0.502
151	135/151	---	---	ND	---	0.512
152		---	---	ND	---	0.502
153	153/168	41.802	1.25	1.07	---	0.602
154		---	---	ND	---	0.502
155		---	---	ND	---	0.502
156	156/157	---	---	ND	---	0.502
157	156/157	---	---	ND	---	0.502
158		---	---	ND	---	0.502
159		---	---	ND	---	0.502
160		---	---	ND	---	0.502
161		---	---	ND	---	0.502
162		---	---	ND	---	0.502
163	129/138/163	43.077	1.23	(1.29)	---	0.502
164		---	---	ND	---	0.502
165		---	---	ND	---	0.502
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.502
168	153/168	41.802	1.25	(1.07)	---	0.602
169		---	---	ND	---	0.502
170		---	---	ND	---	0.502
171	171/173	---	---	ND	---	0.502
172		---	---	ND	---	0.502
173	171/173	---	---	ND	---	0.502
174		---	---	ND	---	0.502
175		---	---	ND	---	0.502
176		---	---	ND	---	0.502
177		---	---	ND	---	0.502
178		---	---	ND	---	0.502
179		---	---	ND	---	0.502
180	180/193	48.829	1.03	0.875	---	0.502
181		---	---	ND	---	0.502
182		---	---	ND	---	0.502
183	183/185	---	---	ND	---	0.502
184		---	---	ND	---	0.502
185	183/185	---	---	ND	---	0.502
186		---	---	ND	---	0.502
187		---	---	ND	---	0.502
188		---	---	ND	---	0.502
189		---	---	ND	---	0.502
190		---	---	ND	---	0.502
191		---	---	ND	---	0.502
192		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.829	1.03	(0.875)	---	0.502
194		---	---	ND	---	0.502
195		---	---	ND	---	0.502
196		---	---	ND	---	0.702
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.502
199	198/199	---	---	ND	---	0.502
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.502
202		---	---	ND	---	0.502
203		---	---	ND	---	0.502
204		---	---	ND	---	0.502
205		---	---	ND	---	0.502
206		---	---	ND	---	0.502
207		---	---	ND	---	0.502
208		---	---	ND	---	0.502
209		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRD0178-06 F0080512
Lab Sample ID	1070986006
Filename	P80411A_18

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	1.17
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.41
Total Pentachloro Biphenyls	2.85
Total Hexachloro Biphenyls	3.31
Total Heptachloro Biphenyls	0.875
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	9.61

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-07 F0080513		
Lab Sample ID	1070986007		
Filename	P80411A_19		
Injected By	BPG		
Total Amount Extracted	988 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 08:17

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.929	1.54	2.0	0.0667	4	IP
13C-4-MoCB	3	12.344	3.09	2.0	0.341	17	P
13C-2,2'-DiCB	4	12.703	1.76	2.0	0.392	20	P
13C-4,4'-DiCB	15	20.899	1.45	2.0	1.38	69	
13C-2,2',6-TrCB	19	17.185	1.08	2.0	0.893	45	
13C-3,4,4'-TrCB	37	29.310	1.03	2.0	1.80	90	
13C-2,2',6,6'-TeCB	54	21.244	0.80	2.0	1.29	64	
13C-3,4,4',5-TeCB	81	36.721	0.76	2.0	1.55	78	
13C-3,3',4,4'-TeCB	77	37.308	0.76	2.0	1.47	73	
13C-2,2',4,6,6'-PeCB	104	27.901	1.61	2.0	1.91	95	
13C-2,3,3',4,4'-PeCB	105	40.981	1.54	2.0	1.51	76	
13C-2,3,4,4',5-PeCB	114	40.327	1.52	2.0	1.48	74	
13C-2,3',4,4',5-PeCB	118	39.773	1.54	2.0	1.77	88	
13C-2,3',4,4',5'-PeCB	123	39.438	1.52	2.0	1.64	82	
13C-3,3',4,4',5-PeCB	126	44.217	1.54	2.0	1.35	68	
13C-2,2',4,4',6,6'-HxCB	155	34.240	1.28	2.0	2.34	117	
13C-HxCB (156/157)	156/157	47.302	1.22	4.0	3.42	85	
13C-2,3',4,4',5,5'-HxCB	167	46.145	1.22	2.0	1.75	87	
13C-3,3',4,4',5,5'-HxCB	169	50.639	1.26	2.0	1.46	73	
13C-2,2',3,4',5,6,6'-HpCB	188	40.310	1.06	2.0	3.24	162	P
13C-2,3,3',4,4',5,5'-HpCB	189	53.200	1.05	2.0	2.05	102	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.844	0.90	2.0	2.55	128	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.787	0.88	2.0	2.24	112	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.532	0.80	2.0	2.17	108	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.661	0.80	2.0	2.08	104	
13C--DeCB	209	59.127	0.73	2.0	2.17	109	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.665	1.00	2.0	1.79	89	
13C-2,3,3',5,5'-PeCB	111	37.375	1.60	2.0	1.62	81	
13C-2,2',3,3',5,5',6-HpCB	178	43.479	1.06	2.0	1.76	88	
Recovery Standards							
13C-2,5-DiCB	9	15.639	1.51	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.828	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.491	1.61	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	43.010	1.25	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.312	0.89	2.0	NA	NA	

Conc = Concentration
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.506
2		---	---	ND	---	0.506
3		---	---	ND	---	0.506
4		---	---	ND	---	0.506
5		---	---	ND	---	0.506
6		---	---	ND	---	0.506
7		---	---	ND	---	0.506
8		---	---	ND	---	0.506
9		---	---	ND	---	0.506
10		---	---	ND	---	0.506
11		20.132	1.45	0.889	---	0.607
12	12/13	---	---	ND	---	0.506
13	12/13	---	---	ND	---	0.506
14		---	---	ND	---	0.506
15		---	---	ND	---	0.506
16		---	---	ND	---	0.506
17		---	---	ND	---	0.506
18	18/30	---	---	ND	---	0.506
19		---	---	ND	---	0.506
20	20/28	---	---	ND	---	0.607
21	21/33	---	---	ND	---	0.506
22		---	---	ND	---	0.506
23		---	---	ND	---	0.506
24		---	---	ND	---	0.506
25		---	---	ND	---	0.506
26	26/29	---	---	ND	---	0.506
27		---	---	ND	---	0.506
28	20/28	---	---	ND	---	0.607
29	26/29	---	---	ND	---	0.506
30	18/30	---	---	ND	---	0.506
31		---	---	ND	---	0.506
32		---	---	ND	---	0.506
33	21/33	---	---	ND	---	0.506
34		---	---	ND	---	0.506
35		---	---	ND	---	0.506
36		---	---	ND	---	0.506
37		---	---	ND	---	0.506
38		---	---	ND	---	0.506
39		---	---	ND	---	0.506
40	40/41/71	---	---	ND	---	0.506
41	40/41/71	---	---	ND	---	0.506
42		---	---	ND	---	0.506
43		---	---	ND	---	0.506
44	44/47/65	---	---	ND	---	0.607
45	45/51	---	---	ND	---	0.506
46		---	---	ND	---	0.506
47	44/47/65	---	---	ND	---	0.607
48		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.506
50	50/53	---	---	ND	---	0.506
51	45/51	---	---	ND	---	0.506
52		26.845	0.75	0.833	---	0.506
53	50/53	---	---	ND	---	0.506
54		---	---	ND	---	0.506
55		---	---	ND	---	0.506
56		---	---	ND	---	0.506
57		---	---	ND	---	0.506
58		---	---	ND	---	0.506
59	59/62/75	---	---	ND	---	0.506
60		---	---	ND	---	0.506
61	61/70/74/76	32.261	0.73	1.29	---	0.506
62	59/62/75	---	---	ND	---	0.506
63		---	---	ND	---	0.506
64		---	---	ND	---	0.506
65	44/47/65	---	---	ND	---	0.607
66		32.613	0.75	0.610	---	0.506
67		---	---	ND	---	0.506
68		---	---	ND	---	0.506
69	49/69	---	---	ND	---	0.506
70	61/70/74/76	32.261	0.73	(1.29)	---	0.506
71	40/41/71	---	---	ND	---	0.506
72		---	---	ND	---	0.506
73		---	---	ND	---	0.506
74	61/70/74/76	32.261	0.73	(1.29)	---	0.506
75	59/62/75	---	---	ND	---	0.506
76	61/70/74/76	32.261	0.73	(1.29)	---	0.506
77		---	---	ND	---	0.506
78		---	---	ND	---	0.506
79		---	---	ND	---	0.506
80		---	---	ND	---	0.506
81		---	---	ND	---	0.506
82		---	---	ND	---	0.506
83		---	---	ND	---	0.506
84		32.446	1.52	0.757	---	0.506
85	85/116/117	---	---	ND	---	0.607
86	86/87/97/108/119/125	35.715	1.56	1.57	---	1.01
87	86/87/97/108/119/125	35.715	1.56	(1.57)	---	1.01
88	88/91	---	---	ND	---	0.506
89		---	---	ND	---	0.506
90	90/101/113	34.508	1.54	2.22	---	0.506
91	88/91	---	---	ND	---	0.506
92		---	---	ND	---	0.506
93	93/98/100/102	---	---	ND	---	0.759
94		---	---	ND	---	0.506
95		31.272	1.55	1.62	---	0.506
96		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.715	1.56	(1.57)	---	1.01
98	93/98/100/102	---	---	ND	---	0.759
99		35.145	1.53	0.729	---	0.506
100	93/98/100/102	---	---	ND	---	0.759
101	90/101/113	34.508	1.54	(2.22)	---	0.506
102	93/98/100/102	---	---	ND	---	0.759
103		---	---	ND	---	0.506
104		---	---	ND	---	0.506
105		41.014	1.48	0.894	---	0.506
106		---	---	ND	---	0.506
107	107/124	---	---	ND	---	0.506
108	86/87/97/108/119/125	35.715	1.56	(1.57)	---	1.01
109		---	---	ND	---	0.506
110	110/115	36.604	1.55	3.05	---	0.506
111		---	---	ND	---	0.506
112		---	---	ND	---	0.506
113	90/101/113	34.508	1.54	(2.22)	---	0.506
114		---	---	ND	---	0.506
115	110/115	36.604	1.55	(3.05)	---	0.506
116	85/116/117	---	---	ND	---	0.607
117	85/116/117	---	---	ND	---	0.607
118		39.807	1.53	1.86	---	0.506
119	86/87/97/108/119/125	35.715	1.56	(1.57)	---	1.01
120		---	---	ND	---	0.506
121		---	---	ND	---	0.506
122		---	---	ND	---	0.506
123		---	---	ND	---	0.506
124	107/124	---	---	ND	---	0.506
125	86/87/97/108/119/125	35.715	1.56	(1.57)	---	1.01
126		---	---	ND	---	0.506
127		---	---	ND	---	0.506
128	128/166	---	---	ND	---	1.01
129	129/138/163	43.043	1.24	4.10	---	0.506
130		---	---	ND	---	0.506
131		---	---	ND	---	0.506
132		39.874	1.21	1.32	---	0.506
133		---	---	ND	---	0.506
134	134/143	---	---	ND	---	0.506
135	135/151	37.593	1.26	1.13	---	0.516
136		---	---	ND	---	0.506
137		---	---	ND	---	0.506
138	129/138/163	43.043	1.24	(4.10)	---	0.506
139	139/140	---	---	ND	---	0.506
140	139/140	---	---	ND	---	0.506
141		41.953	1.20	0.774	---	0.506
142		---	---	ND	---	0.506
143	134/143	---	---	ND	---	0.506
144		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.506
146		---	---	ND	---	0.506
147	147/149	38.566	1.24	2.92	---	0.506
148		---	---	ND	---	0.506
149	147/149	38.566	1.24	(2.92)	---	0.506
150		---	---	ND	---	0.506
151	135/151	37.593	1.26	(1.13)	---	0.516
152		---	---	ND	---	0.506
153	153/168	41.752	1.25	3.13	---	0.607
154		---	---	ND	---	0.506
155		---	---	ND	---	0.506
156	156/157	---	---	ND	---	0.506
157	156/157	---	---	ND	---	0.506
158		---	---	ND	---	0.506
159		---	---	ND	---	0.506
160		---	---	ND	---	0.506
161		---	---	ND	---	0.506
162		---	---	ND	---	0.506
163	129/138/163	43.043	1.24	(4.10)	---	0.506
164		---	---	ND	---	0.506
165		---	---	ND	---	0.506
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.506
168	153/168	41.752	1.25	(3.13)	---	0.607
169		---	---	ND	---	0.506
170		50.019	1.04	0.767	---	0.506
171	171/173	---	---	ND	---	0.506
172		---	---	ND	---	0.506
173	171/173	---	---	ND	---	0.506
174		45.290	0.99	0.962	---	0.506
175		---	---	ND	---	0.506
176		---	---	ND	---	0.506
177		---	---	ND	---	0.506
178		---	---	ND	---	0.506
179		---	---	ND	---	0.506
180	180/193	48.744	1.02	1.76	---	0.506
181		---	---	ND	---	0.506
182		---	---	ND	---	0.506
183	183/185	45.089	1.02	0.673	---	0.506
184		---	---	ND	---	0.506
185	183/185	45.089	1.02	(0.673)	---	0.506
186		---	---	ND	---	0.506
187		44.435	1.05	1.06	---	0.506
188		---	---	ND	---	0.506
189		---	---	ND	---	0.506
190		---	---	ND	---	0.506
191		---	---	ND	---	0.506
192		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.744	1.02	(1.76)	---	0.506
194		---	---	ND	---	0.506
195		---	---	ND	---	0.506
196		---	---	ND	---	0.708
197	197/200	---	---	ND	---	2.53
198	198/199	50.740	0.88	0.530	---	0.506
199	198/199	50.740	0.88	(0.530)	---	0.506
200	197/200	---	---	ND	---	2.53
201		---	---	ND	---	0.506
202		---	---	ND	---	0.506
203		---	---	ND	---	0.506
204		---	---	ND	---	0.506
205		---	---	ND	---	0.506
206		---	---	ND	---	0.506
207		---	---	ND	---	0.506
208		---	---	ND	---	0.506
209		---	---	ND	---	0.506

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRD0178-07 F0080513
Lab Sample ID	1070986007
Filename	P80411A_19

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.889
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	2.73
Total Pentachloro Biphenyls	12.7
Total Hexachloro Biphenyls	13.4
Total Heptachloro Biphenyls	5.22
Total Octachloro Biphenyls	0.530
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	35.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRD0178-08 F0080514		
Lab Sample ID	1070986008		
Filename	P80411A_20		
Injected By	BPG		
Total Amount Extracted	997 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/04/2008
ICAL ID	P80411A09	Received	04/08/2008
CCal Filename(s)	P80411A_10	Extracted	04/10/2008
Method Blank ID	BLANK-16057	Analyzed	04/12/2008 09:20

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.941	1.53	2.0	0.00442	0	IP
13C-4-MoCB	3	12.356	0.65	2.0	0.00844	1	IP
13C-2,2'-DiCB	4	12.716	1.70	2.0	0.00933	0	P
13C-4,4'-DiCB	15	20.888	1.56	2.0	0.0599	3	P
13C-2,2',6-TrCB	19	17.198	1.16	2.0	0.0220	1	P
13C-3,4,4'-TrCB	37	29.294	1.03	2.0	0.735	37	
13C-2,2',6,6'-TeCB	54	21.229	0.83	2.0	0.0745	4	P
13C-3,4,4',5-TeCB	81	36.689	0.74	2.0	1.45	73	
13C-3,3',4,4'-TeCB	77	37.276	0.77	2.0	1.34	67	
13C-2,2',4,6,6'-PeCB	104	27.886	1.62	2.0	0.463	23	P
13C-2,3,3',4,4'-PeCB	105	40.948	1.54	2.0	1.61	80	
13C-2,3,4,4',5-PeCB	114	40.294	1.53	2.0	1.50	75	
13C-2,3',4,4',5-PeCB	118	39.741	1.54	2.0	1.62	81	
13C-2,3',4,4',5'-PeCB	123	39.406	1.53	2.0	1.62	81	
13C-3,3',4,4',5-PeCB	126	44.168	1.53	2.0	1.64	82	
13C-2,2',4,4',6,6'-HxCB	155	34.224	1.27	2.0	1.08	54	
13C-HxCB (156/157)	156/157	47.254	1.21	4.0	3.13	78	
13C-2,3',4,4',5,5'-HxCB	167	46.097	1.21	2.0	1.55	77	
13C-3,3',4,4',5,5'-HxCB	169	50.574	1.23	2.0	1.27	64	
13C-2,2',3,4',5,6,6'-HpCB	188	40.278	1.06	2.0	2.78	139	
13C-2,3,3',4,4',5,5'-HpCB	189	53.120	1.02	2.0	2.04	102	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.811	0.93	2.0	2.44	122	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.706	0.89	2.0	2.17	109	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.452	0.79	2.0	2.00	100	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.603	0.81	2.0	2.04	102	
13C--DeCB	209	59.047	0.72	2.0	1.98	99	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.649	0.97	2.0	0.213	11	P
13C-2,3,3',5,5'-PeCB	111	37.360	1.58	2.0	1.41	71	
13C-2,2',3,3',5,5',6-HpCB	178	43.430	1.06	2.0	1.58	79	
Recovery Standards							
13C-2,5-DiCB	9	15.640	1.51	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.813	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.459	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.977	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.232	0.89	2.0	NA	NA	

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.501
2		---	---	ND	---	0.501
3		---	---	ND	---	0.501
4		---	---	ND	---	0.501
5		---	---	ND	---	0.501
6		---	---	ND	---	0.501
7		---	---	ND	---	0.501
8		---	---	ND	---	0.501
9		---	---	ND	---	0.501
10		---	---	ND	---	0.501
11		20.133	1.12 I	---	0.673	0.602
12	12/13	---	---	ND	---	0.501
13	12/13	---	---	ND	---	0.501
14		---	---	ND	---	0.501
15		---	---	ND	---	0.501
16		---	---	ND	---	0.501
17		---	---	ND	---	0.501
18	18/30	---	---	ND	---	0.501
19		---	---	ND	---	0.501
20	20/28	---	---	ND	---	0.602
21	21/33	---	---	ND	---	0.501
22		---	---	ND	---	0.501
23		---	---	ND	---	0.501
24		---	---	ND	---	0.501
25		---	---	ND	---	0.501
26	26/29	---	---	ND	---	0.501
27		---	---	ND	---	0.501
28	20/28	---	---	ND	---	0.602
29	26/29	---	---	ND	---	0.501
30	18/30	---	---	ND	---	0.501
31		---	---	ND	---	0.501
32		---	---	ND	---	0.501
33	21/33	---	---	ND	---	0.501
34		---	---	ND	---	0.501
35		---	---	ND	---	0.501
36		---	---	ND	---	0.501
37		---	---	ND	---	0.501
38		---	---	ND	---	0.501
39		---	---	ND	---	0.501
40	40/41/71	---	---	ND	---	0.501
41	40/41/71	---	---	ND	---	0.501
42		---	---	ND	---	0.501
43		---	---	ND	---	0.501
44	44/47/65	---	---	ND	---	0.602
45	45/51	---	---	ND	---	0.501
46		---	---	ND	---	0.501
47	44/47/65	---	---	ND	---	0.602
48		---	---	ND	---	0.501

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.501
50	50/53	---	---	ND	---	0.501
51	45/51	---	---	ND	---	0.501
52		---	---	ND	---	0.501
53	50/53	---	---	ND	---	0.501
54		---	---	ND	---	0.501
55		---	---	ND	---	0.501
56		---	---	ND	---	0.501
57		---	---	ND	---	0.501
58		---	---	ND	---	0.501
59	59/62/75	---	---	ND	---	0.501
60		---	---	ND	---	0.501
61	61/70/74/76	---	---	ND	---	0.501
62	59/62/75	---	---	ND	---	0.501
63		---	---	ND	---	0.501
64		---	---	ND	---	0.501
65	44/47/65	---	---	ND	---	0.602
66		---	---	ND	---	0.501
67		---	---	ND	---	0.501
68		---	---	ND	---	0.501
69	49/69	---	---	ND	---	0.501
70	61/70/74/76	---	---	ND	---	0.501
71	40/41/71	---	---	ND	---	0.501
72		---	---	ND	---	0.501
73		---	---	ND	---	0.501
74	61/70/74/76	---	---	ND	---	0.501
75	59/62/75	---	---	ND	---	0.501
76	61/70/74/76	---	---	ND	---	0.501
77		---	---	ND	---	0.501
78		---	---	ND	---	0.501
79		---	---	ND	---	0.501
80		---	---	ND	---	0.501
81		---	---	ND	---	0.501
82		---	---	ND	---	0.501
83		---	---	ND	---	0.501
84		---	---	ND	---	0.501
85	85/116/117	---	---	ND	---	0.602
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.501
89		---	---	ND	---	0.501
90	90/101/113	---	---	ND	---	0.501
91	88/91	---	---	ND	---	0.501
92		---	---	ND	---	0.501
93	93/98/100/102	---	---	ND	---	0.752
94		---	---	ND	---	0.501
95		---	---	ND	---	0.501
96		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.752
99		---	---	ND	---	0.501
100	93/98/100/102	---	---	ND	---	0.752
101	90/101/113	---	---	ND	---	0.501
102	93/98/100/102	---	---	ND	---	0.752
103		---	---	ND	---	0.501
104		---	---	ND	---	0.501
105		---	---	ND	---	0.501
106		---	---	ND	---	0.501
107	107/124	---	---	ND	---	0.501
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.501
110	110/115	---	---	ND	---	0.501
111		---	---	ND	---	0.501
112		---	---	ND	---	0.501
113	90/101/113	---	---	ND	---	0.501
114		---	---	ND	---	0.501
115	110/115	---	---	ND	---	0.501
116	85/116/117	---	---	ND	---	0.602
117	85/116/117	---	---	ND	---	0.602
118		---	---	ND	---	0.501
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.501
121		---	---	ND	---	0.501
122		---	---	ND	---	0.501
123		---	---	ND	---	0.501
124	107/124	---	---	ND	---	0.501
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.501
127		---	---	ND	---	0.501
128	128/166	---	---	ND	---	1.00
129	129/138/163	---	---	ND	---	0.501
130		---	---	ND	---	0.501
131		---	---	ND	---	0.501
132		---	---	ND	---	0.501
133		---	---	ND	---	0.501
134	134/143	---	---	ND	---	0.501
135	135/151	---	---	ND	---	0.511
136		---	---	ND	---	0.501
137		---	---	ND	---	0.501
138	129/138/163	---	---	ND	---	0.501
139	139/140	---	---	ND	---	0.501
140	139/140	---	---	ND	---	0.501
141		---	---	ND	---	0.501
142		---	---	ND	---	0.501
143	134/143	---	---	ND	---	0.501
144		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.501
146		---	---	ND	---	0.501
147	147/149	---	---	ND	---	0.501
148		---	---	ND	---	0.501
149	147/149	---	---	ND	---	0.501
150		---	---	ND	---	0.501
151	135/151	---	---	ND	---	0.511
152		---	---	ND	---	0.501
153	153/168	---	---	ND	---	0.602
154		---	---	ND	---	0.501
155		---	---	ND	---	0.501
156	156/157	---	---	ND	---	0.501
157	156/157	---	---	ND	---	0.501
158		---	---	ND	---	0.501
159		---	---	ND	---	0.501
160		---	---	ND	---	0.501
161		---	---	ND	---	0.501
162		---	---	ND	---	0.501
163	129/138/163	---	---	ND	---	0.501
164		---	---	ND	---	0.501
165		---	---	ND	---	0.501
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.501
168	153/168	---	---	ND	---	0.602
169		---	---	ND	---	0.501
170		---	---	ND	---	0.501
171	171/173	---	---	ND	---	0.501
172		---	---	ND	---	0.501
173	171/173	---	---	ND	---	0.501
174		---	---	ND	---	0.501
175		---	---	ND	---	0.501
176		---	---	ND	---	0.501
177		---	---	ND	---	0.501
178		---	---	ND	---	0.501
179		---	---	ND	---	0.501
180	180/193	---	---	ND	---	0.501
181		---	---	ND	---	0.501
182		---	---	ND	---	0.501
183	183/185	---	---	ND	---	0.501
184		---	---	ND	---	0.501
185	183/185	---	---	ND	---	0.501
186		---	---	ND	---	0.501
187		---	---	ND	---	0.501
188		---	---	ND	---	0.501
189		---	---	ND	---	0.501
190		---	---	ND	---	0.501
191		---	---	ND	---	0.501
192		---	---	ND	---	0.501

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.501
194		---	---	ND	---	0.501
195		---	---	ND	---	0.501
196		---	---	ND	---	0.702
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.501
199	198/199	---	---	ND	---	0.501
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.501
202		---	---	ND	---	0.501
203		---	---	ND	---	0.501
204		---	---	ND	---	0.501
205		---	---	ND	---	0.501
206		---	---	ND	---	0.501
207		---	---	ND	---	0.501
208		---	---	ND	---	0.501
209		---	---	ND	---	0.501

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRD0178-08 F0080514
Lab Sample ID	1070986008
Filename	P80411A_20

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-16057		
Filename	P80413A_15		
Injected By	BAL	Matrix	Water
Total Amount Extracted	980 mL	Extracted	04/10/2008
ICAL ID	P80413A10	Analyzed	04/14/2008 07:49
CCal Filename(s)	P80413A_09	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	8.845	3.15	2.0	0.0459	2	P
13C-4-MoCB	3	12.237	3.16	2.0	0.134	7	P
13C-2,2'-DiCB	4	12.596	1.54	2.0	0.172	9	P
13C-4,4'-DiCB	15	20.745	1.55	2.0	0.571	29	
13C-2,2',6-TrCB	19	17.054	1.09	2.0	0.377	19	P
13C-3,4,4'-TrCB	37	29.141	1.05	2.0	1.07	53	
13C-2,2',6,6'-TeCB	54	21.092	0.81	2.0	0.507	25	
13C-3,4,4',5-TeCB	81	36.520	0.78	2.0	1.56	78	
13C-3,3',4,4'-TeCB	77	37.107	0.77	2.0	1.53	77	
13C-2,2',4,6,6'-PeCB	104	27.733	1.62	2.0	0.882	44	
13C-2,3,3',4,4'-PeCB	105	40.796	1.57	2.0	1.65	82	
13C-2,3,4,4',5-PeCB	114	40.125	1.53	2.0	1.51	75	
13C-2,3',4,4',5-PeCB	118	39.588	1.55	2.0	1.69	84	
13C-2,3',4,4',5'-PeCB	123	39.236	1.55	2.0	1.62	81	
13C-3,3',4,4',5-PeCB	126	43.998	1.52	2.0	1.69	85	
13C-2,2',4,4',6,6'-HxCB	155	34.071	1.29	2.0	1.31	65	
13C-HxCB (156/157)	156/157	47.101	1.22	4.0	3.41	85	
13C-2,3',4,4',5,5'-HxCB	167	45.927	1.24	2.0	1.70	85	
13C-3,3',4,4',5,5'-HxCB	169	50.404	1.24	2.0	1.49	74	
13C-2,2',3,4',5,6,6'-HpCB	188	40.125	1.03	2.0	2.35	117	
13C-2,3,3',4,4',5,5'-HpCB	189	52.962	1.02	2.0	1.94	97	
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.659	0.91	2.0	2.35	117	
13C-2,3,3',4,4',5,5',6-OcCB	205	55.549	0.87	2.0	2.23	112	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.295	0.78	2.0	2.23	111	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.467	0.81	2.0	2.24	112	
13C--DeCB	209	58.890	0.71	2.0	2.26	113	
Cleanup Standards							
13C-2,4,4'-TrCB	28	24.496	1.04	2.0	0.737	37	
13C-2,3,3',5,5'-PeCB	111	37.190	1.60	2.0	1.53	76	
13C-2,2',3,3',5,5',6-HpCB	178	43.277	1.06	2.0	1.65	82	
Recovery Standards							
13C-2,5-DiCB	9	15.508	1.54	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	26.660	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	34.306	1.62	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	42.808	1.29	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.075	0.89	2.0	NA	NA	

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16057
Filename P80413A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.510
2		---	---	ND	---	0.510
3		---	---	ND	---	0.510
4		---	---	ND	---	0.510
5		---	---	ND	---	0.510
6		---	---	ND	---	0.510
7		---	---	ND	---	0.510
8		---	---	ND	---	0.510
9		---	---	ND	---	0.510
10		---	---	ND	---	0.510
11		---	---	ND	---	0.612
12	12/13	---	---	ND	---	0.510
13	12/13	---	---	ND	---	0.510
14		---	---	ND	---	0.510
15		---	---	ND	---	0.510
16		---	---	ND	---	0.510
17		---	---	ND	---	0.510
18	18/30	---	---	ND	---	0.510
19		---	---	ND	---	0.510
20	20/28	---	---	ND	---	0.612
21	21/33	---	---	ND	---	0.510
22		---	---	ND	---	0.510
23		---	---	ND	---	0.510
24		---	---	ND	---	0.510
25		---	---	ND	---	0.510
26	26/29	---	---	ND	---	0.510
27		---	---	ND	---	0.510
28	20/28	---	---	ND	---	0.612
29	26/29	---	---	ND	---	0.510
30	18/30	---	---	ND	---	0.510
31		---	---	ND	---	0.510
32		---	---	ND	---	0.510
33	21/33	---	---	ND	---	0.510
34		---	---	ND	---	0.510
35		---	---	ND	---	0.510
36		---	---	ND	---	0.510
37		---	---	ND	---	0.510
38		---	---	ND	---	0.510
39		---	---	ND	---	0.510
40	40/41/71	---	---	ND	---	0.510
41	40/41/71	---	---	ND	---	0.510
42		---	---	ND	---	0.510
43		---	---	ND	---	0.510
44	44/47/65	---	---	ND	---	0.612
45	45/51	---	---	ND	---	0.510

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16057
Filename P80413A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.510
47	44/47/65	---	---	ND	---	0.612
48		---	---	ND	---	0.510
49	49/69	---	---	ND	---	0.510
50	50/53	---	---	ND	---	0.510
51	45/51	---	---	ND	---	0.510
52		---	---	ND	---	0.510
53	50/53	---	---	ND	---	0.510
54		---	---	ND	---	0.510
55		---	---	ND	---	0.510
56		---	---	ND	---	0.510
57		---	---	ND	---	0.510
58		---	---	ND	---	0.510
59	59/62/75	---	---	ND	---	0.510
60		---	---	ND	---	0.510
61	61/70/74/76	---	---	ND	---	0.510
62	59/62/75	---	---	ND	---	0.510
63		---	---	ND	---	0.510
64		---	---	ND	---	0.510
65	44/47/65	---	---	ND	---	0.612
66		---	---	ND	---	0.510
67		---	---	ND	---	0.510
68		---	---	ND	---	0.510
69	49/69	---	---	ND	---	0.510
70	61/70/74/76	---	---	ND	---	0.510
71	40/41/71	---	---	ND	---	0.510
72		---	---	ND	---	0.510
73		---	---	ND	---	0.510
74	61/70/74/76	---	---	ND	---	0.510
75	59/62/75	---	---	ND	---	0.510
76	61/70/74/76	---	---	ND	---	0.510
77		---	---	ND	---	0.510
78		---	---	ND	---	0.510
79		---	---	ND	---	0.510
80		---	---	ND	---	0.510
81		---	---	ND	---	0.510
82		---	---	ND	---	0.510
83		---	---	ND	---	0.510
84		---	---	ND	---	0.510
85	85/116/117	---	---	ND	---	0.612
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.510
89		---	---	ND	---	0.510
90	90/101/113	---	---	ND	---	0.510

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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16057
Filename P80413A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.510
92		---	---	ND	---	0.510
93	93/98/100/102	---	---	ND	---	0.765
94		---	---	ND	---	0.510
95		---	---	ND	---	0.510
96		---	---	ND	---	0.510
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.765
99		---	---	ND	---	0.510
100	93/98/100/102	---	---	ND	---	0.765
101	90/101/113	---	---	ND	---	0.510
102	93/98/100/102	---	---	ND	---	0.765
103		---	---	ND	---	0.510
104		---	---	ND	---	0.510
105		---	---	ND	---	0.510
106		---	---	ND	---	0.510
107	107/124	---	---	ND	---	0.510
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.510
110	110/115	---	---	ND	---	0.510
111		---	---	ND	---	0.510
112		---	---	ND	---	0.510
113	90/101/113	---	---	ND	---	0.510
114		---	---	ND	---	0.510
115	110/115	---	---	ND	---	0.510
116	85/116/117	---	---	ND	---	0.612
117	85/116/117	---	---	ND	---	0.612
118		---	---	ND	---	0.510
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.510
121		---	---	ND	---	0.510
122		---	---	ND	---	0.510
123		---	---	ND	---	0.510
124	107/124	---	---	ND	---	0.510
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.510
127		---	---	ND	---	0.510
128	128/166	---	---	ND	---	1.02
129	129/138/163	---	---	ND	---	0.510
130		---	---	ND	---	0.510
131		---	---	ND	---	0.510
132		---	---	ND	---	0.510
133		---	---	ND	---	0.510
134	134/143	---	---	ND	---	0.510
135	135/151	---	---	ND	---	0.520

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16057
Filename P80413A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.510
137		---	---	ND	---	0.510
138	129/138/163	---	---	ND	---	0.510
139	139/140	---	---	ND	---	0.510
140	139/140	---	---	ND	---	0.510
141		---	---	ND	---	0.510
142		---	---	ND	---	0.510
143	134/143	---	---	ND	---	0.510
144		---	---	ND	---	0.510
145		---	---	ND	---	0.510
146		---	---	ND	---	0.510
147	147/149	---	---	ND	---	0.510
148		---	---	ND	---	0.510
149	147/149	---	---	ND	---	0.510
150		---	---	ND	---	0.510
151	135/151	---	---	ND	---	0.520
152		---	---	ND	---	0.510
153	153/168	---	---	ND	---	0.612
154		---	---	ND	---	0.510
155		---	---	ND	---	0.510
156	156/157	---	---	ND	---	0.510
157	156/157	---	---	ND	---	0.510
158		---	---	ND	---	0.510
159		---	---	ND	---	0.510
160		---	---	ND	---	0.510
161		---	---	ND	---	0.510
162		---	---	ND	---	0.510
163	129/138/163	---	---	ND	---	0.510
164		---	---	ND	---	0.510
165		---	---	ND	---	0.510
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.510
168	153/168	---	---	ND	---	0.612
169		---	---	ND	---	0.510
170		---	---	ND	---	0.510
171	171/173	---	---	ND	---	0.510
172		---	---	ND	---	0.510
173	171/173	---	---	ND	---	0.510
174		---	---	ND	---	0.510
175		---	---	ND	---	0.510
176		---	---	ND	---	0.510
177		---	---	ND	---	0.510
178		---	---	ND	---	0.510
179		---	---	ND	---	0.510
180	180/193	---	---	ND	---	0.510

Conc = Concentration
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P = Recovery outside of Method 1668A control limits
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16057
Filename P80413A_15

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.510
182		---	---	ND	---	0.510
183	183/185	---	---	ND	---	0.510
184		---	---	ND	---	0.510
185	183/185	---	---	ND	---	0.510
186		---	---	ND	---	0.510
187		---	---	ND	---	0.510
188		---	---	ND	---	0.510
189		---	---	ND	---	0.510
190		---	---	ND	---	0.510
191		---	---	ND	---	0.510
192		---	---	ND	---	0.510
193	180/193	---	---	ND	---	0.510
194		---	---	ND	---	0.510
195		---	---	ND	---	0.510
196		---	---	ND	---	0.714
197	197/200	---	---	ND	---	2.55
198	198/199	---	---	ND	---	0.510
199	198/199	---	---	ND	---	0.510
200	197/200	---	---	ND	---	2.55
201		---	---	ND	---	0.510
202		---	---	ND	---	0.510
203		---	---	ND	---	0.510
204		---	---	ND	---	0.510
205		---	---	ND	---	0.510
206		---	---	ND	---	0.510
207		---	---	ND	---	0.510
208		---	---	ND	---	0.510
209		---	---	ND	---	0.510

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-16057
Filename P80413A_15

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-16058		
Filename	P80413A_11	Matrix	Water
Total Amount Extracted	976 mL	Dilution	NA
ICAL ID	P80413A10	Extracted	04/10/2008
CCal Filename(s)	P80413A_09	Analyzed	04/14/2008 03:38
Method Blank ID	BLANK-16057	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.948	95	2.0	1.29	65
3	1.0	0.986	99	2.0	1.30	65
4	1.0	0.990	99	2.0	1.44	72
15	1.0	1.03	103	2.0	1.60	80
19	1.0	1.00	100	2.0	1.50	75
37	1.0	1.02	102	2.0	1.71	85
54	1.0	1.09	109	2.0	1.63	82
81	1.0	1.02	102	2.0	1.88	94
77	1.0	1.06	106	2.0	1.78	89
104	1.0	1.04	104	2.0	1.47	73
105	1.0	0.992	99	2.0	1.95	97
114	1.0	1.04	104	2.0	1.81	91
118	1.0	0.971	97	2.0	2.02	101
123	1.0	1.03	103	2.0	1.91	96
126	1.0	1.00	100	2.0	1.99	100
155	1.0	1.08	108	2.0	1.46	73
156/157	2.0	1.99	99	4.0	3.61	90
167	1.0	1.06	106	2.0	1.80	90
169	1.0	1.07	107	2.0	1.60	80
188	1.0	1.04	104	2.0	2.06	103
189	1.0	1.11	111	2.0	1.92	96
202	1.0	1.10	110	2.0	1.99	100
205	1.0	1.03	103	2.0	2.06	103
206	1.0	1.06	106	2.0	1.92	96
208	1.0	1.08	108	2.0	1.95	98
209	1.0	1.07	107	2.0	1.92	96

P = Recovery outside of method
1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-16059		
Filename	P80413A_12	Matrix	Water
Total Amount Extracted	972 mL	Dilution	NA
ICAL ID	P80413A10	Extracted	04/10/2008
CCal Filename(s)	P80413A_09	Analyzed	04/14/2008 04:41
Method Blank ID	BLANK-16057	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.01	101	2.0	0.906	45
3	1.0	1.04	104	2.0	0.902	45
4	1.0	1.05	105	2.0	0.992	50
15	1.0	1.04	104	2.0	1.12	56
19	1.0	1.07	107	2.0	0.938	47
37	1.0	1.05	105	2.0	1.42	71
54	1.0	1.12	112	2.0	1.04	52
81	1.0	1.05	105	2.0	1.73	86
77	1.0	1.09	109	2.0	1.63	82
104	1.0	1.09	109	2.0	1.15	58
105	1.0	1.02	102	2.0	1.81	91
114	1.0	1.05	105	2.0	1.67	83
118	1.0	0.988	99	2.0	1.86	93
123	1.0	1.04	104	2.0	1.75	88
126	1.0	1.02	102	2.0	1.87	93
155	1.0	1.10	110	2.0	1.29	65
156/157	2.0	2.04	102	4.0	3.42	86
167	1.0	1.11	111	2.0	1.68	84
169	1.0	1.11	111	2.0	1.50	75
188	1.0	1.06	106	2.0	1.94	97
189	1.0	1.14	114	2.0	1.88	94
202	1.0	1.11	111	2.0	1.94	97
205	1.0	1.02	102	2.0	2.02	101
206	1.0	1.09	109	2.0	1.90	95
208	1.0	1.11	111	2.0	1.90	95
209	1.0	1.06	106	2.0	1.89	94

P = Recovery outside of method
1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-16058	Spike 2 ID	LCSD-16059
Spike 1 Filename	P80413A_11	Spike 2 Filename	P80413A_12

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	95	101	6.1
4-MoCB	3	99	104	4.9
2,2'-DiCB	4	99	105	5.9
4,4'-DiCB	15	103	104	1.0
2,2',6-TrCB	19	100	107	6.8
3,4,4'-TrCB	37	102	105	2.9
2,2',6,6'-TeCB	54	109	112	2.7
3,3',4,4'-TeCB	77	106	109	2.8
3,4,4',5-TeCB	81	102	105	2.9
2,2',4,6,6'-PeCB	104	104	109	4.7
2,3,3',4,4'-PeCB	105	99	102	3.0
2,3,4,4',5-PeCB	114	104	105	1.0
2,3',4,4',5-PeCB	118	97	99	2.0
2,3',4,4',5'-PeCB	123	103	104	1.0
3,3',4,4',5-PeCB	126	100	102	2.0
2,2',4,4',6,6'-HxCB	155	108	110	1.8
(156/157)	156/157	99	102	3.0
2,3',4,4',5,5'-HxCB	167	106	111	4.6
3,3',4,4',5,5'-HxCB	169	107	111	3.7
2,2',3,4',5,6,6'-HpCB	188	104	106	1.9
2,3,3',4,4',5,5'-HpCB	189	111	114	2.7
2,2',3,3',5,5',6,6'-OcCB	202	110	111	0.9
2,3,3',4,4',5,5',6-OcCB	205	103	102	1.0
2,2',3,3',4,4',5,5',6-NoCB	206	106	109	2.8
2,2',3,3',4,5,5',6,6'-NoCB	208	108	111	2.7
Decachlorobiphenyl	209	107	106	0.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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May 13, 2008
Sampling Event

GSI Water Solutions, Inc.
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P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
May 13, 2008 Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on May 13, 2008. Three stormwater samples were collected from Outfall Basins 22C, 22D, and 53A and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
    - Total Metals – EPA 200.8
    - Total Mercury – WPCL SOP M-10.02
    - Total suspended solids (TSS) – SM 2540D
- Test America (TA)
    - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
    - Phthalates – EPA 8270M-SIM
- Columbia Analytical Services (CAS)
    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC

criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within control laboratory limits

The results of the laboratory QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures appear to have been adequate indicating that sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. No analytes were detected in the method blanks.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. The control criteria were exceeded during SVOC analysis by EPA 8270C for two surrogates in sample FO080654. CAS reports that there was insufficient sample volume to reanalyze the sample and thus no further corrective action was possible. The WPCL report indicates that the low recovery for these surrogates indicates matrix interference for the phenolic compounds. Phenolic compounds were not detected in sample FO080654; however, the resulting method reporting limits (MRLs) should be considered biased low.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits for all internal standards.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs by EPA 8270C. A laboratory control sample/duplicate laboratory control sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB congeners. All laboratory control sample recoveries were within laboratory control limits.

The relative percent difference for 2,4-dimethylphenol and benzoic acid in the replicate LCS/DLCS were outside control criteria. CAS notes that these exceptions are not applicable because the analyte concentration in both cases was not significantly greater than the MRL and therefore are not subject to the same accuracy and precision criteria as results derived from measurements higher in the calibration range for the method.

The RPD also was outside the control limits for 4-methylphenol and 3,3'-dichlorobenzidine. CAS notes that because spike recoveries were within the acceptance limit, the analytical batch was in control, and no further corrective action was appropriate.

Other

The TA laboratory reports for PAHs and phthalates indicate that the method reporting limit was elevated for fluoranthene in Sample FO080652 due to sample matrix effects.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/13/08
Page: 1 of 1
Collected By: MJS, LAP

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005
Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field: Temperature (Deg C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 080652	13939 N. Rivergate Rd	53A_SW1	5/13/08	1257	G	•	•	•	•	•	•	13.2	321	~~8~~ 7.0 MJS
FO 080653	9030 NW St. Helens Rd	22D_SW1	5/13/08	1358	G	•	•	•	•	•	•	9.8	82	6.9
FO 080654	6330 NW Front Ave.	22C_SW2	5/13/08	1425	G	•	•	•	•	•	•	12.4	168	7.0

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1601	Time:	Time:	Time:
Printed Name: Matt Sullivan	Printed Name:	Printed Name:	Printed Name:
Date: 5/13/08	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1601	Time:	Time:	Time:
Printed Name: Rona Cluck	Printed Name:	Printed Name:	Printed Name:
Date: 5/13/08	Date:	Date:	Date:

S:\EID\1000\1020.005 - Portland Harbor Stormwater Samp\Sampdoc\Portland Harbor Stormwater OF Grab COC FY07-08.xls

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080652** **Sample Collected:** 05/13/08 12:57 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 1 of 4
Address/Location:	SW-53A-AAA170		
	13939 N RIVERGATE BLVD	**System ID:**	AM04566
Sample Point Code:	53A_SW1	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	321	µmhos/cm	1	SM 2510 B	05/13/08
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	05/13/08
TEMPERATURE	13.2	Deg. C	0.1	SM 2550 B	05/13/08
GENERAL					
TOTAL SUSPENDED SOLIDS	40	mg/L	2	SM 2540 D	05/14/08
METALS					
MERCURY	0.022	µg/L	0.002	WPCLSOP M-10.02	05/16/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	2.17	µg/L	0.1	EPA 200.8	05/14/08
CADMIUM	0.19	µg/L	0.1	EPA 200.8	05/14/08
CHROMIUM	17.3	µg/L	0.4	EPA 200.8	05/14/08
COPPER	18.3	µg/L	0.2	EPA 200.8	05/14/08
LEAD	7.63	µg/L	0.1	EPA 200.8	05/14/08
NICKEL	4.11	µg/L	0.2	EPA 200.8	05/14/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	05/14/08
ZINC	289	µg/L	0.5	EPA 200.8	05/14/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	05/30/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.130	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Chrysene	0.0228	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080652** **Sample Collected:** 05/13/08 12:57 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04566
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Fluoranthene	<0.0583	µg/L	0.0583	EPA 8270M-SIM	05/16/08
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Naphthalene	0.105	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Phenanthrene	0.0582	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Pyrene	0.0830	µg/L	0.0194	EPA 8270M-SIM	05/16/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Methylphenol	0.51	µg/L	0.50	EPA 8270	05/16/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	05/16/08
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	05/16/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080652** **Sample Collected:** 05/13/08 12:57 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04566
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	1.0	µg/L	0.50	EPA 8270	05/16/08
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	05/16/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
Acenaphthene	0.21	µg/L	0.20	EPA 8270	05/16/08
Acenaphthylene	0.22	µg/L	0.20	EPA 8270	05/16/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzoic acid	5.0	µg/L	5.0	EPA 8270	05/16/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	05/16/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-ethylhexyl) phthalate	1.0	µg/L	0.99	EPA 8270	05/16/08
Butyl benzyl phthalate	0.44	µg/L	0.20	EPA 8270	05/16/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	05/16/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dimethyl phthalate	0.89	µg/L	0.20	EPA 8270	05/16/08
Di-n-butyl phthalate	0.26	µg/L	0.20	EPA 8270	05/16/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	05/16/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	05/16/08
Naphthalene	0.53	µg/L	0.20	EPA 8270	05/16/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080652** **Sample Collected:** 05/13/08 12:57 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53A-AAA170
13939 N RIVERGATE BLVD
Sample Point Code: 53A_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04566
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	05/16/08
Phenanthrene	0.25	µg/L	0.20	EPA 8270	05/16/08
Phenol	1.4	µg/L	0.50	EPA 8270	05/16/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08

End of Report for Sample ID: FO080652

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080653** **Sample Collected:** 05/13/08 13:58 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04567
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	82	µmhos/cm	1	SM 2510 B	05/13/08
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	05/13/08
TEMPERATURE	9.8	Deg. C	0.1	SM 2550 B	05/13/08
GENERAL					
TOTAL SUSPENDED SOLIDS	6	mg/L	2	SM 2540 D	05/14/08
METALS					
MERCURY	0.0034	µg/L	0.002	WPCLSOP M-10.02	05/16/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.20	µg/L	0.1	EPA 200.8	05/14/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	05/14/08
CHROMIUM	1.09	µg/L	0.4	EPA 200.8	05/14/08
COPPER	1.86	µg/L	0.2	EPA 200.8	05/14/08
LEAD	0.83	µg/L	0.1	EPA 200.8	05/14/08
NICKEL	0.60	µg/L	0.2	EPA 200.8	05/14/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	05/14/08
ZINC	9.20	µg/L	0.5	EPA 200.8	05/14/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	05/30/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Anthracene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Chrysene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080653** **Sample Collected:** 05/13/08 13:58 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04567
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Fluoranthene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Fluorene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Naphthalene	0.0653	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Phenanthrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Pyrene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	05/16/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	05/16/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080653** **Sample Collected:** 05/13/08 13:58 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04567
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	05/16/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	05/16/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	05/16/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	05/16/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	05/16/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	05/16/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	05/16/08
Naphthalene	0.26	µg/L	0.20	EPA 8270	05/16/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080653** **Sample Collected:** 05/13/08 13:58 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22D-AAE396
9030 NW ST HELENS RD
Sample Point Code: 22D_SW1
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM04567
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	05/16/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Phenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08

End of Report for Sample ID: FO080653

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080654** **Sample Collected:** 05/13/08 14:25 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04568
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, 2 of 3 phenolic surrogate compounds exhibited low recoveries, indicating matrix interference for the phenolic compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	168	µmhos/cm	1	SM 2510 B	05/13/08
pH (FIELD)	7.0	pH Units	0.1	SM 4500-H B	05/13/08
TEMPERATURE	12.4	Deg. C	0.1	SM 2550 B	05/13/08
GENERAL					
TOTAL SUSPENDED SOLIDS	8	mg/L	2	SM 2540 D	05/14/08
METALS					
MERCURY	0.0026	µg/L	0.002	WPCLSOP M-10.02	05/16/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	2.05	µg/L	0.1	EPA 200.8	05/14/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	05/14/08
CHROMIUM	0.64	µg/L	0.4	EPA 200.8	05/14/08
COPPER	1.79	µg/L	0.2	EPA 200.8	05/14/08
LEAD	0.96	µg/L	0.1	EPA 200.8	05/14/08
NICKEL	0.93	µg/L	0.2	EPA 200.8	05/14/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	05/14/08
ZINC	3.83	µg/L	0.5	EPA 200.8	05/14/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	05/30/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	1.53	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Anthracene	0.0256	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(a)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(a)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(b)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Benzo(ghi)perylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Benzo(k)fluoranthene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Bis(2-ethylhexyl) phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Chrysene	0.0105	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Dibenzo(a,h)anthracene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080654** **Sample Collected:** 05/13/08 14:25 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04568
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, 2 of 3 phenolic surrogate compounds exhibited low recoveries, indicating matrix interference for the phenolic compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Dimethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	05/16/08
Fluoranthene	0.127	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Fluorene	0.274	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Indeno(1,2,3-cd)pyrene	<0.00971	µg/L	0.00971	EPA 8270M-SIM	05/16/08
Naphthalene	0.111	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Phenanthrene	0.0242	µg/L	0.0194	EPA 8270M-SIM	05/16/08
Pyrene	0.146	µg/L	0.0194	EPA 8270M-SIM	05/16/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	05/16/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	05/16/08
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	05/16/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080654** **Sample Collected:** 05/13/08 14:25 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-22C-AAJ635
6330 NW FRONT AVE - FROM OUTFALL
Sample Point Code: 22C_SW2
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM04568
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, 2 of 3 phenolic surrogate compounds exhibited low recoveries, indicating matrix interference for the phenolic compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	05/16/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	05/16/08
Acenaphthene	1.5	µg/L	0.20	EPA 8270	05/16/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	05/16/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	05/16/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	05/16/08
Bis(2-ethylhexyl) phthalate	<0.99	µg/L	0.99	EPA 8270	05/16/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	05/16/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Fluorene	0.26	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	05/16/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	05/16/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	05/16/08
Naphthalene	0.25	µg/L	0.20	EPA 8270	05/16/08

Report Date: 07/02/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080654 **Sample Collected:** 05/13/08 14:25 **Sample Received:** 05/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-22C-AAJ635		
	6330 NW FRONT AVE - FROM OUTFALL	**System ID:**	AM04568
Sample Point Code:	22C_SW2	**EID File # :**	1020.005
Sample Type:	GRAB	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/LAP

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. For Semivolatile Organics analysis, 2 of 3 phenolic surrogate compounds exhibited low recoveries, indicating matrix interference for the phenolic compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	05/16/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	05/16/08
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	05/16/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	05/16/08
Phenol	<0.50	µg/L	0.50	EPA 8270	05/16/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	05/16/08

End of Report for Sample ID: FO080654

Report Date: 07/02/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

June 10, 2008 Analytical Report for Service Request No: K0804187

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 1000
Portland, OR 97204

RE: Portland Harbor Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on May 14, 2008. For your reference, these analyses have been assigned our service request number K0804187.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Portland, City of	**Service Request No.:**	K0804187
Project:	Portland Harbor Stormwater	**Date Received:**	05/14/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Three water samples were received for analysis at Columbia Analytical Services on 05/14/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Surrogate Exceptions:
The control criteria were exceeded for the following surrogates in F0080654: 2-Fluophenol, 2,4,6-Tribromophenol. A reanalysis was not performed because insufficient sample was available. No further corrective action was possible.

Laboratory Control Sample (LCS) Exceptions:
The advisory criterion was exceeded for the following analyte in Laboratory Control Sample (LCS) KWG0804567-1: 2,4-Dimethylphenol. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for 2,4-Dimethylphenol and Benzoic Acid in the replicate Laboratory Control Samples (LCS/DLCS) KWG0804567-1 and KWG0804567-2 is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

The Relative Percent Difference (RPD) for the following analytes in the replicate LCS analyses (KWG0804567-1 and KWG0804567-2) was outside control criteria: 4-Methylphenol, 3,3'-Dichlorobenzidine. All spike recoveries for the analytes in question were within acceptance limits in the MS, DMS, and associated Laboratory Control Sample (LCS), indicating the analytical batch was in control. No further corrective action was appropriate.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Approved by HS **Date** 6/14/08

Chain of Custody Documentation

Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K0804187

PAGE 1 OF 1 COC #

PROJECT NAME: PORTLAND HARBOR STORMWATER

PROJECT NUMBER:

PROJECT MANAGER: Jennifer Shackelford

COMPANY/ADDRESS: WPCL - City of Portland BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Arocolors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVELS VOCs EPA 8270C SIM	PAH + Phthalates EPA 8270C SIM				REMARKS
FO 080652	5/13/08	1257		Storm Water	1															X					
FO 080653	↓	1358		↓	1															X					
FO 080654	↓	1425		↓	1															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. #

Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run Low Level analysis for full 8270 list. Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: 5/14/08 0942	Signature: 5-14-08 940	Signature: 5/14/08	Signature: 5/15/08 1330
Printed Name: Rona Kineh	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland BES	Firm: CAS	Firm:	Firm: CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Loan

Client / Project: City of Portland · Service Request K08 4187

Received: 5-14-08 Opened: 5-14-08 By: BW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? Courier cooler
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N
5. **Temperature of cooler(s) upon receipt (°C):** _____ _____ _____ _____
   Temperature Blank (°C): _____ _____ _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080652
Lab Code: K0804187-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Phenol	**1.4**		0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
1,3-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,4-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,2-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzyl Alcohol	ND	U	5.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Methylphenol	**0.51**		0.50	1	05/16/08	06/03/08	KWG0804567	
Hexachloroethane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Methylphenol†	**1.0**		0.50	1	05/16/08	06/03/08	KWG0804567	
Nitrobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Isophorone	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitrophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4-Dimethylphenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2,4-Dichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Benzoic Acid	**5.0**		5.0	1	05/16/08	06/03/08	KWG0804567	
1,2,4-Trichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Naphthalene	**0.53**		0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobutadiene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloro-3-methylphenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Methylnaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorocyclopentadiene	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2,4,6-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4,5-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chloronaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Acenaphthylene	**0.22**		0.20	1	05/16/08	06/03/08	KWG0804567	
Dimethyl Phthalate	**0.89**		0.20	1	05/16/08	06/03/08	KWG0804567	
2,6-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080652
Lab Code: K0804187-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**0.21**		0.20	1	05/16/08	06/03/08	KWG0804567	
3-Nitroaniline	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrophenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Dibenzofuran	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Fluorene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Diethyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitroaniline	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodiphenylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pentachlorophenol	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
Phenanthrene	**0.25**		0.20	1	05/16/08	06/03/08	KWG0804567	
Anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Di-n-butyl Phthalate	**0.26**		0.20	1	05/16/08	06/03/08	KWG0804567	
Fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Butyl Benzyl Phthalate	**0.44**		0.20	1	05/16/08	06/03/08	KWG0804567	
3,3'-Dichlorobenzidine	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
Benz(a)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Chrysene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Bis(2-ethylhexyl) Phthalate	**1.0**		0.99	1	05/16/08	06/03/08	KWG0804567	
Di-n-octyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(b)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(k)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(a)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Dibenz(a,h)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(g,h,i)perylene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080652
Lab Code: K0804187-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	21-119	06/03/08	Acceptable
Phenol-d6	64	31-121	06/03/08	Acceptable
Nitrobenzene-d5	68	29-121	06/03/08	Acceptable
2-Fluorobiphenyl	70	25-109	06/03/08	Acceptable
2,4,6-Tribromophenol	106	30-131	06/03/08	Acceptable
Terphenyl-d14	70	20-140	06/03/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080653
Lab Code: K0804187-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Phenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
1,3-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,4-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,2-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzyl Alcohol	ND	U	5.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Methylphenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Hexachloroethane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Methylphenol†	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Nitrobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Isophorone	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitrophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4-Dimethylphenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2,4-Dichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Benzoic Acid	ND	U	5.0	1	05/16/08	06/03/08	KWG0804567	
1,2,4-Trichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Naphthalene	**0.26**		0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobutadiene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloro-3-methylphenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Methylnaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorocyclopentadiene	ND	U	1.0	1	05/16/08	06/03/08	KWG0804567	
2,4,6-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4,5-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chloronaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Acenaphthylene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Dimethyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2,6-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080653
Lab Code: K0804187-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
3-Nitroaniline	ND	U	1.0	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrophenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Dibenzofuran	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Fluorene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Diethyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitroaniline	ND	U	1.0	1	05/16/08	06/03/08	KWG0804567	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodiphenylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pentachlorophenol	ND	U	1.0	1	05/16/08	06/03/08	KWG0804567	
Phenanthrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Di-n-butyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Butyl Benzyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
3,3'-Dichlorobenzidine	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
Benz(a)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Chrysene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	05/16/08	06/03/08	KWG0804567	
Di-n-octyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(b)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(k)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(a)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Dibenz(a,h)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(g,h,i)perylene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080653
Lab Code: K0804187-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	22	21-119	06/03/08	Acceptable
Phenol-d6	40	31-121	06/03/08	Acceptable
Nitrobenzene-d5	70	29-121	06/03/08	Acceptable
2-Fluorobiphenyl	62	25-109	06/03/08	Acceptable
2,4,6-Tribromophenol	34	30-131	06/03/08	Acceptable
Terphenyl-d14	85	20-140	06/03/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080654
Lab Code: K0804187-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Phenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
1,3-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,4-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
1,2-Dichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzyl Alcohol	ND	U	5.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Methylphenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Hexachloroethane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Methylphenol†	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Nitrobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Isophorone	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitrophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4-Dimethylphenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2,4-Dichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
Benzoic Acid	ND	U	5.0	1	05/16/08	06/03/08	KWG0804567	
1,2,4-Trichlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Naphthalene	**0.25**		0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobutadiene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chloro-3-methylphenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Methylnaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorocyclopentadiene	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2,4,6-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2,4,5-Trichlorophenol	ND	U	0.50	1	05/16/08	06/03/08	KWG0804567	
2-Chloronaphthalene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2-Nitroaniline	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Acenaphthylene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Dimethyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
2,6-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080654
Lab Code: K0804187-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	**1.5**		0.20	1	05/16/08	06/03/08	KWG0804567	
3-Nitroaniline	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrophenol	ND	U	4.0	1	05/16/08	06/03/08	KWG0804567	
Dibenzofuran	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
2,4-Dinitrotoluene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Fluorene	**0.26**		0.20	1	05/16/08	06/03/08	KWG0804567	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Diethyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Nitroaniline	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
N-Nitrosodiphenylamine	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Hexachlorobenzene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pentachlorophenol	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
Phenanthrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Di-n-butyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Butyl Benzyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
3,3'-Dichlorobenzidine	ND	U	2.0	1	05/16/08	06/03/08	KWG0804567	
Benz(a)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Chrysene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	05/16/08	06/03/08	KWG0804567	
Di-n-octyl Phthalate	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(b)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(k)fluoranthene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(a)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Dibenz(a,h)anthracene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	
Benzo(g,h,i)perylene	ND	U	0.20	1	05/16/08	06/03/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: 05/13/2008
Date Received: 05/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0080654
Lab Code: K0804187-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	15	21-119	06/03/08	Outside Control Limits
Phenol-d6	36	31-121	06/03/08	Acceptable
Nitrobenzene-d5	69	29-121	06/03/08	Acceptable
2-Fluorobiphenyl	67	25-109	06/03/08	Acceptable
2,4,6-Tribromophenol	24	30-131	06/03/08	Outside Control Limits
Terphenyl-d14	74	20-140	06/03/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0804567-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Phenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
2-Chlorophenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
1,3-Dichlorobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
1,4-Dichlorobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
1,2-Dichlorobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Benzyl Alcohol	ND	U	5.0	1	05/16/08	05/23/08	KWG0804567	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
2-Methylphenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
Hexachloroethane	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Methylphenol†	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
Nitrobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Isophorone	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
2-Nitrophenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
2,4-Dimethylphenol	ND	U	4.0	1	05/16/08	05/23/08	KWG0804567	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
2,4-Dichlorophenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
Benzoic Acid	ND	U	5.0	1	05/16/08	05/23/08	KWG0804567	
1,2,4-Trichlorobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Naphthalene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Chloroaniline	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Hexachlorobutadiene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Chloro-3-methylphenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
2-Methylnaphthalene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Hexachlorocyclopentadiene	ND	U	0.99	1	05/16/08	05/23/08	KWG0804567	
2,4,6-Trichlorophenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
2,4,5-Trichlorophenol	ND	U	0.50	1	05/16/08	05/23/08	KWG0804567	
2-Chloronaphthalene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
2-Nitroaniline	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Acenaphthylene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Dimethyl Phthalate	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
2,6-Dinitrotoluene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0804567-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
3-Nitroaniline	ND	U	0.99	1	05/16/08	05/23/08	KWG0804567	
2,4-Dinitrophenol	ND	U	4.0	1	05/16/08	05/23/08	KWG0804567	
Dibenzofuran	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Nitrophenol	ND	U	2.0	1	05/16/08	05/23/08	KWG0804567	
2,4-Dinitrotoluene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Fluorene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Diethyl Phthalate	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Nitroaniline	ND	U	0.99	1	05/16/08	05/23/08	KWG0804567	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	05/16/08	05/23/08	KWG0804567	
N-Nitrosodiphenylamine	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Hexachlorobenzene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Pentachlorophenol	ND	U	0.99	1	05/16/08	05/23/08	KWG0804567	
Phenanthrene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Anthracene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Di-n-butyl Phthalate	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Fluoranthene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Pyrene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Butyl Benzyl Phthalate	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
3,3'-Dichlorobenzidine	ND	U	2.0	1	05/16/08	05/23/08	KWG0804567	
Benz(a)anthracene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Chrysene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Bis(2-ethylhexyl) Phthalate	ND	U	0.99	1	05/16/08	05/23/08	KWG0804567	
Di-n-octyl Phthalate	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Benzo(b)fluoranthene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Benzo(k)fluoranthene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Benzo(a)pyrene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Dibenz(a,h)anthracene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	
Benzo(g,h,i)perylene	ND	U	0.20	1	05/16/08	05/23/08	KWG0804567	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0804567-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	21-119	05/23/08	Acceptable
Phenol-d6	73	31-121	05/23/08	Acceptable
Nitrobenzene-d5	76	29-121	05/23/08	Acceptable
2-Fluorobiphenyl	71	25-109	05/23/08	Acceptable
2,4,6-Tribromophenol	73	30-131	05/23/08	Acceptable
Terphenyl-d14	84	20-140	05/23/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2	Sur3	Sur4	Sur5		Sur6
F0080652	K0804187-001	65		64	68	70	106		70
F0080653	K0804187-002	22		40	70	62	34		85
F0080654	K0804187-003	15	*	36	69	67	24	*	74
Method Blank	KWG0804567-3	66		73	76	71	73		84
Lab Control Sample	KWG0804567-1	67		74	78	72	73		81
Duplicate Lab Control Sample	KWG0804567-2	65		71	71	69	77		81

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	21-119	Sur5 = 2,4,6-Tribromophenol	30-131
Sur2 = Phenol-d6	31-121	Sur6 = Terphenyl-d14	20-140
Sur3 = Nitrobenzene-d5	29-121		
Sur4 = 2-Fluorobiphenyl	25-109		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Extracted: 05/16/2008
Date Analyzed: 05/23/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0804567

	Lab Control Sample KWG0804567-1 Lab Control Spike				Duplicate Lab Control Sample KWG0804567-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.10	5.00	62		3.17	5.00	63	39-115	2	30
Phenol	2.88	5.00	58		3.14	5.00	63	39-117	9	30
2-Chlorophenol	3.09	5.00	62		3.29	5.00	66	40-113	6	30
1,3-Dichlorobenzene	1.43	5.00	29		1.57	5.00	31	18-71	9	30
1,4-Dichlorobenzene	1.52	5.00	30		1.69	5.00	34	19-73	10	30
1,2-Dichlorobenzene	1.66	5.00	33		1.80	5.00	36	22-78	8	30
Benzyl Alcohol	2.95	5.00	59		3.30	5.00	66	37-119	11	30
Bis(2-chloroisopropyl) Ether	2.79	5.00	56		3.06	5.00	61	35-113	9	30
2-Methylphenol	2.03	5.00	41		2.76	5.00	55	26-113	30	30
Hexachloroethane	1.07	5.00	21		1.20	5.00	24	11-62	11	30
N-Nitrosodi-n-propylamine	3.01	5.00	60		3.11	5.00	62	32-117	3	30
4-Methylphenol	1.90	5.00	38		2.92	5.00	58	25-118	42 *	30
Nitrobenzene	3.23	5.00	65		3.30	5.00	66	37-116	2	30
Isophorone	3.03	5.00	61		3.41	5.00	68	39-112	12	30
2-Nitrophenol	3.30	5.00	66		3.54	5.00	71	42-116	7	30
2,4-Dimethylphenol	0.178	5.00	4 *		1.54	5.00	31	10-113	159 *	30
Bis(2-chloroethoxy)methane	3.13	5.00	63		3.30	5.00	66	40-113	5	30
2,4-Dichlorophenol	3.02	5.00	60		3.40	5.00	68	39-115	12	30
Benzoic Acid	3.28	15.0	22		2.02	15.0	13	10-102	48 *	30
1,2,4-Trichlorobenzene	1.63	5.00	33		1.85	5.00	37	21-78	13	30
Naphthalene	2.41	5.00	48		2.64	5.00	53	33-98	9	30
4-Chloroaniline	2.19	5.00	44		2.76	5.00	55	10-119	23	30
Hexachlorobutadiene	0.947	5.00	19		1.15	5.00	23	10-61	19	30
4-Chloro-3-methylphenol	2.57	5.00	51		3.21	5.00	64	37-119	22	30
2-Methylnaphthalene	2.30	5.00	46		2.59	5.00	52	32-95	12	30
Hexachlorocyclopentadiene	1.05	5.00	21		1.09	5.00	22	10-39	4	30
2,4,6-Trichlorophenol	3.09	5.00	62		3.51	5.00	70	40-117	13	30
2,4,5-Trichlorophenol	3.27	5.00	65		3.64	5.00	73	44-116	11	30
2-Chloronaphthalene	2.53	5.00	51		2.73	5.00	55	21-115	8	30
2-Nitroaniline	3.32	5.00	66		3.40	5.00	68	43-124	2	30
Acenaphthylene	2.86	5.00	57		3.14	5.00	63	41-114	9	30
Dimethyl Phthalate	3.20	5.00	64		3.52	5.00	70	47-117	10	30
2,6-Dinitrotoluene	3.15	5.00	63		3.42	5.00	68	45-120	8	30
Acenaphthene	2.78	5.00	56		3.20	5.00	64	38-106	14	30
3-Nitroaniline	3.10	5.00	62		3.66	5.00	73	31-125	16	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0804187
Date Extracted: 05/16/2008
Date Analyzed: 05/23/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0804567

	Lab Control Sample KWG0804567-1 Lab Control Spike			Duplicate Lab Control Sample KWG0804567-2 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**		**RPD Limit**
2,4-Dinitrophenol	2.56	5.00	51	2.37	5.00	47	10-121	8		30
Dibenzofuran	2.86	5.00	57	3.26	5.00	65	40-107	13		30
4-Nitrophenol	3.40	5.00	68	3.81	5.00	76	43-133	11		30
2,4-Dinitrotoluene	3.29	5.00	66	3.69	5.00	74	47-125	11		30
Fluorene	2.99	5.00	60	3.27	5.00	65	40-112	9		30
4-Chlorophenyl Phenyl Ether	2.69	5.00	54	3.06	5.00	61	39-108	13		30
Diethyl Phthalate	3.33	5.00	67	3.61	5.00	72	47-120	8		30
4-Nitroaniline	3.00	5.00	60	3.56	5.00	71	36-128	17		30
2-Methyl-4,6-dinitrophenol	3.27	5.00	65	3.44	5.00	69	19-127	5		30
N-Nitrosodiphenylamine	2.76	5.00	55	3.15	5.00	63	36-114	13		30
4-Bromophenyl Phenyl Ether	3.07	5.00	61	3.28	5.00	66	43-110	7		30
Hexachlorobenzene	3.02	5.00	60	3.22	5.00	64	42-107	6		30
Pentachlorophenol	2.93	5.00	59	3.03	5.00	61	28-114	3		30
Phenanthrene	2.94	5.00	59	3.27	5.00	65	43-110	11		30
Anthracene	2.90	5.00	58	3.16	5.00	63	40-110	8		30
Di-n-butyl Phthalate	3.44	5.00	69	3.68	5.00	74	45-135	7		30
Fluoranthene	3.07	5.00	61	3.30	5.00	66	42-119	7		30
Pyrene	3.13	5.00	63	3.35	5.00	67	43-118	7		30
Butyl Benzyl Phthalate	3.28	5.00	66	3.48	5.00	70	48-124	6		30
3,3'-Dichlorobenzidine	1.70	5.00	34	2.69	5.00	54	15-108	45	*	30
Benz(a)anthracene	3.14	5.00	63	3.38	5.00	68	45-112	7		30
Chrysene	3.23	5.00	65	3.45	5.00	69	47-112	7		30
Bis(2-ethylhexyl) Phthalate	3.29	5.00	66	3.82	5.00	76	32-149	15		30
Di-n-octyl Phthalate	3.24	5.00	65	3.39	5.00	68	49-127	5		30
Benzo(b)fluoranthene	3.21	5.00	64	3.37	5.00	67	45-115	5		30
Benzo(k)fluoranthene	3.21	5.00	64	3.42	5.00	68	46-115	6		30
Benzo(a)pyrene	3.27	5.00	65	3.52	5.00	70	40-117	7		30
Indeno(1,2,3-cd)pyrene	3.04	5.00	61	3.25	5.00	65	44-119	7		30
Dibenz(a,h)anthracene	3.14	5.00	63	3.31	5.00	66	45-118	5		30
Benzo(g,h,i)perylene	3.09	5.00	62	3.38	5.00	68	45-116	9		30

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210
ORELAP#: OR100021

June 29, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 05/14/08 15:30. The following list is a summary of the Work Orders contained in this report, generated on 06/29/08 13:31.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRE0507	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	06/29/08 13:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO080652	PRE0507-01	Water	05/13/08 12:57	05/14/08 15:30
FO080653	PRE0507-02	Water	05/13/08 13:58	05/14/08 15:30
FO080654	PRE0507-03	Water	05/13/08 14:25	05/14/08 15:30
FO080655	PRE0507-04	Water	05/13/08 15:31	05/14/08 15:30

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRE0507-01 (FO080652)			**Water**			**Sampled: 05/13/08 12:57**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.511*	0.971	ug/l	1x	8050686	05/16/08 13:10	05/19/08 17:44	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	**0.806**	*0.511*	0.971	"	"	"	"	"	**J**
Acenaphthene	"	**0.130**	*0.0194*	0.0194	"	"	"	"	05/21/08 14:33	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0228**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0583*	0.0583	"	"	"	"	"	**RL1**
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.105**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0582**	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	**0.0830**	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*75.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*83.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*64.7%*		*10 - 125 %*	"			"	
PRE0507-02 (FO080653)			**Water**			**Sampled: 05/13/08 13:58**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.511*	0.971	ug/l	1x	8050686	05/16/08 13:10	05/19/08 18:17	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0194*	0.0194	"	"	"	"	05/21/08 14:03	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRE0507-02 (FO080653)				**Water**			**Sampled: 05/13/08 13:58**			
Benzo (a) anthracene	EPA 8270m	ND	*0.00971*	0.00971	ug/l	1x	8050686	05/16/08 13:10	05/21/08 14:03	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0653**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10				*78.6%*		*25 - 125 %*	"			"
Pyrene-d10				*88.1%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*83.7%*		*10 - 125 %*	"			"
PRE0507-03 (FO080654)				**Water**			**Sampled: 05/13/08 14:25**			
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.511*	0.971	ug/l	1x	8050686	05/16/08 13:10	05/19/08 18:49	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	**1.53**	*0.0194*	0.0194	"	"	"	"	05/21/08 13:32	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	**0.0256**	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	**0.0105**	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.127**	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	**0.274**	*0.0194*	0.0194	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRE0507-03 (FO080654)			**Water**			**Sampled: 05/13/08 14:25**				
Indeno (1,2,3-cd) pyrene	EPA 8270m	ND	*0.00971*	0.00971	ug/l	1x	8050686	05/16/08 13:10	05/21/08 13:32	
Naphthalene	"	**0.111**	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.0242**	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	**0.146**	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10				*73.9%*		*25 - 125 %*	"			"
Pyrene-d10				*85.3%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*80.2%*		*10 - 125 %*	"			"
PRE0507-04 (FO080655)			**Water**			**Sampled: 05/13/08 15:31**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	*0.511*	0.971	ug/l	1x	8050686	05/16/08 13:10	05/19/08 19:22	
Butyl benzyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.511*	0.971	"	"	"	"	"	
Acenaphthene	"	ND	*0.0194*	0.0194	"	"	"	"	05/21/08 13:02	
Acenaphthylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Anthracene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Chrysene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Fluoranthene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Fluorene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00971*	0.00971	"	"	"	"	"	
Naphthalene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Phenanthrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Pyrene	"	ND	*0.0194*	0.0194	"	"	"	"	"	
Surrogate(s): Fluorene-d10				*79.5%*		*25 - 125 %*	"			"
Pyrene-d10				*91.5%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*69.1%*		*10 - 125 %*	"			"

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8050686 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8050686-BLK1)									**Extracted: 05/16/08 13:10**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	0.526	1.00	ug/l	1x	--	--	--	--	--	--	05/19/08 16:06	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	05/21/08 11:31	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 68.2%*			*Limits: 25-125%*	"							*05/21/08 11:31*	
Pyrene-d10		*79.8%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*66.2%*			*10-125%*	"							"	
LCS (8050686-BS1)									**Extracted: 05/16/08 13:10**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.32	1.05	2.00	ug/l	2x	--	4.00	82.9%	(20-150)	--	--	05/19/08 16:39	
Butyl benzyl phthalate	"	3.21	1.05	2.00	"	"	--	"	80.3%	"	--	--	"	
Di-n-butyl phthalate	"	3.33	1.05	2.00	"	"	--	"	83.3%	"	--	--	"	
Di-n-octyl phthalate	"	3.66	1.05	2.00	"	"	--	"	91.4%	"	--	--	"	
Diethyl phthalate	"	3.36	1.05	2.00	"	"	--	"	84.0%	"	--	--	"	
Dimethyl phthalate	"	3.21	1.05	2.00	"	"	--	"	80.2%	"	--	--	"	
Acenaphthene	"	2.29	0.0400	0.0400	"	"	--	2.50	91.7%	(35-120)	--	--	05/21/08 12:01	
Acenaphthylene	"	1.97	0.0400	0.0400	"	"	--	"	78.7%	(34-116)	--	--	"	
Anthracene	"	2.14	0.0400	0.0400	"	"	--	"	85.7%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.41	0.0200	0.0200	"	"	--	"	96.4%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.31	0.0200	0.0200	"	"	--	"	92.5%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.48	0.0200	0.0200	"	"	--	"	99.2%	(37-131)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8050686 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8050686-BS1)									**Extracted: 05/16/08 13:10**					
Benzo (ghi) perylene	EPA 8270m	2.44	0.0400	0.0400	ug/l	2x	--	2.50	97.8%	(26-126)	--	--	05/21/08 12:01	
Benzo (k) fluoranthene	"	2.04	0.0200	0.0200	"	"	--	"	81.7%	(18-145)	--	--	"	
Chrysene	"	2.37	0.0200	0.0200	"	"	--	"	95.0%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.51	0.0200	0.0200	"	"	--	"	100%	(20-141)	--	--	"	
Fluoranthene	"	2.22	0.0400	0.0400	"	"	--	"	88.8%	(31-125)	--	--	"	
Fluorene	"	2.16	0.0400	0.0400	"	"	--	"	86.5%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.47	0.0200	0.0200	"	"	--	"	98.9%	(30-135)	--	--	"	
Naphthalene	"	2.17	0.0400	0.0400	"	"	--	"	86.6%	(30-113)	--	--	"	
Phenanthrene	"	2.14	0.0400	0.0400	"	"	--	"	85.6%	(34-126)	--	--	"	
Pyrene	"	2.32	0.0400	0.0400	"	"	--	"	92.6%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 78.7%*			*Limits: 25-125%*	"							*05/21/08 12:01*	
Pyrene-d10		*89.1%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*88.5%*			*10-125%*	"							"	
LCS Dup (8050686-BSD1)									**Extracted: 05/16/08 13:10**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.57	1.05	2.00	ug/l	2x	--	4.00	89.3%	(20-150)	7.36%	(50)	05/19/08 17:11	
Butyl benzyl phthalate	"	3.35	1.05	2.00	"	"	--	"	83.9%	"	4.35%	"	"	
Di-n-butyl phthalate	"	3.45	1.05	2.00	"	"	--	"	86.4%	"	3.65%	"	"	
Di-n-octyl phthalate	"	3.74	1.05	2.00	"	"	--	"	93.6%	"	2.41%	"	"	
Diethyl phthalate	"	3.43	1.05	2.00	"	"	--	"	85.9%	"	2.20%	"	"	
Dimethyl phthalate	"	3.33	1.05	2.00	"	"	--	"	83.4%	"	3.83%	"	"	
Acenaphthene	"	2.42	0.0400	0.0400	"	"	--	2.50	96.9%	(35-120)	5.50%	(35)	05/21/08 12:31	
Acenaphthylene	"	2.07	0.0400	0.0400	"	"	--	"	82.7%	(34-116)	4.99%	"	"	
Anthracene	"	2.29	0.0400	0.0400	"	"	--	"	91.6%	(24-119)	6.57%	"	"	
Benzo (a) anthracene	"	2.51	0.0200	0.0200	"	"	--	"	100%	(36-128)	3.97%	"	"	
Benzo (a) pyrene	"	2.44	0.0200	0.0200	"	"	--	"	97.5%	(17-128)	5.26%	"	"	
Benzo (b) fluoranthene	"	2.58	0.0200	0.0200	"	"	--	"	103%	(37-131)	4.10%	"	"	
Benzo (ghi) perylene	"	2.54	0.0400	0.0400	"	"	--	"	101%	(26-126)	3.65%	"	"	
Benzo (k) fluoranthene	"	2.11	0.0200	0.0200	"	"	--	"	84.4%	(18-145)	3.28%	"	"	
Chrysene	"	2.46	0.0200	0.0200	"	"	--	"	98.5%	(16-137)	3.69%	"	"	
Dibenzo (a,h) anthracene	"	2.61	0.0200	0.0200	"	"	--	"	104%	(20-141)	4.01%	"	"	
Fluoranthene	"	2.34	0.0400	0.0400	"	"	--	"	93.5%	(31-125)	5.09%	"	"	
Fluorene	"	2.29	0.0400	0.0400	"	"	--	"	91.6%	(27-124)	5.70%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.57	0.0200	0.0200	"	"	--	"	103%	(30-135)	3.80%	"	"	
Naphthalene	"	2.28	0.0400	0.0400	"	"	--	"	91.4%	(30-113)	5.33%	"	"	
Phenanthrene	"	2.32	0.0400	0.0400	"	"	--	"	92.7%	(34-126)	7.91%	"	"	
Pyrene	"	2.41	0.0400	0.0400	"	"	--	"	96.5%	(21-141)	4.11%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 80.8%*			*Limits: 25-125%*	"							*05/21/08 12:31*	
Pyrene-d10		*91.8%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	06/29/08 13:31

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8050686 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8050686-BSD1)													**Extracted: 05/16/08 13:10**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 91.8%*			*Limits: 10-125%*	*2x*							*05/21/08 12:31*	

TestAmerica Portland

Howard Holmes, Project Manager

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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	06/29/08 13:31

Notes and Definitions

Report Specific Notes:

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
5755 8th St E, Tacoma, WA 98424-1319 253-922-2310 FAX 922-5047
1022 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W. International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PKE0507

CLIENT: City of Portland	INVOICE TO: Charles Lytle
REPORT TO: Jennifer Shackelford	
ADDRESS:	
PHONE: FAX:	P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor	PRESERVATIVE
PROJECT NUMBER: Stormwater Samp	REQUESTED ANALYSES
SAMPLED BY:	

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: ~~X~~ STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PAH + phthalates 8270 SIM (*)	PCB 209 Congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FC 080652	5/13/08 1257	X	X	W	2		
2	653	1358	X	X	W	2		
3	654	1425	X	X	W	2		
4	655	1531	X		W	1		
5								
6								
7								
8								
9								
10								

RELEASED BY:			DATE: 5/14/08	RECEIVED BY:			DATE: 5/14/08
PRINT NAME: Rona Kluch	FIRM: City of Portland		TIME: 1900	PRINT NAME:	FIRM: TAP		TIME: 1400
RELEASED BY:			DATE: 5-14-08	RECEIVED BY:			DATE: 5/14/08
PRINT NAME:	FIRM: TAP		TIME: 1530	PRINT NAME: Brianna Earley	FIRM: TAP		TIME: 1530

ADDITIONAL REMARKS: (*) Please use custom PAH/phthalate list as for UIC project w/ Low DLs.
TEMP: 2.6°C PAGE 1 OF 1

(**) PCB 209 Congeners to Pace Analytical. Thanks.

TAL-1000 0907

TestAmerica Sample Receipt Checklist

029

Received by: *(section A)* Date: 5/14/08 Time: 1530 Initials: JM

Unpacked by: *(section B)* Date: 5/14/08 Initials: RAF

Logged-in by: Date: 5/14/08 Initials: TA

Work Order No. PREOSO7

Client: City of Portland

Project:

Temperature out of range:
___Not enough Ice
___No Ice
___Ice Melted
___W/in 4 Hours
___Other:

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 2.6 °C plastic glass NA *(oil/air samples, ESI client)* Temperature Blank: _____ C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other:_____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:

Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	

For Analyses Requested:

Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA

Metals:

HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

*PM Reviewed:*_____ *(Initial/Date)*

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

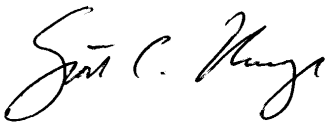
Pace Project #: 1073389
Sample Receipt Date: 05/16/2008
Client Project #: PRE0507
Client Sub PO #: N/A
State Cert #: MN200001-004

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

Report Prepared Date:
June 11, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on three samples submitted by a representative of Test America - Portland. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 parts per trillion and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 59-114%. All of the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. This demonstrates that the analytical process did not introduce significant levels of PCB congeners to the sample extracts.

Laboratory spike samples were also prepared with the sample batch using reference water that had been fortified with native standards. The results show that the spiked native compounds in the lab spikes were recovered at 102-122% with relative percent differences of 0.0-5.7%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with this extraction batch.

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Appendix A

Sample Management

1073389

SUBCONTRACT ORDER

TestAmerica Portland

PRE0507

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRE0507-01	**Water**		Sampled: **05/13/08 12:57**	1073389001
1668 Coplanar PCBs - SUB	ug/l	05/28/08	11/09/08 12:57	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRE0507-02	**Water**		Sampled: **05/13/08 13:58**	002
1668 Coplanar PCBs - SUB	ug/l	05/28/08	11/09/08 13:58	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				
Sample ID: PRE0507-03	**Water**		Sampled: **05/13/08 14:25**	003
1668 Coplanar PCBs - SUB	ug/l	05/28/08	11/09/08 14:25	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B)				

T = 3.9

Released By	5-15-08 Date/Time	Received By	5-16-08 09:12 Date/Time
Released By	Date/Time	Received By	Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America Project # 1073389

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z1AE5870199262271

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: 230194010, ~~72310129~~ Type of Ice: Wet (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 3.9 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: JK 5-16-08

Chain of Custody Present:	☒Yes	☐No	☐N/A
Chain of Custody Filled Out:	☒Yes	☐No	☐N/A
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☐Yes	☒No	☐N/A
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☒No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A
Sufficient Volume:	☒Yes	☐No	☐N/A
Correct Containers Used:	☒Yes	☐No	☐N/A
-Pace Containers Used:	☐Yes	☒No	☐N/A
Containers Intact:	☒Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☒N/A
Sample Labels match COC:	☒Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: WT			
All containers needing preservation have been checked.	☐Yes	☐No	☒N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☒No	
Samples checked for dechlorination:	☐Yes	☐No	☒N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A
Trip Blank Present:	☐Yes	☐No	☒N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☒N/A
Pace Trip Blank Lot # (if purchased):			

	Initial when completed	Lot # of added preservative
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MAH **Date:** 5/16/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRE0507-01		
Lab Sample ID	1073389001		
Filename	P80606A_09		
Injected By	BAL		
Total Amount Extracted	996 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	05/13/2008
ICAL ID	P80606A01	Received	05/16/2008
CCal Filename(s)	P80606A_02	Extracted	05/30/2008
Method Blank ID	BLANK-16488	Analyzed	06/06/2008 19:51

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.666	3.18	2.0	1.34	67
13C-4-MoCB	3	12.057	3.28	2.0	1.34	67
13C-2,2'-DiCB	4	12.416	1.63	2.0	1.30	65
13C-4,4'-DiCB	15	20.564	1.51	2.0	1.55	78
13C-2,2',6-TrCB	19	16.874	1.09	2.0	1.40	70
13C-3,4,4'-TrCB	37	28.973	1.04	2.0	1.77	88
13C-2,2',6,6'-TeCB	54	20.924	0.83	2.0	1.71	86
13C-3,4,4',5-TeCB	81	36.367	0.75	2.0	1.39	69
13C-3,3',4,4'-TeCB	77	36.954	0.75	2.0	1.32	66
13C-2,2',4,6,6'-PeCB	104	27.564	1.64	2.0	1.94	97
13C-2,3,3',4,4'-PeCB	105	40.627	1.53	2.0	1.52	76
13C-2,3,4,4',5-PeCB	114	39.973	1.53	2.0	1.49	75
13C-2,3',4,4',5-PeCB	118	39.419	1.54	2.0	1.65	83
13C-2,3',4,4',5'-PeCB	123	39.084	1.54	2.0	1.60	80
13C-3,3',4,4',5-PeCB	126	43.846	1.51	2.0	1.48	74
13C-2,2',4,4',6,6'-HxCB	155	33.919	1.26	2.0	2.01	100
13C-HxCB (156/157)	156/157	46.949	1.23	4.0	3.40	85
13C-2,3',4,4',5,5'-HxCB	167	45.775	1.22	2.0	1.68	84
13C-3,3',4,4',5,5'-HxCB	169	50.252	1.25	2.0	1.57	78
13C-2,2',3,4',5,6,6'-HpCB	188	39.973	1.06	2.0	2.14	107
13C-2,3,3',4,4',5,5'-HpCB	189	52.811	1.03	2.0	1.75	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.507	0.91	2.0	1.83	91
13C-2,3,3',4,4',5,5',6-OcCB	205	55.418	0.86	2.0	1.81	90
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.164	0.82	2.0	1.90	95
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.315	0.79	2.0	1.75	87
13C--DeCB	209	58.781	0.74	2.0	1.97	99
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.328	1.02	2.0	1.94	97
13C-2,3,3',5,5'-PeCB	111	37.038	1.60	2.0	1.69	84
13C-2,2',3,3',5,5',6-HpCB	178	43.125	1.06	2.0	1.75	88
Recovery Standards						
13C-2,5-DiCB	9	15.328	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.491	0.81	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.154	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.656	1.26	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.944	0.91	2.0	NA	NA

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A = Limit of Detection based on signal to noise
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NC = Not Calculated
* = See Discussion
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I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.502
2		---	---	ND	---	0.502
3		---	---	ND	---	0.502
4		---	---	ND	---	0.502
5		---	---	ND	---	0.502
6		---	---	ND	---	0.502
7		---	---	ND	---	0.502
8		---	---	ND	---	0.502
9		---	---	ND	---	0.502
10		---	---	ND	---	0.502
11		---	---	ND	---	0.602
12	12/13	---	---	ND	---	0.502
13	12/13	---	---	ND	---	0.502
14		---	---	ND	---	0.502
15		---	---	ND	---	0.502
16		---	---	ND	---	0.502
17		---	---	ND	---	0.502
18	18/30	---	---	ND	---	0.502
19		---	---	ND	---	0.502
20	20/28	24.361	0.99	0.912	---	0.602
21	21/33	---	---	ND	---	0.502
22		---	---	ND	---	0.502
23		---	---	ND	---	0.502
24		---	---	ND	---	0.502
25		---	---	ND	---	0.502
26	26/29	---	---	ND	---	0.502
27		---	---	ND	---	0.502
28	20/28	24.361	0.99	(0.912)	---	0.602
29	26/29	---	---	ND	---	0.502
30	18/30	---	---	ND	---	0.502
31		24.009	0.98	0.604	---	0.502
32		---	---	ND	---	0.502
33	21/33	---	---	ND	---	0.502
34		---	---	ND	---	0.502
35		---	---	ND	---	0.502
36		---	---	ND	---	0.502
37		---	---	ND	---	0.502
38		---	---	ND	---	0.502
39		---	---	ND	---	0.502
40	40/41/71	28.788	0.76	0.659	---	0.502
41	40/41/71	28.788	0.76	(0.659)	---	0.502
42		---	---	ND	---	0.502
43		---	---	ND	---	0.502
44	44/47/65	27.648	0.78	1.07	---	0.602
45	45/51	---	---	ND	---	0.502
46		---	---	ND	---	0.502
47	44/47/65	27.648	0.78	(1.07)	---	0.602
48		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.078	0.74	0.693	---	0.502
50	50/53	---	---	ND	---	0.502
51	45/51	---	---	ND	---	0.502
52		26.524	0.76	1.30	---	0.502
53	50/53	---	---	ND	---	0.502
54		---	---	ND	---	0.502
55		---	---	ND	---	0.502
56		---	---	ND	---	0.502
57		---	---	ND	---	0.502
58		---	---	ND	---	0.502
59	59/62/75	---	---	ND	---	0.502
60		---	---	ND	---	0.502
61	61/70/74/76	31.924	0.78	1.43	---	0.502
62	59/62/75	---	---	ND	---	0.502
63		---	---	ND	---	0.502
64		---	---	ND	---	0.502
65	44/47/65	27.648	0.78	(1.07)	---	0.602
66		32.276	0.75	0.800	---	0.502
67		---	---	ND	---	0.502
68		---	---	ND	---	0.502
69	49/69	27.078	0.74	(0.693)	---	0.502
70	61/70/74/76	31.924	0.78	(1.43)	---	0.502
71	40/41/71	28.788	0.76	(0.659)	---	0.502
72		---	---	ND	---	0.502
73		---	---	ND	---	0.502
74	61/70/74/76	31.924	0.78	(1.43)	---	0.502
75	59/62/75	---	---	ND	---	0.502
76	61/70/74/76	31.924	0.78	(1.43)	---	0.502
77		---	---	ND	---	0.502
78		---	---	ND	---	0.502
79		---	---	ND	---	0.502
80		---	---	ND	---	0.502
81		---	---	ND	---	0.502
82		---	---	ND	---	0.502
83		---	---	ND	---	0.502
84		32.108	1.65	0.742	---	0.502
85	85/116/117	---	---	ND	---	0.602
86	86/87/97/108/119/125	35.378	1.49	1.03	---	1.00
87	86/87/97/108/119/125	35.378	1.49	(1.03)	---	1.00
88	88/91	---	---	ND	---	0.502
89		---	---	ND	---	0.502
90	90/101/113	34.171	1.59	1.28	---	0.502
91	88/91	---	---	ND	---	0.502
92		---	---	ND	---	0.502
93	93/98/100/102	---	---	ND	---	0.753
94		---	---	ND	---	0.502
95		30.934	1.61	1.97	---	0.502
96		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.378	1.49	(1.03)	---	1.00
98	93/98/100/102	---	---	ND	---	0.753
99		34.808	1.59	0.599	---	0.502
100	93/98/100/102	---	---	ND	---	0.753
101	90/101/113	34.171	1.59	(1.28)	---	0.502
102	93/98/100/102	---	---	ND	---	0.753
103		---	---	ND	---	0.502
104		---	---	ND	---	0.502
105		40.660	1.54	0.573	---	0.502
106		---	---	ND	---	0.502
107	107/124	---	---	ND	---	0.502
108	86/87/97/108/119/125	35.378	1.49	(1.03)	---	1.00
109		---	---	ND	---	0.502
110	110/115	36.267	1.59	2.60	---	0.502
111		---	---	ND	---	0.502
112		---	---	ND	---	0.502
113	90/101/113	34.171	1.59	(1.28)	---	0.502
114		---	---	ND	---	0.502
115	110/115	36.267	1.59	(2.60)	---	0.502
116	85/116/117	---	---	ND	---	0.602
117	85/116/117	---	---	ND	---	0.602
118		39.453	1.52	1.12	---	0.502
119	86/87/97/108/119/125	35.378	1.49	(1.03)	---	1.00
120		---	---	ND	---	0.502
121		---	---	ND	---	0.502
122		---	---	ND	---	0.502
123		---	---	ND	---	0.502
124	107/124	---	---	ND	---	0.502
125	86/87/97/108/119/125	35.378	1.49	(1.03)	---	1.00
126		---	---	ND	---	0.502
127		---	---	ND	---	0.502
128	128/166	---	---	ND	---	1.00
129	129/138/163	42.689	1.24	2.56	---	0.502
130		---	---	ND	---	0.502
131		---	---	ND	---	0.502
132		39.537	1.23	1.03	---	0.502
133		---	---	ND	---	0.502
134	134/143	---	---	ND	---	0.502
135	135/151	37.273	1.26	0.886	---	0.512
136		---	---	ND	---	0.502
137		---	---	ND	---	0.502
138	129/138/163	42.689	1.24	(2.56)	---	0.502
139	139/140	---	---	ND	---	0.502
140	139/140	---	---	ND	---	0.502
141		---	---	ND	---	0.502
142		---	---	ND	---	0.502
143	134/143	---	---	ND	---	0.502
144		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.502
146		---	---	ND	---	0.502
147	147/149	38.229	1.21	1.84	---	0.502
148		---	---	ND	---	0.502
149	147/149	38.229	1.21	(1.84)	---	0.502
150		---	---	ND	---	0.502
151	135/151	37.273	1.26	(0.886)	---	0.512
152		---	---	ND	---	0.502
153	153/168	41.415	1.24	1.40	---	0.602
154		---	---	ND	---	0.502
155		---	---	ND	---	0.502
156	156/157	---	---	ND	---	0.502
157	156/157	---	---	ND	---	0.502
158		---	---	ND	---	0.502
159		---	---	ND	---	0.502
160		---	---	ND	---	0.502
161		---	---	ND	---	0.502
162		---	---	ND	---	0.502
163	129/138/163	42.689	1.24	(2.56)	---	0.502
164		---	---	ND	---	0.502
165		---	---	ND	---	0.502
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.502
168	153/168	41.415	1.24	(1.40)	---	0.602
169		---	---	ND	---	0.502
170		49.665	0.98	0.532	---	0.502
171	171/173	---	---	ND	---	0.502
172		---	---	ND	---	0.502
173	171/173	---	---	ND	---	0.502
174		44.953	1.06	0.513	---	0.502
175		---	---	ND	---	0.502
176		---	---	ND	---	0.502
177		---	---	ND	---	0.502
178		---	---	ND	---	0.502
179		---	---	ND	---	0.502
180	180/193	48.391	1.03	1.05	---	0.502
181		---	---	ND	---	0.502
182		---	---	ND	---	0.502
183	183/185	---	---	ND	---	0.502
184		---	---	ND	---	0.502
185	183/185	---	---	ND	---	0.502
186		---	---	ND	---	0.502
187		44.098	1.07	0.630	---	0.502
188		---	---	ND	---	0.502
189		---	---	ND	---	0.502
190		---	---	ND	---	0.502
191		---	---	ND	---	0.502
192		---	---	ND	---	0.502

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.391	1.03	(1.05)	---	0.502
194		---	---	ND	---	0.502
195		---	---	ND	---	0.502
196		---	---	ND	---	0.703
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.502
199	198/199	---	---	ND	---	0.502
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.502
202		---	---	ND	---	0.502
203		---	---	ND	---	0.502
204		---	---	ND	---	0.502
205		---	---	ND	---	0.502
206		---	---	ND	---	0.502
207		---	---	ND	---	0.502
208		---	---	ND	---	0.502
209		---	---	ND	---	0.502

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ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRE0507-01
Lab Sample ID	1073389001
Filename	P80606A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	1.52
Total Tetrachloro Biphenyls	5.95
Total Pentachloro Biphenyls	9.92
Total Hexachloro Biphenyls	7.72
Total Heptachloro Biphenyls	2.73
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	27.8

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRE0507-02		
Lab Sample ID	1073389002		
Filename	P80606A_10		
Injected By	BAL		
Total Amount Extracted	976 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	05/13/2008
ICAL ID	P80606A01	Received	05/16/2008
CCal Filename(s)	P80606A_02	Extracted	05/30/2008
Method Blank ID	BLANK-16488	Analyzed	06/06/2008 20:54

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.653	3.09	2.0	1.33	67
13C-4-MoCB	3	12.045	3.09	2.0	1.32	66
13C-2,2'-DiCB	4	12.404	1.69	2.0	1.28	64
13C-4,4'-DiCB	15	20.552	1.47	2.0	1.51	75
13C-2,2',6-TrCB	19	16.861	1.09	2.0	1.38	69
13C-3,4,4'-TrCB	37	28.955	1.01	2.0	1.84	92
13C-2,2',6,6'-TeCB	54	20.907	0.81	2.0	1.55	78
13C-3,4,4',5-TeCB	81	36.333	0.76	2.0	1.72	86
13C-3,3',4,4'-TeCB	77	36.920	0.78	2.0	1.65	83
13C-2,2',4,6,6'-PeCB	104	27.547	1.62	2.0	1.52	76
13C-2,3,3',4,4'-PeCB	105	40.609	1.58	2.0	1.68	84
13C-2,3,4,4',5-PeCB	114	39.939	1.56	2.0	1.65	82
13C-2,3',4,4',5-PeCB	118	39.402	1.55	2.0	1.79	90
13C-2,3',4,4',5'-PeCB	123	39.050	1.49	2.0	1.76	88
13C-3,3',4,4',5-PeCB	126	43.812	1.52	2.0	1.55	77
13C-2,2',4,4',6,6'-HxCB	155	33.885	1.33	2.0	1.70	85
13C-HxCB (156/157)	156/157	46.914	1.24	4.0	3.21	80
13C-2,3',4,4',5,5'-HxCB	167	45.741	1.23	2.0	1.66	83
13C-3,3',4,4',5,5'-HxCB	169	50.218	1.27	2.0	1.44	72
13C-2,2',3,4',5,6,6'-HpCB	188	39.939	1.07	2.0	2.22	111
13C-2,3,3',4,4',5,5'-HpCB	189	52.788	1.01	2.0	1.79	90
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.489	0.91	2.0	1.89	95
13C-2,3,3',4,4',5,5',6-OcCB	205	55.374	0.89	2.0	1.90	95
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.120	0.83	2.0	1.97	98
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.292	0.82	2.0	1.81	90
13C--DeCB	209	58.736	0.72	2.0	2.01	101
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.311	1.01	2.0	1.78	89
13C-2,3,3',5,5'-PeCB	111	37.004	1.61	2.0	1.62	81
13C-2,2',3,3',5,5',6-HpCB	178	43.108	1.06	2.0	1.56	78
Recovery Standards						
13C-2,5-DiCB	9	15.316	1.53	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.474	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.120	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.622	1.25	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.900	0.88	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-02
Lab Sample ID	1073389002
Filename	P80606A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.512
2		---	---	ND	---	0.512
3		---	---	ND	---	0.512
4		---	---	ND	---	0.512
5		---	---	ND	---	0.512
6		---	---	ND	---	0.512
7		---	---	ND	---	0.512
8		---	---	ND	---	0.512
9		---	---	ND	---	0.512
10		---	---	ND	---	0.512
11		---	---	ND	---	0.615
12	12/13	---	---	ND	---	0.512
13	12/13	---	---	ND	---	0.512
14		---	---	ND	---	0.512
15		---	---	ND	---	0.512
16		---	---	ND	---	0.512
17		---	---	ND	---	0.512
18	18/30	---	---	ND	---	0.512
19		---	---	ND	---	0.512
20	20/28	---	---	ND	---	0.615
21	21/33	---	---	ND	---	0.512
22		---	---	ND	---	0.512
23		---	---	ND	---	0.512
24		---	---	ND	---	0.512
25		---	---	ND	---	0.512
26	26/29	---	---	ND	---	0.512
27		---	---	ND	---	0.512
28	20/28	---	---	ND	---	0.615
29	26/29	---	---	ND	---	0.512
30	18/30	---	---	ND	---	0.512
31		---	---	ND	---	0.512
32		---	---	ND	---	0.512
33	21/33	---	---	ND	---	0.512
34		---	---	ND	---	0.512
35		---	---	ND	---	0.512
36		---	---	ND	---	0.512
37		---	---	ND	---	0.512
38		---	---	ND	---	0.512
39		---	---	ND	---	0.512
40	40/41/71	---	---	ND	---	0.512
41	40/41/71	---	---	ND	---	0.512
42		---	---	ND	---	0.512
43		---	---	ND	---	0.512
44	44/47/65	---	---	ND	---	0.615
45	45/51	---	---	ND	---	0.512
46		---	---	ND	---	0.512
47	44/47/65	---	---	ND	---	0.615
48		---	---	ND	---	0.512

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-02
Lab Sample ID	1073389002
Filename	P80606A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.512
50	50/53	---	---	ND	---	0.512
51	45/51	---	---	ND	---	0.512
52		---	---	ND	---	0.512
53	50/53	---	---	ND	---	0.512
54		---	---	ND	---	0.512
55		---	---	ND	---	0.512
56		---	---	ND	---	0.512
57		---	---	ND	---	0.512
58		---	---	ND	---	0.512
59	59/62/75	---	---	ND	---	0.512
60		---	---	ND	---	0.512
61	61/70/74/76	---	---	ND	---	0.512
62	59/62/75	---	---	ND	---	0.512
63		---	---	ND	---	0.512
64		---	---	ND	---	0.512
65	44/47/65	---	---	ND	---	0.615
66		---	---	ND	---	0.512
67		---	---	ND	---	0.512
68		---	---	ND	---	0.512
69	49/69	---	---	ND	---	0.512
70	61/70/74/76	---	---	ND	---	0.512
71	40/41/71	---	---	ND	---	0.512
72		---	---	ND	---	0.512
73		---	---	ND	---	0.512
74	61/70/74/76	---	---	ND	---	0.512
75	59/62/75	---	---	ND	---	0.512
76	61/70/74/76	---	---	ND	---	0.512
77		---	---	ND	---	0.512
78		---	---	ND	---	0.512
79		---	---	ND	---	0.512
80		---	---	ND	---	0.512
81		---	---	ND	---	0.512
82		---	---	ND	---	0.512
83		---	---	ND	---	0.512
84		---	---	ND	---	0.512
85	85/116/117	---	---	ND	---	0.615
86	86/87/97/108/119/125	---	---	ND	---	1.02
87	86/87/97/108/119/125	---	---	ND	---	1.02
88	88/91	---	---	ND	---	0.512
89		---	---	ND	---	0.512
90	90/101/113	---	---	ND	---	0.512
91	88/91	---	---	ND	---	0.512
92		---	---	ND	---	0.512
93	93/98/100/102	---	---	ND	---	0.768
94		---	---	ND	---	0.512
95		---	---	ND	---	0.512
96		---	---	ND	---	0.512

Conc = Concentration
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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRE0507-02
Lab Sample ID 1073389002
Filename P80606A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.02
98	93/98/100/102	---	---	ND	---	0.768
99		---	---	ND	---	0.512
100	93/98/100/102	---	---	ND	---	0.768
101	90/101/113	---	---	ND	---	0.512
102	93/98/100/102	---	---	ND	---	0.768
103		---	---	ND	---	0.512
104		---	---	ND	---	0.512
105		---	---	ND	---	0.512
106		---	---	ND	---	0.512
107	107/124	---	---	ND	---	0.512
108	86/87/97/108/119/125	---	---	ND	---	1.02
109		---	---	ND	---	0.512
110	110/115	---	---	ND	---	0.512
111		---	---	ND	---	0.512
112		---	---	ND	---	0.512
113	90/101/113	---	---	ND	---	0.512
114		---	---	ND	---	0.512
115	110/115	---	---	ND	---	0.512
116	85/116/117	---	---	ND	---	0.615
117	85/116/117	---	---	ND	---	0.615
118		---	---	ND	---	0.512
119	86/87/97/108/119/125	---	---	ND	---	1.02
120		---	---	ND	---	0.512
121		---	---	ND	---	0.512
122		---	---	ND	---	0.512
123		---	---	ND	---	0.512
124	107/124	---	---	ND	---	0.512
125	86/87/97/108/119/125	---	---	ND	---	1.02
126		---	---	ND	---	0.512
127		---	---	ND	---	0.512
128	128/166	---	---	ND	---	1.02
129	129/138/163	---	---	ND	---	0.512
130		---	---	ND	---	0.512
131		---	---	ND	---	0.512
132		---	---	ND	---	0.512
133		---	---	ND	---	0.512
134	134/143	---	---	ND	---	0.512
135	135/151	---	---	ND	---	0.523
136		---	---	ND	---	0.512
137		---	---	ND	---	0.512
138	129/138/163	---	---	ND	---	0.512
139	139/140	---	---	ND	---	0.512
140	139/140	---	---	ND	---	0.512
141		---	---	ND	---	0.512
142		---	---	ND	---	0.512
143	134/143	---	---	ND	---	0.512
144		---	---	ND	---	0.512

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRE0507-02
Lab Sample ID 1073389002
Filename P80606A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.512
146		---	---	ND	---	0.512
147	147/149	---	---	ND	---	0.512
148		---	---	ND	---	0.512
149	147/149	---	---	ND	---	0.512
150		---	---	ND	---	0.512
151	135/151	---	---	ND	---	0.523
152		---	---	ND	---	0.512
153	153/168	---	---	ND	---	0.615
154		---	---	ND	---	0.512
155		---	---	ND	---	0.512
156	156/157	---	---	ND	---	0.512
157	156/157	---	---	ND	---	0.512
158		---	---	ND	---	0.512
159		---	---	ND	---	0.512
160		---	---	ND	---	0.512
161		---	---	ND	---	0.512
162		---	---	ND	---	0.512
163	129/138/163	---	---	ND	---	0.512
164		---	---	ND	---	0.512
165		---	---	ND	---	0.512
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.512
168	153/168	---	---	ND	---	0.615
169		---	---	ND	---	0.512
170		---	---	ND	---	0.512
171	171/173	---	---	ND	---	0.512
172		---	---	ND	---	0.512
173	171/173	---	---	ND	---	0.512
174		---	---	ND	---	0.512
175		---	---	ND	---	0.512
176		---	---	ND	---	0.512
177		---	---	ND	---	0.512
178		---	---	ND	---	0.512
179		---	---	ND	---	0.512
180	180/193	---	---	ND	---	0.512
181		---	---	ND	---	0.512
182		---	---	ND	---	0.512
183	183/185	---	---	ND	---	0.512
184		---	---	ND	---	0.512
185	183/185	---	---	ND	---	0.512
186		---	---	ND	---	0.512
187		---	---	ND	---	0.512
188		---	---	ND	---	0.512
189		---	---	ND	---	0.512
190		---	---	ND	---	0.512
191		---	---	ND	---	0.512
192		---	---	ND	---	0.512

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-02
Lab Sample ID	1073389002
Filename	P80606A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.512
194		---	---	ND	---	0.512
195		---	---	ND	---	0.512
196		---	---	ND	---	0.717
197	197/200	---	---	ND	---	2.56
198	198/199	---	---	ND	---	0.512
199	198/199	---	---	ND	---	0.512
200	197/200	---	---	ND	---	2.56
201		---	---	ND	---	0.512
202		---	---	ND	---	0.512
203		---	---	ND	---	0.512
204		---	---	ND	---	0.512
205		---	---	ND	---	0.512
206		---	---	ND	---	0.512
207		---	---	ND	---	0.512
208		---	---	ND	---	0.512
209		---	---	ND	---	0.512

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-02
Lab Sample ID	1073389002
Filename	P80606A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRE0507-03		
Lab Sample ID	1073389003		
Filename	P80606A_11		
Injected By	BAL		
Total Amount Extracted	995 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	05/13/2008
ICAL ID	P80606A01	Received	05/16/2008
CCal Filename(s)	P80606A_02	Extracted	05/30/2008
Method Blank ID	BLANK-16488	Analyzed	06/06/2008 21:57

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.654	3.36	2.0	1.19	59
13C-4-MoCB	3	12.044	3.23	2.0	1.22	61
13C-2,2'-DiCB	4	12.404	1.60	2.0	1.25	63
13C-4,4'-DiCB	15	20.551	1.53	2.0	1.50	75
13C-2,2',6-TrCB	19	16.861	1.10	2.0	1.28	64
13C-3,4,4'-TrCB	37	28.955	1.02	2.0	1.85	93
13C-2,2',6,6'-TeCB	54	20.906	0.80	2.0	1.47	74
13C-3,4,4',5-TeCB	81	36.334	0.76	2.0	1.88	94
13C-3,3',4,4'-TeCB	77	36.921	0.78	2.0	1.80	90
13C-2,2',4,6,6'-PeCB	104	27.547	1.61	2.0	1.47	74
13C-2,3,3',4,4'-PeCB	105	40.610	1.54	2.0	1.85	93
13C-2,3,4,4',5-PeCB	114	39.939	1.54	2.0	1.80	90
13C-2,3',4,4',5-PeCB	118	39.402	1.52	2.0	1.94	97
13C-2,3',4,4',5'-PeCB	123	39.050	1.53	2.0	1.89	94
13C-3,3',4,4',5-PeCB	126	43.812	1.53	2.0	1.71	85
13C-2,2',4,4',6,6'-HxCB	155	33.885	1.31	2.0	1.54	77
13C-HxCB (156/157)	156/157	46.915	1.21	4.0	3.62	91
13C-2,3',4,4',5,5'-HxCB	167	45.741	1.23	2.0	1.81	90
13C-3,3',4,4',5,5'-HxCB	169	50.218	1.23	2.0	1.51	75
13C-2,2',3,4',5,6,6'-HpCB	188	39.939	1.08	2.0	2.28	114
13C-2,3,3',4,4',5,5'-HpCB	189	52.788	1.00	2.0	1.98	99
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.489	0.91	2.0	2.07	104
13C-2,3,3',4,4',5,5',6-OcCB	205	55.375	0.88	2.0	1.98	99
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.121	0.77	2.0	2.01	101
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.292	0.78	2.0	1.90	95
13C--DeCB	209	58.737	0.70	2.0	2.15	107
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.310	1.01	2.0	1.79	89
13C-2,3,3',5,5'-PeCB	111	37.004	1.60	2.0	1.70	85
13C-2,2',3,3',5,5',6-HpCB	178	43.108	1.07	2.0	1.58	79
Recovery Standards						
13C-2,5-DiCB	9	15.316	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.473	0.81	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.120	1.63	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.622	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.900	0.91	2.0	NA	NA

Conc = Concentration
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-03
Lab Sample ID	1073389003
Filename	P80606A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.503
2		---	---	ND	---	0.503
3		---	---	ND	---	0.503
4		---	---	ND	---	0.503
5		---	---	ND	---	0.503
6		---	---	ND	---	0.503
7		---	---	ND	---	0.503
8		---	---	ND	---	0.503
9		---	---	ND	---	0.503
10		---	---	ND	---	0.503
11		---	---	ND	---	0.603
12	12/13	---	---	ND	---	0.503
13	12/13	---	---	ND	---	0.503
14		---	---	ND	---	0.503
15		---	---	ND	---	0.503
16		---	---	ND	---	0.503
17		---	---	ND	---	0.503
18	18/30	---	---	ND	---	0.503
19		---	---	ND	---	0.503
20	20/28	---	---	ND	---	0.603
21	21/33	---	---	ND	---	0.503
22		---	---	ND	---	0.503
23		---	---	ND	---	0.503
24		---	---	ND	---	0.503
25		---	---	ND	---	0.503
26	26/29	---	---	ND	---	0.503
27		---	---	ND	---	0.503
28	20/28	---	---	ND	---	0.603
29	26/29	---	---	ND	---	0.503
30	18/30	---	---	ND	---	0.503
31		---	---	ND	---	0.503
32		---	---	ND	---	0.503
33	21/33	---	---	ND	---	0.503
34		---	---	ND	---	0.503
35		---	---	ND	---	0.503
36		---	---	ND	---	0.503
37		---	---	ND	---	0.503
38		---	---	ND	---	0.503
39		---	---	ND	---	0.503
40	40/41/71	---	---	ND	---	0.503
41	40/41/71	---	---	ND	---	0.503
42		---	---	ND	---	0.503
43		---	---	ND	---	0.503
44	44/47/65	---	---	ND	---	0.603
45	45/51	---	---	ND	---	0.503
46		---	---	ND	---	0.503
47	44/47/65	---	---	ND	---	0.603
48		---	---	ND	---	0.503

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-03
Lab Sample ID	1073389003
Filename	P80606A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.503
50	50/53	---	---	ND	---	0.503
51	45/51	---	---	ND	---	0.503
52		---	---	ND	---	0.503
53	50/53	---	---	ND	---	0.503
54		---	---	ND	---	0.503
55		---	---	ND	---	0.503
56		---	---	ND	---	0.503
57		---	---	ND	---	0.503
58		---	---	ND	---	0.503
59	59/62/75	---	---	ND	---	0.503
60		---	---	ND	---	0.503
61	61/70/74/76	---	---	ND	---	0.503
62	59/62/75	---	---	ND	---	0.503
63		---	---	ND	---	0.503
64		---	---	ND	---	0.503
65	44/47/65	---	---	ND	---	0.603
66		---	---	ND	---	0.503
67		---	---	ND	---	0.503
68		---	---	ND	---	0.503
69	49/69	---	---	ND	---	0.503
70	61/70/74/76	---	---	ND	---	0.503
71	40/41/71	---	---	ND	---	0.503
72		---	---	ND	---	0.503
73		---	---	ND	---	0.503
74	61/70/74/76	---	---	ND	---	0.503
75	59/62/75	---	---	ND	---	0.503
76	61/70/74/76	---	---	ND	---	0.503
77		---	---	ND	---	0.503
78		---	---	ND	---	0.503
79		---	---	ND	---	0.503
80		---	---	ND	---	0.503
81		---	---	ND	---	0.503
82		---	---	ND	---	0.503
83		---	---	ND	---	0.503
84		---	---	ND	---	0.503
85	85/116/117	---	---	ND	---	0.603
86	86/87/97/108/119/125	---	---	ND	---	1.01
87	86/87/97/108/119/125	---	---	ND	---	1.01
88	88/91	---	---	ND	---	0.503
89		---	---	ND	---	0.503
90	90/101/113	---	---	ND	---	0.503
91	88/91	---	---	ND	---	0.503
92		---	---	ND	---	0.503
93	93/98/100/102	---	---	ND	---	0.754
94		---	---	ND	---	0.503
95		---	---	ND	---	0.503
96		---	---	ND	---	0.503

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRE0507-03
Lab Sample ID 1073389003
Filename P80606A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.01
98	93/98/100/102	---	---	ND	---	0.754
99		---	---	ND	---	0.503
100	93/98/100/102	---	---	ND	---	0.754
101	90/101/113	---	---	ND	---	0.503
102	93/98/100/102	---	---	ND	---	0.754
103		---	---	ND	---	0.503
104		---	---	ND	---	0.503
105		---	---	ND	---	0.503
106		---	---	ND	---	0.503
107	107/124	---	---	ND	---	0.503
108	86/87/97/108/119/125	---	---	ND	---	1.01
109		---	---	ND	---	0.503
110	110/115	---	---	ND	---	0.503
111		---	---	ND	---	0.503
112		---	---	ND	---	0.503
113	90/101/113	---	---	ND	---	0.503
114		---	---	ND	---	0.503
115	110/115	---	---	ND	---	0.503
116	85/116/117	---	---	ND	---	0.603
117	85/116/117	---	---	ND	---	0.603
118		---	---	ND	---	0.503
119	86/87/97/108/119/125	---	---	ND	---	1.01
120		---	---	ND	---	0.503
121		---	---	ND	---	0.503
122		---	---	ND	---	0.503
123		---	---	ND	---	0.503
124	107/124	---	---	ND	---	0.503
125	86/87/97/108/119/125	---	---	ND	---	1.01
126		---	---	ND	---	0.503
127		---	---	ND	---	0.503
128	128/166	---	---	ND	---	1.01
129	129/138/163	---	---	ND	---	0.503
130		---	---	ND	---	0.503
131		---	---	ND	---	0.503
132		---	---	ND	---	0.503
133		---	---	ND	---	0.503
134	134/143	---	---	ND	---	0.503
135	135/151	---	---	ND	---	0.513
136		---	---	ND	---	0.503
137		---	---	ND	---	0.503
138	129/138/163	---	---	ND	---	0.503
139	139/140	---	---	ND	---	0.503
140	139/140	---	---	ND	---	0.503
141		---	---	ND	---	0.503
142		---	---	ND	---	0.503
143	134/143	---	---	ND	---	0.503
144		---	---	ND	---	0.503

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-03
Lab Sample ID	1073389003
Filename	P80606A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.503
146		---	---	ND	---	0.503
147	147/149	---	---	ND	---	0.503
148		---	---	ND	---	0.503
149	147/149	---	---	ND	---	0.503
150		---	---	ND	---	0.503
151	135/151	---	---	ND	---	0.513
152		---	---	ND	---	0.503
153	153/168	---	---	ND	---	0.603
154		---	---	ND	---	0.503
155		---	---	ND	---	0.503
156	156/157	---	---	ND	---	0.503
157	156/157	---	---	ND	---	0.503
158		---	---	ND	---	0.503
159		---	---	ND	---	0.503
160		---	---	ND	---	0.503
161		---	---	ND	---	0.503
162		---	---	ND	---	0.503
163	129/138/163	---	---	ND	---	0.503
164		---	---	ND	---	0.503
165		---	---	ND	---	0.503
166	128/166	---	---	ND	---	1.01
167		---	---	ND	---	0.503
168	153/168	---	---	ND	---	0.603
169		---	---	ND	---	0.503
170		---	---	ND	---	0.503
171	171/173	---	---	ND	---	0.503
172		---	---	ND	---	0.503
173	171/173	---	---	ND	---	0.503
174		---	---	ND	---	0.503
175		---	---	ND	---	0.503
176		---	---	ND	---	0.503
177		---	---	ND	---	0.503
178		---	---	ND	---	0.503
179		---	---	ND	---	0.503
180	180/193	---	---	ND	---	0.503
181		---	---	ND	---	0.503
182		---	---	ND	---	0.503
183	183/185	---	---	ND	---	0.503
184		---	---	ND	---	0.503
185	183/185	---	---	ND	---	0.503
186		---	---	ND	---	0.503
187		---	---	ND	---	0.503
188		---	---	ND	---	0.503
189		---	---	ND	---	0.503
190		---	---	ND	---	0.503
191		---	---	ND	---	0.503
192		---	---	ND	---	0.503

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-03
Lab Sample ID	1073389003
Filename	P80606A_11

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	---	---	ND	---	0.503
194		---	---	ND	---	0.503
195		---	---	ND	---	0.503
196		---	---	ND	---	0.704
197	197/200	---	---	ND	---	2.51
198	198/199	---	---	ND	---	0.503
199	198/199	---	---	ND	---	0.503
200	197/200	---	---	ND	---	2.51
201		---	---	ND	---	0.503
202		---	---	ND	---	0.503
203		---	---	ND	---	0.503
204		---	---	ND	---	0.503
205		---	---	ND	---	0.503
206		---	---	ND	---	0.503
207		---	---	ND	---	0.503
208		---	---	ND	---	0.503
209		---	---	ND	---	0.503

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRE0507-03
Lab Sample ID	1073389003
Filename	P80606A_11

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-16488		
Filename	P80606A_06		
Injected By	BAL	Matrix	Water
Total Amount Extracted	1030 mL	Extracted	05/30/2008
ICAL ID	P80606A01	Analyzed	06/06/2008 16:41
CCal Filename(s)	P80606A_02	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.654	3.33	2.0	1.08	54
13C-4-MoCB	3	12.045	3.22	2.0	1.17	59
13C-2,2'-DiCB	4	12.404	1.57	2.0	1.18	59
13C-4,4'-DiCB	15	20.552	1.50	2.0	1.37	68
13C-2,2',6-TrCB	19	16.862	1.07	2.0	1.24	62
13C-3,4,4'-TrCB	37	28.956	1.02	2.0	1.73	86
13C-2,2',6,6'-TeCB	54	20.907	0.78	2.0	1.40	70
13C-3,4,4',5-TeCB	81	36.334	0.78	2.0	1.75	88
13C-3,3',4,4'-TeCB	77	36.921	0.78	2.0	1.71	86
13C-2,2',4,6,6'-PeCB	104	27.564	1.63	2.0	1.45	73
13C-2,3,3',4,4'-PeCB	105	40.610	1.54	2.0	1.85	92
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13C-HxCB (156/157)	156/157	46.915	1.23	4.0	3.65	91
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13C-3,3',4,4',5,5'-HxCB	169	50.219	1.23	2.0	1.69	85
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13C-2,3,3',4,4',5,5'-HpCB	189	52.789	1.01	2.0	1.72	86
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.490	0.93	2.0	1.44	72
13C-2,3,3',4,4',5,5',6-OcCB	205	55.375	0.87	2.0	1.82	91
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.121	0.80	2.0	1.65	82
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.293	0.81	2.0	1.53	76
13C--DeCB	209	58.738	0.72	2.0	1.57	79
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13C-2,4,4'-TrCB	28	24.311	1.00	2.0	1.65	82
13C-2,3,3',5,5'-PeCB	111	37.005	1.62	2.0	1.54	77
13C-2,2',3,3',5,5',6-HpCB	178	43.109	1.07	2.0	1.31	66
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13C-2,5-DiCB	9	15.316	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.474	0.83	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.121	1.62	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.622	1.25	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	54.901	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16488
Filename P80606A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.487
2		---	---	ND	---	0.487
3		---	---	ND	---	0.487
4		---	---	ND	---	0.487
5		---	---	ND	---	0.487
6		---	---	ND	---	0.487
7		---	---	ND	---	0.487
8		---	---	ND	---	0.487
9		---	---	ND	---	0.487
10		---	---	ND	---	0.487
11		---	---	ND	---	0.584
12	12/13	---	---	ND	---	0.487
13	12/13	---	---	ND	---	0.487
14		---	---	ND	---	0.487
15		---	---	ND	---	0.487
16		---	---	ND	---	0.487
17		---	---	ND	---	0.487
18	18/30	---	---	ND	---	0.487
19		---	---	ND	---	0.487
20	20/28	---	---	ND	---	0.584
21	21/33	---	---	ND	---	0.487
22		---	---	ND	---	0.487
23		---	---	ND	---	0.487
24		---	---	ND	---	0.487
25		---	---	ND	---	0.487
26	26/29	---	---	ND	---	0.487
27		---	---	ND	---	0.487
28	20/28	---	---	ND	---	0.584
29	26/29	---	---	ND	---	0.487
30	18/30	---	---	ND	---	0.487
31		---	---	ND	---	0.487
32		---	---	ND	---	0.487
33	21/33	---	---	ND	---	0.487
34		---	---	ND	---	0.487
35		---	---	ND	---	0.487
36		---	---	ND	---	0.487
37		---	---	ND	---	0.487
38		---	---	ND	---	0.487
39		---	---	ND	---	0.487
40	40/41/71	---	---	ND	---	0.487
41	40/41/71	---	---	ND	---	0.487
42		---	---	ND	---	0.487
43		---	---	ND	---	0.487
44	44/47/65	---	---	ND	---	0.584
45	45/51	---	---	ND	---	0.487

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16488
Filename P80606A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.487
47	44/47/65	---	---	ND	---	0.584
48		---	---	ND	---	0.487
49	49/69	---	---	ND	---	0.487
50	50/53	---	---	ND	---	0.487
51	45/51	---	---	ND	---	0.487
52		---	---	ND	---	0.487
53	50/53	---	---	ND	---	0.487
54		---	---	ND	---	0.487
55		---	---	ND	---	0.487
56		---	---	ND	---	0.487
57		---	---	ND	---	0.487
58		---	---	ND	---	0.487
59	59/62/75	---	---	ND	---	0.487
60		---	---	ND	---	0.487
61	61/70/74/76	---	---	ND	---	0.487
62	59/62/75	---	---	ND	---	0.487
63		---	---	ND	---	0.487
64		---	---	ND	---	0.487
65	44/47/65	---	---	ND	---	0.584
66		---	---	ND	---	0.487
67		---	---	ND	---	0.487
68		---	---	ND	---	0.487
69	49/69	---	---	ND	---	0.487
70	61/70/74/76	---	---	ND	---	0.487
71	40/41/71	---	---	ND	---	0.487
72		---	---	ND	---	0.487
73		---	---	ND	---	0.487
74	61/70/74/76	---	---	ND	---	0.487
75	59/62/75	---	---	ND	---	0.487
76	61/70/74/76	---	---	ND	---	0.487
77		---	---	ND	---	0.487
78		---	---	ND	---	0.487
79		---	---	ND	---	0.487
80		---	---	ND	---	0.487
81		---	---	ND	---	0.487
82		---	---	ND	---	0.487
83		---	---	ND	---	0.487
84		---	---	ND	---	0.487
85	85/116/117	---	---	ND	---	0.584
86	86/87/97/108/119/125	---	---	ND	---	0.973
87	86/87/97/108/119/125	---	---	ND	---	0.973
88	88/91	---	---	ND	---	0.487
89		---	---	ND	---	0.487
90	90/101/113	---	---	ND	---	0.487

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16488
Filename P80606A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.487
92		---	---	ND	---	0.487
93	93/98/100/102	---	---	ND	---	0.730
94		---	---	ND	---	0.487
95		---	---	ND	---	0.487
96		---	---	ND	---	0.487
97	86/87/97/108/119/125	---	---	ND	---	0.973
98	93/98/100/102	---	---	ND	---	0.730
99		---	---	ND	---	0.487
100	93/98/100/102	---	---	ND	---	0.730
101	90/101/113	---	---	ND	---	0.487
102	93/98/100/102	---	---	ND	---	0.730
103		---	---	ND	---	0.487
104		---	---	ND	---	0.487
105		---	---	ND	---	0.487
106		---	---	ND	---	0.487
107	107/124	---	---	ND	---	0.487
108	86/87/97/108/119/125	---	---	ND	---	0.973
109		---	---	ND	---	0.487
110	110/115	---	---	ND	---	0.487
111		---	---	ND	---	0.487
112		---	---	ND	---	0.487
113	90/101/113	---	---	ND	---	0.487
114		---	---	ND	---	0.487
115	110/115	---	---	ND	---	0.487
116	85/116/117	---	---	ND	---	0.584
117	85/116/117	---	---	ND	---	0.584
118		---	---	ND	---	0.487
119	86/87/97/108/119/125	---	---	ND	---	0.973
120		---	---	ND	---	0.487
121		---	---	ND	---	0.487
122		---	---	ND	---	0.487
123		---	---	ND	---	0.487
124	107/124	---	---	ND	---	0.487
125	86/87/97/108/119/125	---	---	ND	---	0.973
126		---	---	ND	---	0.487
127		---	---	ND	---	0.487
128	128/166	---	---	ND	---	0.973
129	129/138/163	---	---	ND	---	0.487
130		---	---	ND	---	0.487
131		---	---	ND	---	0.487
132		---	---	ND	---	0.487
133		---	---	ND	---	0.487
134	134/143	---	---	ND	---	0.487
135	135/151	---	---	ND	---	0.496

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16488
Filename P80606A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.487
137		---	---	ND	---	0.487
138	129/138/163	---	---	ND	---	0.487
139	139/140	---	---	ND	---	0.487
140	139/140	---	---	ND	---	0.487
141		---	---	ND	---	0.487
142		---	---	ND	---	0.487
143	134/143	---	---	ND	---	0.487
144		---	---	ND	---	0.487
145		---	---	ND	---	0.487
146		---	---	ND	---	0.487
147	147/149	---	---	ND	---	0.487
148		---	---	ND	---	0.487
149	147/149	---	---	ND	---	0.487
150		---	---	ND	---	0.487
151	135/151	---	---	ND	---	0.496
152		---	---	ND	---	0.487
153	153/168	---	---	ND	---	0.584
154		---	---	ND	---	0.487
155		---	---	ND	---	0.487
156	156/157	---	---	ND	---	0.487
157	156/157	---	---	ND	---	0.487
158		---	---	ND	---	0.487
159		---	---	ND	---	0.487
160		---	---	ND	---	0.487
161		---	---	ND	---	0.487
162		---	---	ND	---	0.487
163	129/138/163	---	---	ND	---	0.487
164		---	---	ND	---	0.487
165		---	---	ND	---	0.487
166	128/166	---	---	ND	---	0.973
167		---	---	ND	---	0.487
168	153/168	---	---	ND	---	0.584
169		---	---	ND	---	0.487
170		---	---	ND	---	0.487
171	171/173	---	---	ND	---	0.487
172		---	---	ND	---	0.487
173	171/173	---	---	ND	---	0.487
174		---	---	ND	---	0.487
175		---	---	ND	---	0.487
176		---	---	ND	---	0.487
177		---	---	ND	---	0.487
178		---	---	ND	---	0.487
179		---	---	ND	---	0.487
180	180/193	---	---	ND	---	0.487

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-16488
Filename P80606A_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.487
182		---	---	ND	---	0.487
183	183/185	---	---	ND	---	0.487
184		---	---	ND	---	0.487
185	183/185	---	---	ND	---	0.487
186		---	---	ND	---	0.487
187		---	---	ND	---	0.487
188		---	---	ND	---	0.487
189		---	---	ND	---	0.487
190		---	---	ND	---	0.487
191		---	---	ND	---	0.487
192		---	---	ND	---	0.487
193	180/193	---	---	ND	---	0.487
194		---	---	ND	---	0.487
195		---	---	ND	---	0.487
196		---	---	ND	---	0.681
197	197/200	---	---	ND	---	2.43
198	198/199	---	---	ND	---	0.487
199	198/199	---	---	ND	---	0.487
200	197/200	---	---	ND	---	2.43
201		---	---	ND	---	0.487
202		---	---	ND	---	0.487
203		---	---	ND	---	0.487
204		---	---	ND	---	0.487
205		---	---	ND	---	0.487
206		---	---	ND	---	0.487
207		---	---	ND	---	0.487
208		---	---	ND	---	0.487
209		---	---	ND	---	0.487

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-16488
Filename P80606A_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-16489		
Filename	P80607A_03	Matrix	Water
Total Amount Extracted	998 mL	Dilution	NA
ICAL ID	P80607A01	Extracted	05/30/2008
CCal Filename(s)	P80607A_02	Analyzed	06/07/2008 03:11
Method Blank ID	BLANK-16488	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.06	106	2.0	1.19	59
3	1.0	1.09	109	2.0	1.25	62
4	1.0	1.04	104	2.0	1.27	64
15	1.0	1.12	112	2.0	1.50	75
19	1.0	1.08	108	2.0	1.32	66
37	1.0	1.14	114	2.0	1.83	91
54	1.0	1.10	110	2.0	1.53	76
81	1.0	1.09	109	2.0	1.86	93
77	1.0	1.11	111	2.0	1.83	92
104	1.0	1.02	102	2.0	1.52	76
105	1.0	1.08	108	2.0	1.98	99
114	1.0	1.14	114	2.0	1.84	92
118	1.0	1.05	105	2.0	2.04	102
123	1.0	1.07	107	2.0	1.93	97
126	1.0	1.05	105	2.0	1.95	98
155	1.0	1.10	110	2.0	1.36	68
156/157	2.0	2.09	105	4.0	3.77	94
167	1.0	1.14	114	2.0	1.81	91
169	1.0	1.17	117	2.0	1.73	86
188	1.0	1.05	105	2.0	1.58	79
189	1.0	1.22	122	2.0	1.84	92
202	1.0	1.14	114	2.0	1.55	78
205	1.0	1.06	106	2.0	1.93	96
206	1.0	1.07	107	2.0	1.81	91
208	1.0	1.09	109	2.0	1.66	83
209	1.0	1.05	105	2.0	1.74	87

P = Recovery outside of method
1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Minneapolis, MN 55414

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-16490		
Filename	P80607A_04	Matrix	Water
Total Amount Extracted	1040 mL	Dilution	NA
ICAL ID	P80607A01	Extracted	05/30/2008
CCal Filename(s)	P80607A_02	Analyzed	06/07/2008 04:13
Method Blank ID	BLANK-16488	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.05	105	2.0	1.10	55
3	1.0	1.11	111	2.0	1.12	56
4	1.0	1.04	104	2.0	1.17	58
15	1.0	1.09	109	2.0	1.36	68
19	1.0	1.02	102	2.0	1.23	61
37	1.0	1.13	113	2.0	1.64	82
54	1.0	1.10	110	2.0	1.32	66
81	1.0	1.09	109	2.0	1.68	84
77	1.0	1.16	116	2.0	1.60	80
104	1.0	1.03	103	2.0	1.32	66
105	1.0	1.09	109	2.0	1.74	87
114	1.0	1.10	110	2.0	1.68	84
118	1.0	1.05	105	2.0	1.84	92
123	1.0	1.06	106	2.0	1.76	88
126	1.0	1.07	107	2.0	1.74	87
155	1.0	1.09	109	2.0	1.24	62
156/157	2.0	2.09	104	4.0	3.51	88
167	1.0	1.15	115	2.0	1.68	84
169	1.0	1.15	115	2.0	1.61	80
188	1.0	1.04	104	2.0	1.41	70
189	1.0	1.22	122	2.0	1.69	85
202	1.0	1.13	113	2.0	1.39	69
205	1.0	1.06	106	2.0	1.77	88
206	1.0	1.06	106	2.0	1.63	81
208	1.0	1.10	110	2.0	1.49	75
209	1.0	1.09	109	2.0	1.54	77

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-16489	Spike 2 ID	LCSD-16490
Spike 1 Filename	P80607A_03	Spike 2 Filename	P80607A_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	106	105	0.9
4-MoCB	3	109	111	1.8
2,2'-DiCB	4	104	104	0.0
4,4'-DiCB	15	112	109	2.7
2,2',6-TrCB	19	108	102	5.7
3,4,4'-TrCB	37	114	113	0.9
2,2',6,6'-TeCB	54	110	110	0.0
3,3',4,4'-TeCB	77	111	116	4.4
3,4,4',5-TeCB	81	109	109	0.0
2,2',4,6,6'-PeCB	104	102	103	1.0
2,3,3',4,4'-PeCB	105	108	109	0.9
2,3,4,4',5-PeCB	114	114	110	3.6
2,3',4,4',5-PeCB	118	105	105	0.0
2,3',4,4',5'-PeCB	123	107	106	0.9
3,3',4,4',5-PeCB	126	105	107	1.9
2,2',4,4',6,6'-HxCB	155	110	109	0.9
(156/157)	156/157	105	104	1.0
2,3',4,4',5,5'-HxCB	167	114	115	0.9
3,3',4,4',5,5'-HxCB	169	117	115	1.7
2,2',3,4',5,6,6'-HpCB	188	105	104	1.0
2,3,3',4,4',5,5'-HpCB	189	122	122	0.0
2,2',3,3',5,5',6,6'-OcCB	202	114	113	0.9
2,3,3',4,4',5,5',6-OcCB	205	106	106	0.0
2,2',3,3',4,4',5,5',6-NoCB	206	107	106	0.9
2,2',3,3',4,5,5',6,6'-NoCB	208	109	110	0.9
Decachlorobiphenyl	209	105	109	3.7

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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Attachment A5
Laboratory Reports and Data Review Memoranda

Part 3: 2008 Outfall Basin 53 Composite Stormwater Sampling

January 26, 2008
Composite Sampling Event

Water Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, OR 97204
P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
January 26, 2008 Outfall Basin 53 Composite Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on January 26, 2008. One composite stormwater sample (FO080172) and one field decontamination blank sample (FO080171) were collected from Outfall Basin 53 by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
  - Total Metals – EPA 200.8
  - Total Mercury – WPCL SOP M-10.02
  - Total suspended solids (TSS) – SM 2540D
  - Polychlorinated Biphenyls as Aroclors (PCB Aroclors) – EPA 8082
  - Total Organic Carbon (TOC) – EPA 415.2
- Test America (TA)
  - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
  - Phthalates – EPA 8270M-SIM
  - Total Organic Carbon (TOC) – EPA 9060
- Columbia Analytical Services (CAS)

    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate indicating that sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs, PCB congeners and TOC. One congener (PCB 209) was detected in the method blank at a low concentration and at a similar concentration (less than 5 times the method blank concentration) in the associated primary stormwater sample. The sample result is flagged with a "B". The total PCB congener value for this sample is therefore likely biased slightly high.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits, and the data are not qualified.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of seven low values in the laboratory control and duplicate laboratory control samples, which are flagged "P" in the sample specific quality control measurements results in the laboratory report. Pace Analytical reports that the data were automatically corrected for variation in recovery and accurate values were obtained. Refer to the Pace report for further discussion.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) samples were processed during the laboratory analysis of SVOCs and TOC. All results were within the control limits.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, PCB congeners, and TOC, and a LCS was processed during the analysis of SVOCs by EPA 8270C. All laboratory control sample recoveries were within laboratory control limits.

Other

A field decontamination blank (FDB) was collected and analyzed for metals, PAHs, phthalates, SVOCs, PCB Aroclors, and PCB congeners. BEHP was detected by EPA 8270M-SIM in the FDB at a concentration of 1.38 ug/L. The BEHP result for the sample is less than 10 times the FDB concentration and is therefore considered biased high.

The WPCL report indicates that the reporting limits were doubled for low-level PCB Aroclor analysis due to matrix interferences.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4652
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 1/25/08
Page: 1 of 1
Collected By: MJS, AJA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 - **Matrix:** STORMWTR

OF 53 Stormwater Composite COC

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	PCB Aroclors (WPCL)	PAH + Phthalates (TA)	SVOC's (CAS)	TSS	TOC	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Total Mercury	Field
FO 080171	N DECATUR & RENO SW-53-AAC614	FDB ~~53-SW1~~	1/25/08	1230	G	0	0	0	0	0	0	0	0	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1353	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 1/25/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

S:\Sampling\Forms - Portland Harbor Stormwater Sampling\Sample Forms\Portland Harbor Stormwater OF 53 Comp COC Form 08.xls

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5225

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 1/28/08
Page: 1 of 1
Collected By: MJS, ASA

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Composite COC

☑ Sample Time recorded in PST

Sample time 1110 – 1901 on 1/26/08

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB Congeners (Pace)	General: PCB Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn)	Metals: Total Mercury	Field
FO 080172	N DECATUR & RENO SW-53-AAC614	53_SW1	1/26/08	1110	C	6	6	6	6	6	6	6	6	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1043	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 1/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature: Rona Unch Time: 1043	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Unch Date: 1/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080171** **Sample Collected:** 1/25/2008 12:30 **Sample Received:** 01/25/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK for N DECATUR & RENO SW-53-AAC614
Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM00923
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	<2	mg/L	2	SM 2540 D	01/26/08
METALS					
MANGANESE	<0.010	mg/L	0.010	EPA 200.7	01/29/08
MERCURY	<0.0020	µg/L	0.002	WPCLSOP M-10.02	01/31/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	<0.10	µg/L	0.1	EPA 200.8	01/30/08
CADMIUM	<0.10	µg/L	0.1	EPA 200.8	01/30/08
CHROMIUM	<0.40	µg/L	0.4	EPA 200.8	01/30/08
COPPER	<0.20	µg/L	0.2	EPA 200.8	01/30/08
LEAD	<0.10	µg/L	0.1	EPA 200.8	01/30/08
NICKEL	<0.20	µg/L	0.2	EPA 200.8	01/30/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	01/30/08
ZINC	<0.50	µg/L	0.5	EPA 200.8	01/30/08
GC ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCB)					
Aroclor 1016/1242	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	01/31/08
Aroclor 1232	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1248	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1254	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1260	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1262	<0.025	µg/L	0.025	EPA 8082	01/31/08
Aroclor 1268	<0.025	µg/L	0.025	EPA 8082	01/31/08
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	<1.00	mg/L	1.0	EPA 415.2	02/09/08
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/06/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Acenaphthylene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Anthracene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Benzo(a)anthracene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080171** **Sample Collected:** 1/25/2008 12:30 **Sample Received:** 01/25/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK for N DECATUR & RENO SW-53-AAC614
Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM00923
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Benzo(a)pyrene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Benzo(b)fluoranthene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Benzo(ghi)perylene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Benzo(k)fluoranthene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Bis(2-ethylhexyl) phthalate	1.38	µg/L	0.952	EPA 8270M-SIM	01/29/08
Butyl benzyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Chrysene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Dibenzo(a,h)anthracene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Diethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Dimethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Di-n-butyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Di-n-octyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Fluoranthene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Fluorene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Indeno(1,2,3-cd)pyrene	<0.00952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Naphthalene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Phenanthrene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Pyrene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	01/31/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	01/31/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	01/31/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080171** **Sample Collected:** 1/25/2008 12:30 **Sample Received:** 01/25/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK for N DECATUR & RENO SW-53-AAC614
Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM00923
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	01/31/08
3-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	01/31/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	01/31/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
4-Nitroaniline	<1.0	µg/L	1.0	EPA 8270	01/31/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	01/31/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	01/31/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	01/31/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-ethylhexyl) phthalate	<1.0	µg/L	1.0	EPA 8270	01/31/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	01/31/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080171** **Sample Collected:** 1/25/2008 12:30 **Sample Received:** 01/25/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DECON BLANK for N DECATUR & RENO SW-53-AAC614
Sample Point Code: FDBLANK
Sample Type: GRAB
Sample Matrix: STORMWTR

System ID: AM00923
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Hexachlorocyclopentadiene	<1.0	µg/L	1.0	EPA 8270	01/31/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	01/31/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	01/31/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	01/31/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	01/31/08
Pentachlorophenol	<1.0	µg/L	1.0	EPA 8270	01/31/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Phenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	01/31/08

End of Report for Sample ID: FO080171

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080172** **Sample Collected:** 1/26/2008 11:10 **Sample Received:** 01/28/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM00955
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: Due to matrix interferences, reporting limits are raised by a factor of 2 for low-level PCB Aroclor analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	41	mg/L	2	SM 2540 D	01/28/08
METALS					
MANGANESE	0.105	mg/L	0.010	EPA 200.7	01/29/08
MERCURY	0.0124	µg/L	0.002	WPCLSOP M-10.02	01/31/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.63	µg/L	0.1	EPA 200.8	01/30/08
CADMIUM	0.14	µg/L	0.1	EPA 200.8	01/30/08
CHROMIUM	2.79	µg/L	0.4	EPA 200.8	01/30/08
COPPER	9.92	µg/L	0.2	EPA 200.8	01/30/08
LEAD	14.6	µg/L	0.1	EPA 200.8	01/30/08
NICKEL	1.87	µg/L	0.2	EPA 200.8	01/30/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	01/30/08
ZINC	59.7	µg/L	0.5	EPA 200.8	01/30/08
GC ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCB)					
Aroclor 1016/1242	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1221	<0.10	µg/L	0.10	EPA 8082	01/31/08
Aroclor 1232	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1248	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1254	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1260	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1262	<0.050	µg/L	0.05	EPA 8082	01/31/08
Aroclor 1268	<0.050	µg/L	0.05	EPA 8082	01/31/08
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	5.01	mg/L	1.0	EPA 415.2	02/09/08
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/06/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0190	µg/L	0.019	EPA 8270M-SIM	01/29/08
Acenaphthylene	0.0382	µg/L	0.019	EPA 8270M-SIM	01/29/08
Anthracene	0.0227	µg/L	0.019	EPA 8270M-SIM	01/29/08
Benzo(a)anthracene	0.0240	µg/L	0.00952	EPA 8270M-SIM	01/29/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080172** **Sample Collected:** 1/26/2008 11:10 **Sample Received:** 01/28/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM00955
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: Due to matrix interferences, reporting limits are raised by a factor of 2 for low-level PCB Aroclor analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Benzo(a)pyrene	0.0224	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Benzo(b)fluoranthene	0.0357	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Benzo(ghi)perylene	0.0272	µg/L	0.019	EPA 8270M-SIM	01/29/08
Benzo(k)fluoranthene	0.0202	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Bis(2-ethylhexyl) phthalate	3.43	µg/L	0.952	EPA 8270M-SIM	01/29/08
Butyl benzyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Chrysene	0.0402	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Dibenzo(a,h)anthracene	<0.0952	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Diethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Dimethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Di-n-butyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Di-n-octyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	01/29/08
Fluoranthene	0.0899	µg/L	0.019	EPA 8270M-SIM	01/29/08
Fluorene	0.0268	µg/L	0.019	EPA 8270M-SIM	01/29/08
Indeno(1,2,3-cd)pyrene	0.0160	µg/L	0.00952	EPA 8270M-SIM	01/29/08
Naphthalene	0.129	µg/L	0.019	EPA 8270M-SIM	01/29/08
Phenanthrene	0.107	µg/L	0.019	EPA 8270M-SIM	01/29/08
Pyrene	0.0667	µg/L	0.019	EPA 8270M-SIM	01/29/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	01/31/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	01/31/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
2-Methylphenol	0.50	µg/L	0.50	EPA 8270	01/31/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	01/31/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080172** **Sample Collected:** 1/26/2008 11:10 **Sample Received:** 01/28/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM00955
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: Due to matrix interferences, reporting limits are raised by a factor of 2 for low-level PCB Aroclor analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	01/31/08
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	01/31/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	01/31/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	01/31/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	01/31/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	01/31/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	01/31/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	01/31/08
Bis(2-ethylhexyl) phthalate	2.9	µg/L	0.99	EPA 8270	01/31/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	01/31/08
Diethyl phthalate	0.22	µg/L	0.20	EPA 8270	01/31/08
Dimethyl phthalate	0.40	µg/L	0.20	EPA 8270	01/31/08
Di-n-butyl phthalate	0.46	µg/L	0.20	EPA 8270	01/31/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	01/31/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08

Report Date: 01/20/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080172** **Sample Collected:** 1/26/2008 11:10 **Sample Received:** 01/28/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-53-AAC614		
	N DECATUR & RENO	**System ID:**	AM00955
Sample Point Code:	53_SW1	**EID File # :**	1020.005
Sample Type:	COMPOSITE	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS/AJA

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. LAB: Due to matrix interferences, reporting limits are raised by a factor of 2 for low-level PCB Aroclor analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	01/31/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	01/31/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	01/31/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	01/31/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	01/31/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	01/31/08
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	01/31/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	01/31/08
Phenol	<0.50	µg/L	0.50	EPA 8270	01/31/08
Pyrene	0.20	µg/L	0.20	EPA 8270	01/31/08

End of Report for Sample ID: FO080172

Report Date: 01/20/09 **Validated By: Signature on File**

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

February 26, 2008 Analytical Report for Service Request No: K0800793

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Samp

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on January 29, 2008. For your reference, these analyses have been assigned our service request number K0800793.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K0800743

PAGE 1 OF 1 COC #

PROJECT NAME: Portland Harbor Stormwater Sump
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below) ☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level 5 VOCs EPA 8270 c	PAH + Phthalates EPA 8270C SIM			REMARKS
FO 080171	1/25/08	1230		Storm Water	1														X				
FO 080172	1/26/08	1110		↓	1														X				

000.6

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for Low level analysis of full semi-vol 8270 list.

Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 1/29/08 1115	Date/Time: 1/29/08 1115	Date/Time:	Date/Time: 1/29/08 1330
Printed Name: Rena Kneh	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland BES	Firm: CAS	Firm:	Firm:

PC LV

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Portland Harbor Service Request K08 00793

Received: 1/29/08 Opened: 1/29/08 By: T. Lewis

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** 5.1
   Temperature Blank (°C): N/A
6. If applicable, list Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other*_____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Additional Notes, Discrepancies, & Resolutions:*_____

000:7

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: 01/25/2008
Date Received: 01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080171
Lab Code: K0800793-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Phenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Chlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
1,3-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,4-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,2-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzyl Alcohol	ND	U	5.0	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Methylphenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
Hexachloroethane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Methylphenol†	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
Nitrobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Isophorone	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitrophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2,4-Dimethylphenol	ND	U	4.0	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2,4-Dichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
Benzoic Acid	ND	U	5.0	1	01/31/08	02/22/08	KWG0801046	
1,2,4-Trichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Naphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobutadiene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloro-3-methylphenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Methylnaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorocyclopentadiene	ND	U	1.0	1	01/31/08	02/22/08	KWG0801046	
2,4,6-Trichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2,4,5-Trichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Chloronaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Acenaphthylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dimethyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2,6-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: 01/25/2008
Date Received: 01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080171
Lab Code: K0800793-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3-Nitroaniline	ND	U	1.0	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrophenol	ND	U	4.0	1	01/31/08	02/22/08	KWG0801046	
Dibenzofuran	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Fluorene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Diethyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitroaniline	ND	U	1.0	1	01/31/08	02/22/08	KWG0801046	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodiphenylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pentachlorophenol	ND	U	1.0	1	01/31/08	02/22/08	KWG0801046	
Phenanthrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Di-n-butyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Butyl Benzyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3,3'-Dichlorobenzidine	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
Benz(a)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Chrysene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	01/31/08	02/22/08	KWG0801046	
Di-n-octyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(b)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(k)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(a)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dibenz(a,h)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(g,h,i)perylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

00010

Client:	Portland, City of	**Service Request:**	K0800793
Project:	Portland Harbor Stormwater Samp	**Date Collected:**	01/25/2008
Sample Matrix:	Water	**Date Received:**	01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080171	**Units:**	ug/L
Lab Code:	K0800793-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	74	16-122	02/22/08	Acceptable
Phenol-d6	80	25-118	02/22/08	Acceptable
Nitrobenzene-d5	88	24-131	02/22/08	Acceptable
2-Fluorobiphenyl	76	26-114	02/22/08	Acceptable
2,4,6-Tribromophenol	80	22-148	02/22/08	Acceptable
Terphenyl-d14	99	28-144	02/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

00011

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: 01/26/2008
Date Received: 01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080172
Lab Code: K0800793-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Phenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Chlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
1,3-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,4-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,2-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzyl Alcohol	ND	U	5.0	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Methylphenol	**0.50**		0.50	1	01/31/08	02/22/08	KWG0801046	
Hexachloroethane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Methylphenol†	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
Nitrobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Isophorone	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitrophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2,4-Dimethylphenol	ND	U	4.0	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2,4-Dichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
Benzoic Acid	ND	U	5.0	1	01/31/08	02/22/08	KWG0801046	
1,2,4-Trichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Naphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobutadiene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloro-3-methylphenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Methylnaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorocyclopentadiene	ND	U	0.99	1	01/31/08	02/22/08	KWG0801046	
2,4,6-Trichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2,4,5-Trichlorophenol	ND	U	0.50	1	01/31/08	02/22/08	KWG0801046	
2-Chloronaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Acenaphthylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dimethyl Phthalate	**0.40**		0.20	1	01/31/08	02/22/08	KWG0801046	
2,6-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

00012

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: 01/26/2008
Date Received: 01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080172
Lab Code: K0800793-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3-Nitroaniline	ND	U	0.99	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrophenol	ND	U	4.0	1	01/31/08	02/22/08	KWG0801046	
Dibenzofuran	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Fluorene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Diethyl Phthalate	**0.22**		0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitroaniline	ND	U	0.99	1	01/31/08	02/22/08	KWG0801046	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodiphenylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pentachlorophenol	ND	U	0.99	1	01/31/08	02/22/08	KWG0801046	
Phenanthrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Di-n-butyl Phthalate	**0.46**		0.20	1	01/31/08	02/22/08	KWG0801046	
Fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pyrene	**0.20**		0.20	1	01/31/08	02/22/08	KWG0801046	
Butyl Benzyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3,3'-Dichlorobenzidine	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
Benz(a)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Chrysene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Bis(2-ethylhexyl) Phthalate	**2.9**		0.99	1	01/31/08	02/22/08	KWG0801046	
Di-n-octyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(b)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(k)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(a)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dibenz(a,h)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(g,h,i)perylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: 01/26/2008
Date Received: 01/29/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080172
Lab Code: K0800793-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	16-122	02/22/08	Acceptable
Phenol-d6	85	25-118	02/22/08	Acceptable
Nitrobenzene-d5	84	24-131	02/22/08	Acceptable
2-Fluorobiphenyl	76	26-114	02/22/08	Acceptable
2,4,6-Tribromophenol	116	22-148	02/22/08	Acceptable
Terphenyl-d14	102	28-144	02/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801046-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Phenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
2-Chlorophenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
1,3-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,4-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
1,2-Dichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzyl Alcohol	ND	U	4.8	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Methylphenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
Hexachloroethane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Methylphenol†	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
Nitrobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Isophorone	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitrophenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
2,4-Dimethylphenol	ND	U	3.9	1	01/31/08	02/22/08	KWG0801046	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2,4-Dichlorophenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
Benzoic Acid	ND	U	4.8	1	01/31/08	02/22/08	KWG0801046	
1,2,4-Trichlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Naphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobutadiene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chloro-3-methylphenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
2-Methylnaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorocyclopentadiene	ND	U	0.96	1	01/31/08	02/22/08	KWG0801046	
2,4,6-Trichlorophenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
2,4,5-Trichlorophenol	ND	U	0.48	1	01/31/08	02/22/08	KWG0801046	
2-Chloronaphthalene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2-Nitroaniline	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Acenaphthylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dimethyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
2,6-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

00015

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801046-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3-Nitroaniline	ND	U	0.96	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrophenol	ND	U	3.9	1	01/31/08	02/22/08	KWG0801046	
Dibenzofuran	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
2,4-Dinitrotoluene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Fluorene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Diethyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Nitroaniline	ND	U	0.96	1	01/31/08	02/22/08	KWG0801046	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
N-Nitrosodiphenylamine	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Hexachlorobenzene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pentachlorophenol	ND	U	0.96	1	01/31/08	02/22/08	KWG0801046	
Phenanthrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Di-n-butyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Butyl Benzyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
3,3'-Dichlorobenzidine	ND	U	2.0	1	01/31/08	02/22/08	KWG0801046	
Benz(a)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Chrysene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Bis(2-ethylhexyl) Phthalate	ND	U	0.96	1	01/31/08	02/22/08	KWG0801046	
Di-n-octyl Phthalate	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(b)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(k)fluoranthene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(a)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Dibenz(a,h)anthracene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	
Benzo(g,h,i)perylene	ND	U	0.20	1	01/31/08	02/22/08	KWG0801046	

Comments:

00016

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801046-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	75	16-122	02/22/08	Acceptable
Phenol-d6	80	25-118	02/22/08	Acceptable
Nitrobenzene-d5	85	24-131	02/22/08	Acceptable
2-Fluorobiphenyl	77	26-114	02/22/08	Acceptable
2,4,6-Tribromophenol	76	22-148	02/22/08	Acceptable
Terphenyl-d14	102	28-144	02/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080171	K0800793-001	74	80	88	76	80	99
FO 080172	K0800793-002	82	85	84	76	116	102
Method Blank	KWG0801046-4	75	80	85	77	76	102
Batch QC	K0800747-003	55	64	84	77	71	68
Batch QCMS	KWG0801046-1	71	74	76	71	101	59
Batch QCDMS	KWG0801046-2	80	83	85	79	106	74
Lab Control Sample	KWG0801046-3	87	90	90	83	107	100

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Extracted: 01/31/2008
Date Analyzed: 02/22/2008

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name: Batch QC
Lab Code: K0800747-003

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low
Extraction Lot: KWG0801046

Analyte Name	Sample Result	Batch QCMS KWG0801046-1 Matrix Spike			Batch QCDMS KWG0801046-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Phenol	ND	4.11	4.76	86	4.24	4.76	89	10-145	3	30
2-Chlorophenol	ND	3.40	4.76	71	3.50	4.76	73	27-115	3	30
1,4-Dichlorobenzene	ND	1.93	4.76	41	1.81	4.76	38	10-72	7	30
N-Nitrosodi-n-propylamine	ND	3.67	4.76	77	3.74	4.76	78	30-119	2	30
1,2,4-Trichlorobenzene	ND	2.15	4.76	45	1.97	4.76	41	15-83	9	30
4-Chloro-3-methylphenol	ND	3.69	4.76	78	3.52	4.76	74	12-141	5	30
Acenaphthene	ND	3.32	4.76	70	3.28	4.76	69	24-114	1	30
4-Nitrophenol	ND	4.95	4.76	104	4.65	4.76	98	43-140	6	30
2,4-Dinitrotoluene	ND	4.46	4.76	94	4.12	4.76	87	28-136	8	30
Pentachlorophenol	ND	4.60	4.76	97	4.32	4.76	91	30-148	6	30
Pyrene	ND	3.24	4.76	68	3.11	4.76	65	25-140	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00019

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Extracted: 01/31/2008
Date Analyzed: 02/22/2008

Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801046

	Lab Control Sample KWG0801046-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Bis(2-chloroethyl) Ether	4.05	5.00	81	30-125
Phenol	4.21	5.00	84	32-117
2-Chlorophenol	4.07	5.00	81	32-117
1,3-Dichlorobenzene	1.81	5.00	36	10-79
1,4-Dichlorobenzene	1.92	5.00	38	10-81
1,2-Dichlorobenzene	2.15	5.00	43	15-86
Benzyl Alcohol	3.24	5.00	65	33-119
Bis(2-chloroisopropyl) Ether	4.02	5.00	80	29-116
2-Methylphenol	3.82	5.00	76	29-115
Hexachloroethane	1.38	5.00	28	10-76
N-Nitrosodi-n-propylamine	4.31	5.00	86	35-119
4-Methylphenol	4.06	5.00	81	30-116
Nitrobenzene	4.06	5.00	81	34-122
Isophorone	3.70	5.00	74	33-121
2-Nitrophenol	4.34	5.00	87	33-120
2,4-Dimethylphenol	2.94	5.00	59	10-116
Bis(2-chloroethoxy)methane	4.28	5.00	86	34-119
2,4-Dichlorophenol	4.38	5.00	88	33-120
Benzoic Acid	6.86	15.0	46	10-118
1,2,4-Trichlorobenzene	2.24	5.00	45	14-88
Naphthalene	3.20	5.00	64	27-103
4-Chloroaniline	3.07	5.00	61	10-110
Hexachlorobutadiene	1.35	5.00	27	10-75
4-Chloro-3-methylphenol	4.29	5.00	86	37-120
2-Methylnaphthalene	3.15	5.00	63	27-99
Hexachlorocyclopentadiene	0.548	5.00	11	10-54
2,4,6-Trichlorophenol	4.22	5.00	84	34-118
2,4,5-Trichlorophenol	4.35	5.00	87	36-119
2-Chloronaphthalene	3.34	5.00	67	30-108
2-Nitroaniline	4.31	5.00	86	35-122
Acenaphthylene	3.93	5.00	79	39-116
Dimethyl Phthalate	4.25	5.00	85	43-116
2,6-Dinitrotoluene	4.48	5.00	90	42-120
Acenaphthene	3.80	5.00	76	36-108
3-Nitroaniline	4.24	5.00	85	24-115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

00020

Client: Portland, City of
Project: Portland Harbor Stormwater Samp
Sample Matrix: Water

Service Request: K0800793
Date Extracted: 01/31/2008
Date Analyzed: 02/22/2008

Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801046

Analyte Name	Lab Control Sample KWG0801046-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
2,4-Dinitrophenol	3.39	5.00	68	10-121
Dibenzofuran	3.96	5.00	79	36-108
4-Nitrophenol	4.56	5.00	91	33-136
2,4-Dinitrotoluene	4.54	5.00	91	43-124
Fluorene	4.01	5.00	80	37-113
4-Chlorophenyl Phenyl Ether	3.79	5.00	76	36-112
Diethyl Phthalate	4.26	5.00	85	42-120
4-Nitroaniline	4.41	5.00	88	23-120
2-Methyl-4,6-dinitrophenol	4.13	5.00	83	24-123
N-Nitrosodiphenylamine	3.74	5.00	75	30-115
4-Bromophenyl Phenyl Ether	4.20	5.00	84	40-113
Hexachlorobenzene	4.11	5.00	82	40-114
Pentachlorophenol	4.41	5.00	88	24-123
Phenanthrene	4.24	5.00	85	42-113
Anthracene	4.08	5.00	82	40-113
Di-n-butyl Phthalate	4.74	5.00	95	46-119
Fluoranthene	4.33	5.00	87	44-116
Pyrene	4.11	5.00	82	42-121
Butyl Benzyl Phthalate	4.40	5.00	88	43-121
3,3'-Dichlorobenzidine	1.49	5.00	30	10-101
Benz(a)anthracene	4.22	5.00	84	43-121
Chrysene	4.19	5.00	84	45-119
Bis(2-ethylhexyl) Phthalate	4.38	5.00	88	34-136
Di-n-octyl Phthalate	4.46	5.00	89	39-123
Benzo(b)fluoranthene	4.26	5.00	85	42-119
Benzo(k)fluoranthene	4.32	5.00	86	43-120
Benzo(a)pyrene	4.11	5.00	82	39-116
Indeno(1,2,3-cd)pyrene	4.30	5.00	86	42-123
Dibenz(a,h)anthracene	4.16	5.00	83	38-130
Benzo(g,h,i)perylene	4.33	5.00	87	38-125

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00021

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ph: (503) 906.9200 fax: (503) 906.9210

February 29, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 01/28/08 15:25. The following list is a summary of the Work Orders contained in this report, generated on 02/29/08 07:53.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRA0737	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 07:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080171	PRA0737-01	Water	01/25/08 12:30	01/28/08 15:25
FO 080172	PRA0737-02	Water	01/26/08 11:10	01/28/08 15:25

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 07:53

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRA0737-01 (FO 080171)		**Water**			**Sampled: 01/25/08 12:30**					
Acenaphthene	EPA 8270m	ND	*0.0190*	0.0190	ug/l	1x	8010971	01/29/08 14:45	02/19/08 09:51	
Acenaphthylene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Anthracene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Benzo (a) anthracene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Benzo (a) pyrene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Chrysene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Fluoranthene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Fluorene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Naphthalene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Phenanthrene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.38**	*0.501*	0.952	"	"	"	"	02/05/08 16:25	
Butyl benzyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Pyrene	"	ND	*0.0190*	0.0190	"	"	"	"	02/19/08 09:51	
Surrogate(s): *Fluorene-d10*			*77.7%*		*25 - 125 %*	"			"	
Pyrene-d10			*77.8%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*75.5%*		*10 - 125 %*	"			"	
PRA0737-02 (FO 080172)		**Water**			**Sampled: 01/26/08 11:10**					
Acenaphthene	EPA 8270m	ND	*0.0190*	0.0190	ug/l	1x	8010971	01/29/08 14:45	02/08/08 07:44	
Acenaphthylene	"	**0.0382**	*0.0190*	0.0190	"	"	"	"	"	
Anthracene	"	**0.0227**	*0.0190*	0.0190	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0240**	*0.00952*	0.00952	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0224**	*0.00952*	0.00952	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0357**	*0.00952*	0.00952	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0272**	*0.0190*	0.0190	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0202**	*0.00952*	0.00952	"	"	"	"	"	
Chrysene	"	**0.0402**	*0.00952*	0.00952	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00952*	0.00952	"	"	"	"	"	
Fluoranthene	"	**0.0899**	*0.0190*	0.0190	"	"	"	"	"	
Fluorene	"	**0.0268**	*0.0190*	0.0190	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0160**	*0.00952*	0.00952	"	"	"	"	"	
Naphthalene	"	**0.129**	*0.0762*	0.0762	"	4x	"	"	02/13/08 13:27	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 07:53

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRA0737-02 (FO 080172)		**Water**			**Sampled: 01/26/08 11:10**					
Phenanthrene	EPA 8270m	**0.107**	*0.0190*	0.0190	ug/l	1x	8010971	01/29/08 14:45	02/08/08 07:44	
Bis(2-ethylhexyl)phthalate	"	**3.43**	*0.501*	0.952	"	"	"	"	02/05/08 16:59	
Butyl benzyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.501*	0.952	"	"	"	"	"	
Pyrene	"	**0.0667**	*0.0190*	0.0190	"	"	"	"	02/08/08 07:44	
Surrogate(s): *Fluorene-d10*			*68.8%*		*25 - 125 %*	"			"	
Pyrene-d10			*60.1%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*76.9%*		*10 - 125 %*	"			"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 07:53

Conventional Chemistry Parameters per APHA/EPA Methods

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRA0737-01 (FO 080171)		**Water**					**Sampled: 01/25/08 12:30**			
Total Organic Carbon	EPA 9060	ND	-----	1.00	mg/l	1x	8020286	02/09/08 10:46	02/09/08 14:53	
PRA0737-02 (FO 080172)		**Water**					**Sampled: 01/26/08 11:10**			
Total Organic Carbon	EPA 9060	**5.01**	-----	1.00	mg/l	1x	8020286	02/09/08 10:46	02/09/08 15:15	

TestAmerica Portland

Howard Holmes, Project Manager

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 07:53

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8010971 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8010971-BLK1)									**Extracted: 01/29/08 14:45**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	02/04/08 17:55	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	02/05/08 11:26	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	02/04/08 17:55	
Surrogate(s): Fluorene-d10		*Recovery: 76.2%*			*Limits: 25-125%*	"							*02/04/08 17:55*	
Pyrene-d10		*73.9%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*75.4%*			*10-125%*	"							"	
LCS (8010971-BS1)									**Extracted: 01/29/08 14:45**					
Acenaphthene	EPA 8270m	1.79	0.0400	0.0400	ug/l	2x	--	2.50	71.6%	(35-120)	--	--	02/05/08 15:35	
Acenaphthylene	"	1.70	0.0400	0.0400	"	"	--	"	67.8%	(34-116)	--	--	"	
Anthracene	"	1.96	0.0400	0.0400	"	"	--	"	78.6%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.86	0.0200	0.0200	"	"	--	"	74.4%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.78	0.0200	0.0200	"	"	--	"	71.0%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	1.84	0.0200	0.0200	"	"	--	"	73.6%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	1.82	0.0400	0.0400	"	"	--	"	72.9%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.83	0.0200	0.0200	"	"	--	"	73.1%	(18-145)	--	--	"	
Chrysene	"	1.88	0.0200	0.0200	"	"	--	"	75.2%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.72	0.0200	0.0200	"	"	--	"	68.8%	(20-141)	--	--	"	
Fluoranthene	"	2.05	0.0400	0.0400	"	"	--	"	82.1%	(31-125)	--	--	"	
Fluorene	"	2.05	0.0400	0.0400	"	"	--	"	82.1%	(27-124)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 07:53

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8010971 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8010971-BS1)									**Extracted: 01/29/08 14:45**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	1.85	0.0200	0.0200	ug/l	2x	--	2.50	74.2%	(30-135)	--	--	02/05/08 15:35	
Naphthalene	"	1.67	0.0400	0.0400	"	"	--	"	67.0%	(30-113)	--	--	"	
Phenanthrene	"	1.73	0.0400	0.0400	"	"	--	"	69.3%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.39	1.05	2.00	"	"	--	4.00	84.7%	(20-150)	--	--	02/05/08 12:00	
Butyl benzyl phthalate	"	3.22	1.05	2.00	"	"	--	"	80.6%	"	--	--	"	
Di-n-butyl phthalate	"	3.02	1.05	2.00	"	"	--	"	75.4%	"	--	--	"	
Di-n-octyl phthalate	"	3.21	1.05	2.00	"	"	--	"	80.3%	"	--	--	"	
Diethyl phthalate	"	2.86	1.05	2.00	"	"	--	"	71.6%	"	--	--	"	
Dimethyl phthalate	"	2.97	1.05	2.00	"	"	--	"	74.2%	"	--	--	"	
Pyrene	"	1.70	0.0400	0.0400	"	"	--	2.50	68.2%	(21-141)	--	--	02/05/08 15:35	
Surrogate(s): Fluorene-d10		*Recovery: 79.7%*			*Limits: 25-125%*	"							*02/05/08 15:35*	
Pyrene-d10		*65.9%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*71.1%*			*10-125%*	"							"	
LCS Dup (8010971-BSD1)									**Extracted: 01/29/08 14:45**					
Acenaphthene	EPA 8270m	1.77	0.0400	0.0400	ug/l	2x	--	2.50	71.0%	(35-120)	0.958%	(35)	02/05/08 16:06	
Acenaphthylene	"	1.70	0.0400	0.0400	"	"	--	"	68.0%	(34-116)	0.209%	"	"	
Anthracene	"	1.93	0.0400	0.0400	"	"	--	"	77.0%	(24-119)	1.97%	"	"	
Benzo (a) anthracene	"	1.84	0.0200	0.0200	"	"	--	"	73.7%	(36-128)	0.930%	"	"	
Benzo (a) pyrene	"	1.78	0.0200	0.0200	"	"	--	"	71.1%	(17-128)	0.141%	"	"	
Benzo (b) fluoranthene	"	1.81	0.0200	0.0200	"	"	--	"	72.5%	(37-131)	1.47%	"	"	
Benzo (ghi) perylene	"	1.90	0.0400	0.0400	"	"	--	"	75.9%	(26-126)	4.05%	"	"	
Benzo (k) fluoranthene	"	1.69	0.0200	0.0200	"	"	--	"	67.8%	(18-145)	7.52%	"	"	
Chrysene	"	1.87	0.0200	0.0200	"	"	--	"	74.7%	(16-137)	0.639%	"	"	
Dibenzo (a,h) anthracene	"	1.80	0.0200	0.0200	"	"	--	"	71.9%	(20-141)	4.32%	"	"	
Fluoranthene	"	2.00	0.0400	0.0400	"	"	--	"	79.8%	(31-125)	2.84%	"	"	
Fluorene	"	1.96	0.0400	0.0400	"	"	--	"	78.5%	(27-124)	4.43%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.93	0.0200	0.0200	"	"	--	"	77.3%	(30-135)	4.14%	"	"	
Naphthalene	"	1.67	0.0400	0.0400	"	"	--	"	66.9%	(30-113)	0.0765%	"	"	
Phenanthrene	"	1.71	0.0400	0.0400	"	"	--	"	68.5%	(34-126)	1.10%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.87	1.05	2.00	"	"	--	4.00	96.7%	(20-150)	13.2%	(50)	02/05/08 12:33	
Butyl benzyl phthalate	"	3.44	1.05	2.00	"	"	--	"	86.0%	"	6.47%	"	"	
Di-n-butyl phthalate	"	3.14	1.05	2.00	"	"	--	"	78.6%	"	4.10%	"	"	
Di-n-octyl phthalate	"	3.41	1.05	2.00	"	"	--	"	85.2%	"	5.99%	"	"	
Diethyl phthalate	"	3.01	1.05	2.00	"	"	--	"	75.2%	"	4.92%	"	"	
Dimethyl phthalate	"	2.99	1.05	2.00	"	"	--	"	74.8%	"	0.814%	"	"	
Pyrene	"	1.73	0.0400	0.0400	"	"	--	2.50	69.4%	(21-141)	1.75%	(35)	02/05/08 16:06	
Surrogate(s): Fluorene-d10		*Recovery: 75.1%*			*Limits: 25-125%*	"							*02/05/08 16:06*	
Pyrene-d10		*66.3%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 07:53

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8010971 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8010971-BSD1)													**Extracted: 01/29/08 14:45**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 70.9%*			*Limits: 10-125%*	*2x*							*02/05/08 16:06*	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 07:53

Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020286 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8020286-BLK1)								**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	ND	---	1.00	mg/l	1x	--	--	--	--	--	--	02/09/08 13:06	
LCS (8020286-BS1)								**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	21.2	---	1.00	mg/l	1x	--	20.0	106%	(85-115)	--	--	02/09/08 13:29	
Duplicate (8020286-DUP1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	ND	---	1.00	mg/l	1x	ND	--	--	--	NR	(20)	02/09/08 13:49	
Matrix Spike (8020286-MS1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	25.5	---	1.01	mg/l	1x	ND	25.3	101%	(75-125)	--	--	02/09/08 15:59	
Matrix Spike Dup (8020286-MSD1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	25.8	---	1.01	mg/l	1x	ND	25.3	102%	(75-125)	1.33%	(20)	02/09/08 14:33	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 07:53

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard B. Holmes

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
1922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-563-9200 FAX [illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PRA0737

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

PRESERVATIVE

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH + phthalates 8270 SIM (*)	PCB 209 congeners (*)	TOC	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO 080171	1/25/08 1230	X	X	X	W	3		
2	FO 080172	1/26/08 1110	X	X	X	W	3		
3									
4									
5									
6									
7									
8									
9									
10									

RELEASED BY: Rona Kneh — FIRM: City of Portland — DATE: 1/28/08 — TIME: 1345
RECEIVED BY: [illegible] — PRINT NAME: James Flaggs — FIRM: TAP — DATE: 1/28/08 — TIME: 1345
RELEASED BY: [illegible] — PRINT NAME: [illegible] — FIRM: TAP — DATE: 1-28-08 — TIME: 1525
RECEIVED BY: James Ireland — FIRM: TAP — DATE: 1/28/08 — TIME: 15:25

ADDITIONAL REMARKS: (*) PAH + phthalates as for UIC project w/ low DLs.
(**) PCB 209 Congeners to Pace Analytical, please. Thanks.

TEMP: 1.0

COC REV 09 2004

TestAmerica Sample Receipt Checklist

Received by: (section A) Date: 1/28/08 Time: 15:25 Initials: SL

Unpacked by: (section B) Date: 1/28/08 Initials: SL

Logged-in by: Date: 1/28/08 Initials: SL

Work Order No. PRA0737

Client: City of Portland

Project: Portland Harbor

Temperature out of range:

___Not enough Ice
___No Ice
___Ice Melted
___Win 4 Hours
___Other

***ESI Clients (see Section C)

Cooler Temperature (IR): 1.0 °C plastic (glass) NA (oil/air samples, ESI client) Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated: _____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other: _____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other: _____)

Received from:

✓ TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other

_____

B

Sample Status:

(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
Volatiles/ Oil Quality:			
VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA (voas/soils/all unp.)

All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers

Comments: _____

PM Reviewed _____ (Initial/Date)

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

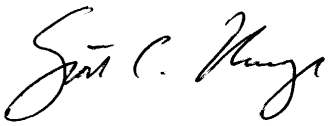
REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

Pace Project #: 1067276
Sample Receipt Date: 01/30/2008
Client Project #: PRA0737
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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Report Prepared Date:
February 12, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of Test America - Portland. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 500 pg/L and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 28-105%. With the exceptions of seven low values, which were flagged "P" on the LCS/LCSD results tables, the labeled internal standard recoveries obtained for the project were within the target ranges specified in the method. However, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits, with the exception of a low level of PCB #209. Sample PRA0737-02 was found to contain a similar level of PCB #209 and was flagged "B" on the results table. In general, levels less than ten times the background are not considered statistically different from the background. Therefore, the PCB #209 level should be considered to have, at least partially, originated from the background.

Laboratory spike samples were also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 91-150%, with relative percent differences of 0.0-22.6%. These results indicate generally high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

SUBCONTRACT ORDER

TestAmerica Portland

PRA0737

1067276

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRA0737-01	**Water**		Sampled: **01/25/08 12:30**	001
1668 Coplanar PCBs - SUB	ug/l	02/08/08	07/23/08 12:30	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (A)				
Sample ID: PRA0737-02	**Water**		Sampled: **01/26/08 11:10**	002
1668 Coplanar PCBs - SUB	ug/l	02/08/08	07/24/08 11:10	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (A)				

T=1.9°C

Released By _____ Date/Time 1-29-08

Received By _____ Date/Time 1-30-08/0940

Released By _____ Date/Time _____

Received By _____ Date/Time _____

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America Project # 1067276

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 1AE 587 01 9892 6903

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals Intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 230194010, 72310129 Type of Ice: (Wet) (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.9° Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: cl 1-30-08

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 01/30/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRA0737-01		
Lab Sample ID	1067276001		
Filename	P80208B_11		
Injected By	BAL		
Total Amount Extracted	1040 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	01/25/2008
ICAL Date	02/08/2008	Received	01/30/2008
CCal Filename(s)	P80208B_05	Extracted	02/06/2008
Method Blank ID	BLANK-15431	Analyzed	02/09/2008 08:37

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.145	2.80	2.0	0.654	33
13C-4-MoCB	3	12.596	3.08	2.0	0.845	42
13C-2,2'-DiCB	4	12.967	1.64	2.0	0.883	44
13C-4,4'-DiCB	15	21.306	1.62	2.0	1.27	64
13C-2,2',6-TrCB	19	17.532	1.03	2.0	1.05	53
13C-3,4,4'-TrCB	37	29.977	1.07	2.0	1.71	85
13C-2,2',6,6'-TeCB	54	21.694	0.82	2.0	1.33	67
13C-3,4,4',5-TeCB	81	37.657	0.78	2.0	1.78	89
13C-3,3',4,4'-TeCB	77	38.261	0.80	2.0	1.73	87
13C-2,2',4,6,6'-PeCB	104	28.569	1.70	2.0	1.50	75
13C-2,3,3',4,4'-PeCB	105	42.101	1.65	2.0	1.71	86
13C-2,3,4,4',5-PeCB	114	41.413	1.55	2.0	1.58	79
13C-2,3',4,4',5-PeCB	118	40.843	1.61	2.0	1.83	92
13C-2,3',4,4',5'-PeCB	123	40.491	1.61	2.0	1.76	88
13C-3,3',4,4',5-PeCB	126	45.421	1.62	2.0	1.82	91
13C-2,2',4,4',6,6'-HxCB	155	35.142	1.24	2.0	1.53	76
13C-HxCB (156/157)	156/157	48.657	1.26	4.0	3.38	85
13C-2,3',4,4',5,5'-HxCB	167	47.433	1.29	2.0	1.71	86
13C-3,3',4,4',5,5'-HxCB	169	52.078	1.32	2.0	1.63	82
13C-2,2',3,4',5,6,6'-HpCB	188	41.430	1.11	2.0	1.86	93
13C-2,3,3',4,4',5,5'-HpCB	189	54.754	1.07	2.0	1.94	97
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.199	0.91	2.0	1.94	97
13C-2,3,3',4,4',5,5',6-OcCB	205	57.469	0.90	2.0	2.10	105
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.301	0.77	2.0	2.07	103
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.280	0.81	2.0	1.96	98
13C--DeCB	209	60.983	0.70	2.0	2.09	105
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.198	1.07	2.0	1.80	90
13C-2,3,3',5,5'-PeCB	111	38.362	1.60	2.0	1.92	96
13C-2,2',3,3',5,5',6-HpCB	178	44.717	1.08	2.0	1.82	91
Recovery Standards						
13C-2,5-DiCB	9	15.939	1.56	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.445	0.81	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.377	1.70	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.214	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	56.974	0.94	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
1		---	---	ND	---	483
2		---	---	ND	---	483
3		---	---	ND	---	483
4		---	---	ND	---	483
5		---	---	ND	---	483
6		---	---	ND	---	483
7		---	---	ND	---	483
8		---	---	ND	---	483
9		---	---	ND	---	483
10		---	---	ND	---	483
11		---	---	ND	---	579
12	12/13	---	---	ND	---	483
13	12/13	---	---	ND	---	483
14		---	---	ND	---	483
15		---	---	ND	---	483
16		---	---	ND	---	483
17		---	---	ND	---	483
18	18/30	---	---	ND	---	483
19		---	---	ND	---	483
20	20/28	---	---	ND	---	579
21	21/33	---	---	ND	---	483
22		---	---	ND	---	483
23		---	---	ND	---	483
24		---	---	ND	---	483
25		---	---	ND	---	483
26	26/29	---	---	ND	---	483
27		---	---	ND	---	483
28	20/28	---	---	ND	---	579
29	26/29	---	---	ND	---	483
30	18/30	---	---	ND	---	483
31		---	---	ND	---	483
32		---	---	ND	---	483
33	21/33	---	---	ND	---	483
34		---	---	ND	---	483
35		---	---	ND	---	483
36		---	---	ND	---	483
37		---	---	ND	---	483
38		---	---	ND	---	483
39		---	---	ND	---	483
40	40/41/71	---	---	ND	---	483
41	40/41/71	---	---	ND	---	483
42		---	---	ND	---	483
43		---	---	ND	---	483
44	44/47/65	---	---	ND	---	579
45	45/51	---	---	ND	---	483
46		---	---	ND	---	483
47	44/47/65	---	---	ND	---	579
48		---	---	ND	---	483

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
49	49/69	---	---	ND	---	483
50	50/53	---	---	ND	---	483
51	45/51	---	---	ND	---	483
52		---	---	ND	---	483
53	50/53	---	---	ND	---	483
54		---	---	ND	---	483
55		---	---	ND	---	483
56		---	---	ND	---	483
57		---	---	ND	---	483
58		---	---	ND	---	483
59	59/62/75	---	---	ND	---	483
60		---	---	ND	---	483
61	61/70/74/76	---	---	ND	---	483
62	59/62/75	---	---	ND	---	483
63		---	---	ND	---	483
64		---	---	ND	---	483
65	44/47/65	---	---	ND	---	579
66		---	---	ND	---	483
67		---	---	ND	---	483
68		---	---	ND	---	483
69	49/69	---	---	ND	---	483
70	61/70/74/76	---	---	ND	---	483
71	40/41/71	---	---	ND	---	483
72		---	---	ND	---	483
73		---	---	ND	---	483
74	61/70/74/76	---	---	ND	---	483
75	59/62/75	---	---	ND	---	483
76	61/70/74/76	---	---	ND	---	483
77		---	---	ND	---	483
78		---	---	ND	---	483
79		---	---	ND	---	483
80		---	---	ND	---	483
81		---	---	ND	---	483
82		---	---	ND	---	483
83		---	---	ND	---	483
84		---	---	ND	---	483
85	85/116/117	---	---	ND	---	579
86	86/87/97/108/119/125	---	---	ND	---	965
87	86/87/97/108/119/125	---	---	ND	---	965
88	88/91	---	---	ND	---	483
89		---	---	ND	---	483
90	90/101/113	---	---	ND	---	483
91	88/91	---	---	ND	---	483
92		---	---	ND	---	483
93	93/98/100/102	---	---	ND	---	724
94		---	---	ND	---	483
95		---	---	ND	---	483
96		---	---	ND	---	483

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
97	86/87/97/108/119/125	---	---	ND	---	965
98	93/98/100/102	---	---	ND	---	724
99		---	---	ND	---	483
100	93/98/100/102	---	---	ND	---	724
101	90/101/113	---	---	ND	---	483
102	93/98/100/102	---	---	ND	---	724
103		---	---	ND	---	483
104		---	---	ND	---	483
105		---	---	ND	---	483
106		---	---	ND	---	483
107	107/124	---	---	ND	---	483
108	86/87/97/108/119/125	---	---	ND	---	965
109		---	---	ND	---	483
110	110/115	---	---	ND	---	483
111		---	---	ND	---	483
112		---	---	ND	---	483
113	90/101/113	---	---	ND	---	483
114		---	---	ND	---	483
115	110/115	---	---	ND	---	483
116	85/116/117	---	---	ND	---	579
117	85/116/117	---	---	ND	---	579
118		---	---	ND	---	483
119	86/87/97/108/119/125	---	---	ND	---	965
120		---	---	ND	---	483
121		---	---	ND	---	483
122		---	---	ND	---	483
123		---	---	ND	---	483
124	107/124	---	---	ND	---	483
125	86/87/97/108/119/125	---	---	ND	---	965
126		---	---	ND	---	483
127		---	---	ND	---	483
128	128/166	---	---	ND	---	965
129	129/138/163	---	---	ND	---	483
130		---	---	ND	---	483
131		---	---	ND	---	483
132		---	---	ND	---	483
133		---	---	ND	---	483
134	134/143	---	---	ND	---	483
135	135/151	---	---	ND	---	492
136		---	---	ND	---	483
137		---	---	ND	---	483
138	129/138/163	---	---	ND	---	483
139	139/140	---	---	ND	---	483
140	139/140	---	---	ND	---	483
141		---	---	ND	---	483
142		---	---	ND	---	483
143	134/143	---	---	ND	---	483
144		---	---	ND	---	483

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
145		---	---	ND	---	483
146		---	---	ND	---	483
147	147/149	---	---	ND	---	483
148		---	---	ND	---	483
149	147/149	---	---	ND	---	483
150		---	---	ND	---	483
151	135/151	---	---	ND	---	492
152		---	---	ND	---	483
153	153/168	---	---	ND	---	579
154		---	---	ND	---	483
155		---	---	ND	---	483
156	156/157	---	---	ND	---	483
157	156/157	---	---	ND	---	483
158		---	---	ND	---	483
159		---	---	ND	---	483
160		---	---	ND	---	483
161		---	---	ND	---	483
162		---	---	ND	---	483
163	129/138/163	---	---	ND	---	483
164		---	---	ND	---	483
165		---	---	ND	---	483
166	128/166	---	---	ND	---	965
167		---	---	ND	---	483
168	153/168	---	---	ND	---	579
169		---	---	ND	---	483
170		---	---	ND	---	483
171	171/173	---	---	ND	---	483
172		---	---	ND	---	483
173	171/173	---	---	ND	---	483
174		---	---	ND	---	483
175		---	---	ND	---	483
176		---	---	ND	---	483
177		---	---	ND	---	483
178		---	---	ND	---	483
179		---	---	ND	---	483
180	180/193	---	---	ND	---	483
181		---	---	ND	---	483
182		---	---	ND	---	483
183	183/185	---	---	ND	---	483
184		---	---	ND	---	483
185	183/185	---	---	ND	---	483
186		---	---	ND	---	483
187		---	---	ND	---	483
188		---	---	ND	---	483
189		---	---	ND	---	483
190		---	---	ND	---	483
191		---	---	ND	---	483
192		---	---	ND	---	483

Conc = Concentration
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
193	180/193	---	---	ND	---	483
194		---	---	ND	---	483
195		---	---	ND	---	483
196		---	---	ND	---	676
197	197/200	---	---	ND	---	2410
198	198/199	---	---	ND	---	483
199	198/199	---	---	ND	---	483
200	197/200	---	---	ND	---	2410
201		---	---	ND	---	483
202		---	---	ND	---	483
203		---	---	ND	---	483
204		---	---	ND	---	483
205		---	---	ND	---	483
206		---	---	ND	---	483
207		---	---	ND	---	483
208		---	---	ND	---	483
209		---	---	ND	---	483

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-01
Lab Sample ID	1067276001
Filename	P80208B_11

Congener Group	Concentration pg/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Minneapolis, MN 55414

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRA0737-02		
Lab Sample ID	1067276002		
Filename	P80208B_12		
Injected By	BAL		
Total Amount Extracted	1040 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	01/26/2008
ICAL Date	02/08/2008	Received	01/30/2008
CCal Filename(s)	P80208B_05	Extracted	02/06/2008
Method Blank ID	BLANK-15431	Analyzed	02/09/2008 09:46

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.157	2.86	2.0	0.551	28
13C-4-MoCB	3	12.596	3.13	2.0	0.754	38
13C-2,2'-DiCB	4	12.979	1.53	2.0	0.773	39
13C-4,4'-DiCB	15	21.307	1.61	2.0	1.37	68
13C-2,2',6-TrCB	19	17.532	1.12	2.0	1.06	53
13C-3,4,4'-TrCB	37	29.980	1.11	2.0	1.87	94
13C-2,2',6,6'-TeCB	54	21.695	0.80	2.0	1.28	64
13C-3,4,4',5-TeCB	81	37.662	0.79	2.0	2.10	105
13C-3,3',4,4'-TeCB	77	38.265	0.77	2.0	2.05	103
13C-2,2',4,6,6'-PeCB	104	28.571	1.66	2.0	1.41	70
13C-2,3,3',4,4'-PeCB	105	42.106	1.62	2.0	2.05	102
13C-2,3,4,4',5-PeCB	114	41.418	1.59	2.0	1.85	93
13C-2,3',4,4',5-PeCB	118	40.848	1.62	2.0	2.10	105
13C-2,3',4,4',5'-PeCB	123	40.496	1.61	2.0	2.01	101
13C-3,3',4,4',5-PeCB	126	45.427	1.61	2.0	2.02	101
13C-2,2',4,4',6,6'-HxCB	155	35.146	1.26	2.0	1.43	71
13C-HxCB (156/157)	156/157	48.664	1.29	4.0	3.61	90
13C-2,3',4,4',5,5'-HxCB	167	47.456	1.28	2.0	1.78	89
13C-3,3',4,4',5,5'-HxCB	169	52.102	1.28	2.0	1.60	80
13C-2,2',3,4',5,6,6'-HpCB	188	41.435	1.09	2.0	2.08	104
13C-2,3,3',4,4',5,5'-HpCB	189	54.783	1.05	2.0	1.92	96
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.205	0.91	2.0	2.09	105
13C-2,3,3',4,4',5,5',6-OcCB	205	57.499	0.88	2.0	1.97	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.331	0.77	2.0	1.90	95
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.287	0.80	2.0	1.99	99
13C--DeCB	209	61.013	0.73	2.0	1.88	94
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.200	1.13	2.0	1.90	95
13C-2,3,3',5,5'-PeCB	111	38.366	1.64	2.0	2.11	106
13C-2,2',3,3',5,5',6-HpCB	178	44.722	1.06	2.0	1.80	90
Recovery Standards						
13C-2,5-DiCB	9	15.951	1.67	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.448	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.381	1.67	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.219	1.33	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	57.003	0.87	2.0	NA	NA

Conc = Concentration
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Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
1		---	---	ND	---	481
2		---	---	ND	---	481
3		---	---	ND	---	481
4		---	---	ND	---	481
5		---	---	ND	---	481
6		---	---	ND	---	481
7		---	---	ND	---	481
8		17.161	1.59	543	---	481
9		---	---	ND	---	481
10		---	---	ND	---	481
11		---	---	ND	---	578
12	12/13	---	---	ND	---	481
13	12/13	---	---	ND	---	481
14		---	---	ND	---	481
15		---	---	ND	---	481
16		---	---	ND	---	481
17		---	---	ND	---	481
18	18/30	20.145	1.06	800	---	481
19		---	---	ND	---	481
20	20/28	25.234	1.07	1430	---	578
21	21/33	25.519	1.07	807	---	481
22		25.989	1.09	557	---	481
23		---	---	ND	---	481
24		---	---	ND	---	481
25		---	---	ND	---	481
26	26/29	---	---	ND	---	481
27		---	---	ND	---	481
28	20/28	25.234	1.07	(1430)	---	578
29	26/29	---	---	ND	---	481
30	18/30	20.145	1.06	(800)	---	481
31		24.865	1.01	1100	---	481
32		---	---	ND	---	481
33	21/33	25.519	1.07	(807)	---	481
34		---	---	ND	---	481
35		---	---	ND	---	481
36		---	---	ND	---	481
37		---	---	ND	---	481
38		---	---	ND	---	481
39		---	---	ND	---	481
40	40/41/71	29.829	0.73	692	---	481
41	40/41/71	29.829	0.73	(692)	---	481
42		---	---	ND	---	481
43		---	---	ND	---	481
44	44/47/65	28.638	0.77	988	---	578
45	45/51	---	---	ND	---	481
46		---	---	ND	---	481
47	44/47/65	28.638	0.77	(988)	---	578
48		---	---	ND	---	481

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
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! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
49	49/69	28.051	0.76	566	---	481
50	50/53	---	---	ND	---	481
51	45/51	---	---	ND	---	481
52		27.464	0.77	1000	---	481
53	50/53	---	---	ND	---	481
54		---	---	ND	---	481
55		---	---	ND	---	481
56		---	---	ND	---	481
57		---	---	ND	---	481
58		---	---	ND	---	481
59	59/62/75	---	---	ND	---	481
60		---	---	ND	---	481
61	61/70/74/76	33.066	0.77	1430	---	481
62	59/62/75	---	---	ND	---	481
63		---	---	ND	---	481
64		30.097	0.80	485	---	481
65	44/47/65	28.638	0.77	(988)	---	578
66		33.418	0.78	709	---	481
67		---	---	ND	---	481
68		---	---	ND	---	481
69	49/69	28.051	0.76	(566)	---	481
70	61/70/74/76	33.066	0.77	(1430)	---	481
71	40/41/71	29.829	0.73	(692)	---	481
72		---	---	ND	---	481
73		---	---	ND	---	481
74	61/70/74/76	33.066	0.77	(1430)	---	481
75	59/62/75	---	---	ND	---	481
76	61/70/74/76	33.066	0.77	(1430)	---	481
77		---	---	ND	---	481
78		---	---	ND	---	481
79		---	---	ND	---	481
80		---	---	ND	---	481
81		---	---	ND	---	481
82		---	---	ND	---	481
83		---	---	ND	---	481
84		---	---	ND	---	481
85	85/116/117	---	---	ND	---	578
86	86/87/97/108/119/125	---	---	ND	---	963
87	86/87/97/108/119/125	---	---	ND	---	963
88	88/91	---	---	ND	---	481
89		---	---	ND	---	481
90	90/101/113	35.414	1.66	800	---	481
91	88/91	---	---	ND	---	481
92		---	---	ND	---	481
93	93/98/100/102	---	---	ND	---	722
94		---	---	ND	---	481
95		32.060	1.52	605	---	481
96		---	---	ND	---	481

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
97	86/87/97/108/119/125	---	---	ND	---	963
98	93/98/100/102	---	---	ND	---	722
99		---	---	ND	---	481
100	93/98/100/102	---	---	ND	---	722
101	90/101/113	35.414	1.66	(800)	---	481
102	93/98/100/102	---	---	ND	---	722
103		---	---	ND	---	481
104		---	---	ND	---	481
105		---	---	ND	---	481
106		---	---	ND	---	481
107	107/124	---	---	ND	---	481
108	86/87/97/108/119/125	---	---	ND	---	963
109		---	---	ND	---	481
110	110/115	37.578	1.60	1090	---	481
111		---	---	ND	---	481
112		---	---	ND	---	481
113	90/101/113	35.414	1.66	(800)	---	481
114		---	---	ND	---	481
115	110/115	37.578	1.60	(1090)	---	481
116	85/116/117	---	---	ND	---	578
117	85/116/117	---	---	ND	---	578
118		40.882	1.64	869	---	481
119	86/87/97/108/119/125	---	---	ND	---	963
120		---	---	ND	---	481
121		---	---	ND	---	481
122		---	---	ND	---	481
123		---	---	ND	---	481
124	107/124	---	---	ND	---	481
125	86/87/97/108/119/125	---	---	ND	---	963
126		---	---	ND	---	481
127		---	---	ND	---	481
128	128/166	---	---	ND	---	963
129	129/138/163	44.253	1.24	1070	---	481
130		---	---	ND	---	481
131		---	---	ND	---	481
132		---	---	ND	---	481
133		---	---	ND	---	481
134	134/143	---	---	ND	---	481
135	135/151	---	---	ND	---	491
136		---	---	ND	---	481
137		---	---	ND	---	481
138	129/138/163	44.253	1.24	(1070)	---	481
139	139/140	---	---	ND	---	481
140	139/140	---	---	ND	---	481
141		---	---	ND	---	481
142		---	---	ND	---	481
143	134/143	---	---	ND	---	481
144		---	---	ND	---	481

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
145		---	---	ND	---	481
146		---	---	ND	---	481
147	147/149	39.624	1.30	651	---	481
148		---	---	ND	---	481
149	147/149	39.624	1.30	(651)	---	481
150		---	---	ND	---	481
151	135/151	---	---	ND	---	491
152		---	---	ND	---	481
153	153/168	42.928	1.20	736	---	578
154		---	---	ND	---	481
155		---	---	ND	---	481
156	156/157	---	---	ND	---	481
157	156/157	---	---	ND	---	481
158		---	---	ND	---	481
159		---	---	ND	---	481
160		---	---	ND	---	481
161		---	---	ND	---	481
162		---	---	ND	---	481
163	129/138/163	44.253	1.24	(1070)	---	481
164		---	---	ND	---	481
165		---	---	ND	---	481
166	128/166	---	---	ND	---	963
167		---	---	ND	---	481
168	153/168	42.928	1.20	(736)	---	578
169		---	---	ND	---	481
170		---	---	ND	---	481
171	171/173	---	---	ND	---	481
172		---	---	ND	---	481
173	171/173	---	---	ND	---	481
174		---	---	ND	---	481
175		---	---	ND	---	481
176		---	---	ND	---	481
177		---	---	ND	---	481
178		---	---	ND	---	481
179		---	---	ND	---	481
180	180/193	50.190	1.04	541	---	481
181		---	---	ND	---	481
182		---	---	ND	---	481
183	183/185	---	---	ND	---	481
184		---	---	ND	---	481
185	183/185	---	---	ND	---	481
186		---	---	ND	---	481
187		---	---	ND	---	481
188		---	---	ND	---	481
189		---	---	ND	---	481
190		---	---	ND	---	481
191		---	---	ND	---	481
192		---	---	ND	---	481

Conc = Concentration
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
193	180/193	50.190	1.04	(541)	---	481
194		---	---	ND	---	481
195		---	---	ND	---	481
196		---	---	ND	---	674
197	197/200	---	---	ND	---	2410
198	198/199	---	---	ND	---	481
199	198/199	---	---	ND	---	481
200	197/200	---	---	ND	---	2410
201		---	---	ND	---	481
202		---	---	ND	---	481
203		---	---	ND	---	481
204		---	---	ND	---	481
205		---	---	ND	---	481
206		---	---	ND	---	481
207		---	---	ND	---	481
208		---	---	ND	---	481
209		61.034	0.68	568 B	---	481

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRA0737-02
Lab Sample ID	1067276002
Filename	P80208B_12

Congener Group	Concentration pg/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	543
Total Trichloro Biphenyls	4700
Total Tetrachloro Biphenyls	5880
Total Pentachloro Biphenyls	3360
Total Hexachloro Biphenyls	2450
Total Heptachloro Biphenyls	541
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	568
Total PCBs	18000

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15431		
Filename	P80208B_10		
Injected By	BAL	Matrix	Water
Total Amount Extracted	978 mL	Extracted	02/06/2008
ICAL Date	02/08/2008	Analyzed	02/09/2008 07:29
CCal Filename(s)	P80208B_05	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.157	3.30	2.0	0.621	31
13C-4-MoCB	3	12.595	3.06	2.0	0.661	33
13C-2,2'-DiCB	4	12.978	1.60	2.0	0.684	34
13C-4,4'-DiCB	15	21.317	1.61	2.0	0.982	49
13C-2,2',6-TrCB	19	17.531	1.04	2.0	0.851	43
13C-3,4,4'-TrCB	37	29.994	1.16	2.0	1.46	73
13C-2,2',6,6'-TeCB	54	21.710	0.78	2.0	0.963	48
13C-3,4,4',5-TeCB	81	37.658	0.81	2.0	1.76	88
13C-3,3',4,4'-TeCB	77	38.278	0.79	2.0	1.69	85
13C-2,2',4,6,6'-PeCB	104	28.585	1.63	2.0	1.25	62
13C-2,3,3',4,4'-PeCB	105	42.101	1.58	2.0	1.80	90
13C-2,3,4,4',5-PeCB	114	41.414	1.65	2.0	1.66	83
13C-2,3',4,4',5-PeCB	118	40.844	1.61	2.0	1.87	94
13C-2,3',4,4',5'-PeCB	123	40.492	1.62	2.0	1.74	87
13C-3,3',4,4',5-PeCB	126	45.438	1.58	2.0	1.87	94
13C-2,2',4,4',6,6'-HxCB	155	35.159	1.28	2.0	1.34	67
13C-HxCB (156/157)	156/157	48.675	1.27	4.0	3.42	86
13C-2,3',4,4',5,5'-HxCB	167	47.451	1.30	2.0	1.71	86
13C-3,3',4,4',5,5'-HxCB	169	52.095	1.26	2.0	1.62	81
13C-2,2',3,4',5,6,6'-HpCB	188	41.447	1.04	2.0	1.77	88
13C-2,3,3',4,4',5,5'-HpCB	189	54.776	1.09	2.0	1.89	95
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.199	0.90	2.0	1.85	93
13C-2,3,3',4,4',5,5',6-OcCB	205	57.470	0.91	2.0	2.06	103
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.302	0.79	2.0	1.93	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.280	0.80	2.0	1.90	95
13C--DeCB	209	61.005	0.70	2.0	1.98	99
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.198	1.12	2.0	1.30	65
13C-2,3,3',5,5'-PeCB	111	38.362	1.62	2.0	1.80	90
13C-2,2',3,3',5,5',6-HpCB	178	44.717	1.05	2.0	1.71	85
Recovery Standards						
13C-2,5-DiCB	9	15.950	1.63	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.445	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.377	1.65	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.214	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	56.974	0.94	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15431
Filename P80208B_10

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
1		---	---	ND	---	511
2		---	---	ND	---	511
3		---	---	ND	---	511
4		---	---	ND	---	511
5		---	---	ND	---	511
6		---	---	ND	---	511
7		---	---	ND	---	511
8		---	---	ND	---	511
9		---	---	ND	---	511
10		---	---	ND	---	511
11		---	---	ND	---	614
12	12/13	---	---	ND	---	511
13	12/13	---	---	ND	---	511
14		---	---	ND	---	511
15		---	---	ND	---	511
16		---	---	ND	---	511
17		---	---	ND	---	511
18	18/30	---	---	ND	---	511
19		---	---	ND	---	511
20	20/28	---	---	ND	---	614
21	21/33	---	---	ND	---	511
22		---	---	ND	---	511
23		---	---	ND	---	511
24		---	---	ND	---	511
25		---	---	ND	---	511
26	26/29	---	---	ND	---	511
27		---	---	ND	---	511
28	20/28	---	---	ND	---	614
29	26/29	---	---	ND	---	511
30	18/30	---	---	ND	---	511
31		---	---	ND	---	511
32		---	---	ND	---	511
33	21/33	---	---	ND	---	511
34		---	---	ND	---	511
35		---	---	ND	---	511
36		---	---	ND	---	511
37		---	---	ND	---	511
38		---	---	ND	---	511
39		---	---	ND	---	511
40	40/41/71	---	---	ND	---	511
41	40/41/71	---	---	ND	---	511
42		---	---	ND	---	511
43		---	---	ND	---	511
44	44/47/65	---	---	ND	---	614
45	45/51	---	---	ND	---	511

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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NC = Not Calculated
*! = See Discussion
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Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15431
Filename P80208B_10

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
46		---	---	ND	---	511
47	44/47/65	---	---	ND	---	614
48		---	---	ND	---	511
49	49/69	---	---	ND	---	511
50	50/53	---	---	ND	---	511
51	45/51	---	---	ND	---	511
52		---	---	ND	---	511
53	50/53	---	---	ND	---	511
54		---	---	ND	---	511
55		---	---	ND	---	511
56		---	---	ND	---	511
57		---	---	ND	---	511
58		---	---	ND	---	511
59	59/62/75	---	---	ND	---	511
60		---	---	ND	---	511
61	61/70/74/76	---	---	ND	---	511
62	59/62/75	---	---	ND	---	511
63		---	---	ND	---	511
64		---	---	ND	---	511
65	44/47/65	---	---	ND	---	614
66		---	---	ND	---	511
67		---	---	ND	---	511
68		---	---	ND	---	511
69	49/69	---	---	ND	---	511
70	61/70/74/76	---	---	ND	---	511
71	40/41/71	---	---	ND	---	511
72		---	---	ND	---	511
73		---	---	ND	---	511
74	61/70/74/76	---	---	ND	---	511
75	59/62/75	---	---	ND	---	511
76	61/70/74/76	---	---	ND	---	511
77		---	---	ND	---	511
78		---	---	ND	---	511
79		---	---	ND	---	511
80		---	---	ND	---	511
81		---	---	ND	---	511
82		---	---	ND	---	511
83		---	---	ND	---	511
84		---	---	ND	---	511
85	85/116/117	---	---	ND	---	614
86	86/87/97/108/119/125	---	---	ND	---	1020
87	86/87/97/108/119/125	---	---	ND	---	1020
88	88/91	---	---	ND	---	511
89		---	---	ND	---	511
90	90/101/113	---	---	ND	---	511

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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P = Recovery outside of Method 1668A control limits
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15431
Filename P80208B_10

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
91	88/91	---	---	ND	---	511
92		---	---	ND	---	511
93	93/98/100/102	---	---	ND	---	767
94		---	---	ND	---	511
95		---	---	ND	---	511
96		---	---	ND	---	511
97	86/87/97/108/119/125	---	---	ND	---	1020
98	93/98/100/102	---	---	ND	---	767
99		---	---	ND	---	511
100	93/98/100/102	---	---	ND	---	767
101	90/101/113	---	---	ND	---	511
102	93/98/100/102	---	---	ND	---	767
103		---	---	ND	---	511
104		---	---	ND	---	511
105		---	---	ND	---	511
106		---	---	ND	---	511
107	107/124	---	---	ND	---	511
108	86/87/97/108/119/125	---	---	ND	---	1020
109		---	---	ND	---	511
110	110/115	---	---	ND	---	511
111		---	---	ND	---	511
112		---	---	ND	---	511
113	90/101/113	---	---	ND	---	511
114		---	---	ND	---	511
115	110/115	---	---	ND	---	511
116	85/116/117	---	---	ND	---	614
117	85/116/117	---	---	ND	---	614
118		---	---	ND	---	511
119	86/87/97/108/119/125	---	---	ND	---	1020
120		---	---	ND	---	511
121		---	---	ND	---	511
122		---	---	ND	---	511
123		---	---	ND	---	511
124	107/124	---	---	ND	---	511
125	86/87/97/108/119/125	---	---	ND	---	1020
126		---	---	ND	---	511
127		---	---	ND	---	511
128	128/166	---	---	ND	---	1020
129	129/138/163	---	---	ND	---	511
130		---	---	ND	---	511
131		---	---	ND	---	511
132		---	---	ND	---	511
133		---	---	ND	---	511
134	134/143	---	---	ND	---	511
135	135/151	---	---	ND	---	522

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15431
Filename P80208B_10

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
136		---	---	ND	---	511
137		---	---	ND	---	511
138	129/138/163	---	---	ND	---	511
139	139/140	---	---	ND	---	511
140	139/140	---	---	ND	---	511
141		---	---	ND	---	511
142		---	---	ND	---	511
143	134/143	---	---	ND	---	511
144		---	---	ND	---	511
145		---	---	ND	---	511
146		---	---	ND	---	511
147	147/149	---	---	ND	---	511
148		---	---	ND	---	511
149	147/149	---	---	ND	---	511
150		---	---	ND	---	511
151	135/151	---	---	ND	---	522
152		---	---	ND	---	511
153	153/168	---	---	ND	---	614
154		---	---	ND	---	511
155		---	---	ND	---	511
156	156/157	---	---	ND	---	511
157	156/157	---	---	ND	---	511
158		---	---	ND	---	511
159		---	---	ND	---	511
160		---	---	ND	---	511
161		---	---	ND	---	511
162		---	---	ND	---	511
163	129/138/163	---	---	ND	---	511
164		---	---	ND	---	511
165		---	---	ND	---	511
166	128/166	---	---	ND	---	1020
167		---	---	ND	---	511
168	153/168	---	---	ND	---	614
169		---	---	ND	---	511
170		---	---	ND	---	511
171	171/173	---	---	ND	---	511
172		---	---	ND	---	511
173	171/173	---	---	ND	---	511
174		---	---	ND	---	511
175		---	---	ND	---	511
176		---	---	ND	---	511
177		---	---	ND	---	511
178		---	---	ND	---	511
179		---	---	ND	---	511
180	180/193	---	---	ND	---	511

Conc = Concentration
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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15431
Filename P80208B_10

IUPAC	Co-elutions	RT	Ratio	Concentration pg/L	EMPC pg/L	EML pg/L
181		---	---	ND	---	511
182		---	---	ND	---	511
183	183/185	---	---	ND	---	511
184		---	---	ND	---	511
185	183/185	---	---	ND	---	511
186		---	---	ND	---	511
187		---	---	ND	---	511
188		---	---	ND	---	511
189		---	---	ND	---	511
190		---	---	ND	---	511
191		---	---	ND	---	511
192		---	---	ND	---	511
193	180/193	---	---	ND	---	511
194		---	---	ND	---	511
195		---	---	ND	---	511
196		---	---	ND	---	716
197	197/200	---	---	ND	---	2560
198	198/199	---	---	ND	---	511
199	198/199	---	---	ND	---	511
200	197/200	---	---	ND	---	2560
201		---	---	ND	---	511
202		---	---	ND	---	511
203		---	---	ND	---	511
204		---	---	ND	---	511
205		---	---	ND	---	511
206		---	---	ND	---	511
207		---	---	ND	---	511
208		---	---	ND	---	511
209		61.026	0.71	532	---	511

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
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ng/L = Nanograms per liter

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15431
Filename P80208B_10

Congener Group	Concentration pg/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	532
Total PCBs	532

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15432		
Filename	P80208B_07	Matrix	Water
Total Amount Extracted	947 mL	Dilution	NA
ICAL Date	02/08/2008	Extracted	02/06/2008
CCal Filename(s)	P80208B_05	Analyzed	02/09/2008 04:03
Method Blank ID	BLANK-15431	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	1.04	104	2.0	0.0646	3	P
3	1.0	0.980	98	2.0	0.188	9	P
4	1.0	0.777	91	2.0	0.204	10	P
15	1.0	1.05	105	2.0	0.764	38	
19	1.0	0.989	99	2.0	0.448	22	P
37	1.0	1.02	102	2.0	1.45	73	
54	1.0	1.05	105	2.0	0.750	37	
81	1.0	1.03	103	2.0	1.75	88	
77	1.0	1.08	108	2.0	1.71	86	
104	1.0	1.01	101	2.0	1.17	59	
105	1.0	1.06	106	2.0	1.72	86	
114	1.0	1.02	102	2.0	1.58	79	
118	1.0	1.18	118	2.0	1.81	91	
123	1.0	0.984	98	2.0	1.73	87	
126	1.0	1.03	103	2.0	1.89	94	
155	1.0	1.04	104	2.0	1.36	68	
156/157	2.0	2.14	107	4.0	3.53	88	
167	1.0	1.11	111	2.0	1.74	87	
169	1.0	1.09	109	2.0	1.69	84	
188	1.0	1.00	100	2.0	1.76	88	
189	1.0	1.14	114	2.0	1.95	97	
202	1.0	1.12	112	2.0	1.88	94	
205	1.0	1.04	104	2.0	2.11	106	
206	1.0	1.19	119	2.0	2.00	100	
208	1.0	1.09	109	2.0	1.91	96	
209	1.0	1.50	150	2.0	2.05	102	

P = Recovery outside of method 1668A control limits
ND = Not Detected
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ng = Nanograms

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15433		
Filename	P80208B_08	Matrix	Water
Total Amount Extracted	992 mL	Dilution	NA
ICAL Date	02/08/2008	Extracted	02/06/2008
CCal Filename(s)	P80208B_05	Analyzed	02/09/2008 05:12
Method Blank ID	BLANK-15431	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	0.950	95	2.0	0.316	16	P
3	1.0	1.02	102	2.0	0.421	21	P
4	1.0	1.02	102	2.0	0.438	22	P
15	1.0	1.02	102	2.0	0.829	41	
19	1.0	0.941	94	2.0	0.649	32	
37	1.0	0.958	96	2.0	1.46	73	
54	1.0	1.00	100	2.0	0.891	45	
81	1.0	1.01	101	2.0	1.66	83	
77	1.0	1.02	102	2.0	1.65	83	
104	1.0	0.985	98	2.0	1.23	62	
105	1.0	0.955	96	2.0	1.82	91	
114	1.0	1.01	101	2.0	1.64	82	
118	1.0	0.938	94	2.0	1.85	92	
123	1.0	0.964	96	2.0	1.74	87	
126	1.0	0.971	97	2.0	1.88	94	
155	1.0	1.02	102	2.0	1.42	71	
156/157	2.0	1.92	96	4.0	3.66	91	
167	1.0	1.02	102	2.0	1.81	91	
169	1.0	1.02	102	2.0	1.75	87	
188	1.0	0.998	100	2.0	1.76	88	
189	1.0	1.09	109	2.0	1.90	95	
202	1.0	1.03	103	2.0	1.86	93	
205	1.0	0.999	100	2.0	2.06	103	
206	1.0	1.04	104	2.0	2.01	100	
208	1.0	1.07	107	2.0	1.90	95	
209	1.0	1.47	147	2.0	2.07	104	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15432	Spike 2 ID	LCSD-15433
Spike 1 Filename	P80208B_07	Spike 2 Filename	P80208B_08

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	104	95	9.0
4-MoCB	3	98	102	4.0
2,2'-DiCB	4	91	102	11.4
4,4'-DiCB	15	105	102	2.9
2,2',6-TrCB	19	99	94	5.2
3,4,4'-TrCB	37	102	96	6.1
2,2',6,6'-TeCB	54	105	100	4.9
3,3',4,4'-TeCB	77	108	102	5.7
3,4,4',5-TeCB	81	103	101	2.0
2,2',4,6,6'-PeCB	104	101	98	3.0
2,3,3',4,4'-PeCB	105	106	96	9.9
2,3,4,4',5-PeCB	114	102	101	1.0
2,3',4,4',5-PeCB	118	118	94	22.6
2,3',4,4',5'-PeCB	123	98	96	2.1
3,3',4,4',5-PeCB	126	103	97	6.0
2,2',4,4',6,6'-HxCB	155	104	102	1.9
(156/157)	156/157	107	96	10.8
2,3',4,4',5,5'-HxCB	167	111	102	8.5
3,3',4,4',5,5'-HxCB	169	109	102	6.6
2,2',3,4',5,6,6'-HpCB	188	100	100	0.0
2,3,3',4,4',5,5'-HpCB	189	114	109	4.5
2,2',3,3',5,5',6,6'-OcCB	202	112	103	8.4
2,3,3',4,4',5,5',6-OcCB	205	104	100	3.9
2,2',3,3',4,4',5,5',6-NoCB	206	119	104	13.5
2,2',3,3',4,5,5',6,6'-NoCB	208	109	107	1.9
Decachlorobiphenyl	209	150	147	2.0

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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February 6 – 7, 2008
Composite Sampling Event

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Laboratory Data QA/QC Review
Upland Source Control Investigation
February 6, 2008 Outfall Basin 53 Composite Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on February 6, 2008. One composite stormwater sample (FO080264) was collected from Outfall Basin 53 by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
  - Total Metals – EPA 200.8
  - Total Mercury – WPCL SOP M-10.02
  - Total suspended solids (TSS) – SM 2540D
  - Polychlorinated Biphenyls as Aroclors (PCB Aroclors) – EPA 8082
  - Total Organic Carbon (TOC) – EPA 415.2
- Test America (TA)
  - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
  - Phthalates – EPA 8270M-SIM
  - Total Organic Carbon (TOC) – EPA 9060
- Columbia Analytical Services (CAS)
  - Semivolatile Organic Compounds (SVOCs) – EPA 8270C

- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- Laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the subcontracted laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. Di-n-butyl phthalate was detected in the method blank for the EPA 8270C analysis and at a similar concentration (less than 10 times the method blank concentration) in the associated stormwater sample. The sample result is flagged with a "B". The sample result is likely biased high.

Low concentrations of 61 PCB congeners (in 45 congener coelution groups) were detected in the method blank and in the sample. For those congeners that were detected in the stormwater samples and the method blank, the sample results are flagged with a "B". The concentrations of

all PCB congener coelutions detected in the method blank were greater than 5 times the concentrations in the sample, and in many cases were greater than the sample concentrations. The total PCB congener concentration for this sample is considered significantly biased high.

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory analysis of PCB congeners. The recoveries were within control limits with the exception of five low values, which were flagged "P" on the sample specific quality control measurements results in the laboratory report. Pace Analytical reports that the data were automatically corrected for variation in recovery and accurate values were obtained. Refer to the Pace report for further discussion.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs. A MS and laboratory control sample/duplicate laboratory control samples (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples. MS/MSD samples were analyzed for TOC. All results were within the control limits.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, SVOCs, and PCB Congeners. All laboratory control sample recoveries were within laboratory control limits except 4-chloroanaline and 3,3'-dichlorobenzidine, both of which were not detected in the stormwater sample. CAS reports the recovery information is reported for advisory purposes only and that no further corrective action was required.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/7/08
Page: 2 of 2
Collected By: MJS

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005
Matrix: STORMWTR

OF 53 Stormwater Composite COC

☑ **Sample Time recorded in PST**

Composite sample time 2/6/08 1621 – 2/7/08 0646

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB 209 Congeners (Pace)	General: PCBWLL Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC (TA)	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn, Mn)	Metals: Total Mercury	Field
FO 080264	N DECATUR & RENO SW-53-AAC614	53_SW1	2/6/08	1621	C	•	•	•	•	•	•	•	•	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1422	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/7/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature: Rona K Inch Time: 1422	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona K Inch Date: 2/7/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080264 **Sample Collected:** 02/06/08 16:21 **Sample Received:** 02/07/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM01405
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	91	mg/L	2	SM 2540 D	02/08/08
METALS					
MANGANESE	0.193	mg/L	0.005	EPA 200.7	02/14/08
MERCURY	0.022	µg/L	0.002	WPCLSOP M-10.02	02/08/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.83	µg/L	0.1	EPA 200.8	02/14/08
CADMIUM	0.19	µg/L	0.1	EPA 200.8	02/14/08
CHROMIUM	6.00	µg/L	0.4	EPA 200.8	02/14/08
COPPER	12.5	µg/L	0.2	EPA 200.8	02/14/08
LEAD	24.9	µg/L	0.1	EPA 200.8	02/14/08
NICKEL	3.17	µg/L	0.2	EPA 200.8	02/14/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	02/14/08
ZINC	78.3	µg/L	0.5	EPA 200.8	02/14/08
GC ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCB)					
Aroclor 1016/1242	0.059	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	02/11/08
Aroclor 1232	<0.025	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1248	<0.025	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1254	<0.025	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1260	<0.025	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1262	<0.025	µg/L	0.025	EPA 8082	02/11/08
Aroclor 1268	<0.025	µg/L	0.025	EPA 8082	02/11/08
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	1.68	mg/L	1.0	EPA 415.2	02/09/08
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/21/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0381	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Acenaphthylene	<0.0381	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Anthracene	<0.0381	µg/L	0.0381	EPA 8270M-SIM	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: FO080264 **Sample Collected:** 02/06/08 16:21 **Sample Received:** 02/07/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM01405
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Benzo(a)anthracene	0.0697	µg/L	0.019	EPA 8270M-SIM	02/11/08
Benzo(a)pyrene	0.0683	µg/L	0.019	EPA 8270M-SIM	02/11/08
Benzo(b)fluoranthene	0.103	µg/L	0.019	EPA 8270M-SIM	02/11/08
Benzo(ghi)perylene	0.0942	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Benzo(k)fluoranthene	0.0543	µg/L	0.019	EPA 8270M-SIM	02/11/08
Bis(2-ethylhexyl) phthalate	2.86	µg/L	1.90	EPA 8270M-SIM	02/11/08
Butyl benzyl phthalate	<1.90	µg/L	1.90	EPA 8270M-SIM	02/11/08
Chrysene	0.119	µg/L	0.019	EPA 8270M-SIM	02/11/08
Dibenzo(a,h)anthracene	<0.019	µg/L	0.019	EPA 8270M-SIM	02/11/08
Diethyl phthalate	<1.90	µg/L	1.90	EPA 8270M-SIM	02/11/08
Dimethyl phthalate	<1.90	µg/L	1.90	EPA 8270M-SIM	02/11/08
Di-n-butyl phthalate	<1.90	µg/L	1.90	EPA 8270M-SIM	02/11/08
Di-n-octyl phthalate	<1.90	µg/L	1.90	EPA 8270M-SIM	02/11/08
Fluoranthene	0.222	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Fluorene	<0.0381	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Indeno(1,2,3-cd)pyrene	0.0523	µg/L	0.019	EPA 8270M-SIM	02/11/08
Naphthalene	<0.0381	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Phenanthrene	0.129	µg/L	0.0381	EPA 8270M-SIM	02/11/08
Pyrene	0.132	µg/L	0.0381	EPA 8270M-SIM	02/11/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
1,2-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
1,3-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
1,4-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
2,4,5-Trichlorophenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
2,4,6-Trichlorophenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
2,4-Dichlorophenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
2,4-Dimethylphenol	<3.8	µg/L	3.8	EPA 8270	02/11/08
2,4-Dinitrophenol	<3.8	µg/L	3.8	EPA 8270	02/11/08
2,4-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270	02/11/08
2,6-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270	02/11/08
2-Chloronaphthalene	<0.19	µg/L	0.19	EPA 8270	02/11/08
2-Chlorophenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
2-Methylnaphthalene	<0.19	µg/L	0.19	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080264 **Sample Collected:** 02/06/08 16:21 **Sample Received:** 02/07/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM01405
EID File # : 1020.005
LocCode: PORTHASW
Collected By: MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
2-Nitroaniline	<0.19	µg/L	0.19	EPA 8270	02/11/08
2-Nitrophenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
3,3'-Dichlorobenzidine	<1.9	µg/L	1.9	EPA 8270	02/11/08
3-Nitroaniline	<0.94	µg/L	0.94	EPA 8270	02/11/08
4,6-Dinitro-2-methylphenol	<1.9	µg/L	1.9	EPA 8270	02/11/08
4-Bromophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270	02/11/08
4-Chloro-3-methylphenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
4-Chloroaniline	<0.19	µg/L	0.19	EPA 8270	02/11/08
4-Chlorophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270	02/11/08
4-Methylphenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
4-Nitroaniline	<0.94	µg/L	0.94	EPA 8270	02/11/08
4-Nitrophenol	<1.9	µg/L	1.9	EPA 8270	02/11/08
Acenaphthene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Acenaphthylene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Anthracene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzo(a)anthracene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzo(a)pyrene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzo(b)fluoranthene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzo(g,h,i)perylene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzo(k)fluoranthene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Benzoic acid	<4.7	µg/L	4.7	EPA 8270	02/11/08
Benzyl alcohol	<4.7	µg/L	4.7	EPA 8270	02/11/08
Bis(2-chloroethoxy) methane	<0.19	µg/L	0.19	EPA 8270	02/11/08
Bis(2-chloroethyl) ether	<0.19	µg/L	0.19	EPA 8270	02/11/08
Bis(2-chloroisopropyl) ether	<0.19	µg/L	0.19	EPA 8270	02/11/08
Bis(2-ethylhexyl) phthalate	2.3	µg/L	0.94	EPA 8270	02/11/08
Butyl benzyl phthalate	<0.19	µg/L	0.19	EPA 8270	02/11/08
Chrysene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Dibenzo(a,h)anthracene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Dibenzofuran	<0.19	µg/L	0.19	EPA 8270	02/11/08
Diethyl phthalate	<0.19	µg/L	0.19	EPA 8270	02/11/08
Dimethyl phthalate	<0.19	µg/L	0.19	EPA 8270	02/11/08
Di-n-butyl phthalate	EST 0.35	µg/L	0.19	EPA 8270	02/11/08
Di-n-octyl phthalate	<0.19	µg/L	0.19	EPA 8270	02/11/08

Report Date: 03/12/08 **Validated By:**

City of Portland
Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO080264 **Sample Collected:** 02/06/08 16:21 **Sample Received:** 02/07/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name:	PORTLAND HARBOR STORMWATER SAMP	**Report Page:**	Page 4 of 4
Address/Location:	SW-53-AAC614		
	N DECATUR & RENO	**System ID:**	AM01405
Sample Point Code:	53_SW1	**EID File # :**	1020.005
Sample Type:	COMPOSITE	**LocCode:**	PORTHASW
Sample Matrix:	STORMWTR	**Collected By:**	MJS

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Semivolatile target analyte Di-n-butyl phthalate was detected in the Method Blank at 0.23 ug/L; the result for this sample may be a false positive.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	0.20	µg/L	0.19	EPA 8270	02/11/08
Fluorene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Hexachlorobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Hexachlorobutadiene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Hexachlorocyclopentadiene	<0.94	µg/L	0.94	EPA 8270	02/11/08
Hexachloroethane	<0.19	µg/L	0.19	EPA 8270	02/11/08
Indeno(1,2,3-cd)pyrene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Isophorone	<0.19	µg/L	0.19	EPA 8270	02/11/08
Naphthalene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Nitrobenzene	<0.19	µg/L	0.19	EPA 8270	02/11/08
N-Nitrosodi-n-propylamine	<0.19	µg/L	0.19	EPA 8270	02/11/08
N-Nitrosodiphenylamine	<0.19	µg/L	0.19	EPA 8270	02/11/08
Pentachlorophenol	<0.94	µg/L	0.94	EPA 8270	02/11/08
Phenanthrene	<0.19	µg/L	0.19	EPA 8270	02/11/08
Phenol	<0.47	µg/L	0.47	EPA 8270	02/11/08
Pyrene	0.22	µg/L	0.19	EPA 8270	02/11/08

End of Report for Sample ID: FO080264

Report Date: 03/12/08 **Validated By:**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

March 6, 2008 Analytical Report for Service Request No: K0801145

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater Samp.

Dear Jennifer:

Enclosed are the results of the sample submitted to our laboratory on February 08, 2008. For your reference, these analyses have been assigned our service request number K0801145.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0801145
Project:	Portland Harbor Stormwater Samp.	**Date Received:**	02/08/2008
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 02/08/2008. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°Cupon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Method Blank Exceptions:
The Method Blank KWG0801375-4 contained low levels of Di-n-butyl Phthalate above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank are flagged as estimated.

Lab Control Sample (LCS) Exceptions:
The advisory criterion was exceeded for 4-Chloroaniline and 3,3'-Dichlorobenzidine in LCS KWG0801375-2. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for the replicate analysis of 4-Chloroaniline in the replicate Laboratory Control Samples (LCS/DLCS) KWG0801375-2 and KWG0801375-3 is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A MS and Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by LW Date 3/6/08

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee-Owned Company

CHAIN OF CUSTODY
Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

PAGE 1 OF 1 SR#: K0801145 COC #

PROJECT NAME: PortHand Harbor Stormwater Samp
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL-City of PortHand BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids	TOC (ASTM D4129M)	☐ Lipids	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M)	☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m)	☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors	☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates	☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Levels VOCs EPA 8270 C	PAH + Phthalates EPA 8270C SIM	REMARKS
FO 080264	2/6/08	1621		Storm Water	1																			X			

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

This is for Low Level analysis of full Semi-vol 8270 list. Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 2/8/08 0925	Date/Time: 2/8/08 9:25	Date/Time: 2/8/08 12:00	Date/Time: 2/8/08 1330
Printed Name: KRIS DENNIS	Printed Name:	Printed Name:	Printed Name:
Firm: City of PortHand BES	Firm: BES	Firm: BES	Firm: BES

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LV

Client / Project: GE / Portland Service Request K08 0114S

Received: 9/5/08 Opened: _____ By: TB

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ (*NA*)
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** _____ _____ _____ _____
   Temperature Blank (°C): _____ _____ _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Collected: 02/06/2008
Date Received: 02/08/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080264
Lab Code: K0801145-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Phenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzyl Alcohol	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Hexachloroethane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Methylphenol†	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Nitrobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Isophorone	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitrophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4-Dimethylphenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,4-Dichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Benzoic Acid	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Naphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobutadiene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Methylnaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chloronaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Acenaphthylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dimethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Collected: 02/06/2008
Date Received: 02/08/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080264
Lab Code: K0801145-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrophenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Dibenzofuran	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Fluorene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Diethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Pentachlorophenol	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
Phenanthrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Di-n-butyl Phthalate	**0.35**	B	0.19	1	02/11/08	02/27/08	KWG0801375	
Fluoranthene	**0.20**		0.19	1	02/11/08	02/27/08	KWG0801375	
Pyrene	**0.22**		0.19	1	02/11/08	02/27/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
Benz(a)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Chrysene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	**2.3**		0.94	1	02/11/08	02/27/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(b)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(a)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(g,h,i)perylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client:	Portland, City of	**Service Request:**	K0801145
Project:	Portland Harbor Stormwater Samp.	**Date Collected:**	02/06/2008
Sample Matrix:	Water	**Date Received:**	02/08/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080264	**Units:**	ug/L
Lab Code:	K0801145-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	69	16-122	02/27/08	Acceptable
Phenol-d6	74	25-118	02/27/08	Acceptable
Nitrobenzene-d5	76	24-131	02/27/08	Acceptable
2-Fluorobiphenyl	76	26-114	02/27/08	Acceptable
2,4,6-Tribromophenol	98	22-148	02/27/08	Acceptable
Terphenyl-d14	89	28-144	02/27/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Phenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
1,3-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,4-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
1,2-Dichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzyl Alcohol	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Hexachloroethane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Methylphenol†	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Nitrobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Isophorone	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitrophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4-Dimethylphenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,4-Dichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
Benzoic Acid	ND	U	4.7	1	02/11/08	02/27/08	KWG0801375	
1,2,4-Trichlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Naphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobutadiene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chloro-3-methylphenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Methylnaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorocyclopentadiene	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4,6-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2,4,5-Trichlorophenol	ND	U	0.47	1	02/11/08	02/27/08	KWG0801375	
2-Chloronaphthalene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2-Nitroaniline	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Acenaphthylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dimethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
2,6-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrophenol	ND	U	3.8	1	02/11/08	02/27/08	KWG0801375	
Dibenzofuran	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
2,4-Dinitrotoluene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Fluorene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Diethyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Nitroaniline	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
N-Nitrosodiphenylamine	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Hexachlorobenzene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Pentachlorophenol	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
Phenanthrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Di-n-butyl Phthalate	**0.23**		0.19	1	02/11/08	02/27/08	KWG0801375	
Fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Butyl Benzyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
3,3'-Dichlorobenzidine	ND	U	1.9	1	02/11/08	02/27/08	KWG0801375	
Benz(a)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Chrysene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Bis(2-ethylhexyl) Phthalate	ND	U	0.94	1	02/11/08	02/27/08	KWG0801375	
Di-n-octyl Phthalate	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(b)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(k)fluoranthene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(a)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Dibenz(a,h)anthracene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	
Benzo(g,h,i)perylene	ND	U	0.19	1	02/11/08	02/27/08	KWG0801375	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0801375-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	59	16-122	02/27/08	Acceptable
Phenol-d6	65	25-118	02/27/08	Acceptable
Nitrobenzene-d5	71	24-131	02/27/08	Acceptable
2-Fluorobiphenyl	60	26-114	02/27/08	Acceptable
2,4,6-Tribromophenol	58	22-148	02/27/08	Acceptable
Terphenyl-d14	89	28-144	02/27/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080264	K0801145-001	69	74	76	76	98	89
Method Blank	KWG0801375-4	59	65	71	60	58	89
Batch QC	K0801183-002	72	52	75	71	93	81
Batch QCMS	KWG0801375-1	73	75	76	70	92	81
Lab Control Sample	KWG0801375-2	72	73	72	66	84	84
Duplicate Lab Control Sample	KWG0801375-3	73	73	70	61	80	83

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Extracted: 02/11/2008
Date Analyzed: 02/27/2008

Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name: Batch QC
Lab Code: K0801183-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low
Extraction Lot: KWG0801375

Batch QCMS
KWG0801375-1
Matrix Spike

Analyte Name	Sample Result	Result	Expected	%Rec	%Rec Limits
Phenol	ND	3.52	5.10	69	10-145
2-Chlorophenol	ND	3.56	5.10	70	27-115
1,4-Dichlorobenzene	ND	2.02	5.10	40	10-72
N-Nitrosodi-n-propylamine	ND	3.50	5.10	69	30-119
1,2,4-Trichlorobenzene	ND	2.14	5.10	42	15-83
4-Chloro-3-methylphenol	ND	3.99	5.10	78	12-141
Acenaphthene	ND	3.18	5.10	62	24-114
4-Nitrophenol	ND	4.40	5.10	86	43-140
2,4-Dinitrotoluene	ND	4.12	5.10	81	28-136
Pentachlorophenol	ND	4.27	5.10	84	30-148
Pyrene	ND	3.17	5.10	62	25-140

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Extracted: 02/11/2008
Date Analyzed: 02/27/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801375

	Lab Control Sample KWG0801375-2 Lab Control Spike			Duplicate Lab Control Sample KWG0801375-3 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.10	5.00	62	3.12	5.00	62	30-125	1	30
Phenol	3.20	5.00	64	3.23	5.00	65	32-117	1	30
2-Chlorophenol	3.20	5.00	64	3.21	5.00	64	32-117	0	30
1,3-Dichlorobenzene	1.53	5.00	31	1.62	5.00	32	10-79	6	30
1,4-Dichlorobenzene	1.63	5.00	33	1.67	5.00	33	10-81	3	30
1,2-Dichlorobenzene	1.79	5.00	36	1.88	5.00	38	15-86	5	30
Benzyl Alcohol	3.15	5.00	63	3.07	5.00	61	33-119	3	30
Bis(2-chloroisopropyl) Ether	2.91	5.00	58	2.91	5.00	58	29-116	0	30
2-Methylphenol	2.90	5.00	58	2.84	5.00	57	29-115	2	30
Hexachloroethane	1.12	5.00	22	1.23	5.00	25	10-76	9	30
N-Nitrosodi-n-propylamine	3.06	5.00	61	3.10	5.00	62	35-119	1	30
4-Methylphenol	2.93	5.00	59	2.98	5.00	60	30-116	2	30
Nitrobenzene	3.16	5.00	63	3.05	5.00	61	34-122	3	30
Isophorone	3.09	5.00	62	3.05	5.00	61	33-121	1	30
2-Nitrophenol	3.41	5.00	68	3.33	5.00	67	33-120	2	30
2,4-Dimethylphenol	1.56	5.00	31	1.82	5.00	36	10-116	15	30
Bis(2-chloroethoxy)methane	3.13	5.00	63	3.10	5.00	62	34-119	1	30
2,4-Dichlorophenol	3.33	5.00	67	3.30	5.00	66	33-120	1	30
Benzoic Acid	8.83	15.0	59	6.73	15.0	45	10-118	27	30
1,2,4-Trichlorobenzene	1.83	5.00	37	1.88	5.00	38	14-88	2	30
Naphthalene	2.64	5.00	53	2.63	5.00	53	27-103	0	30
4-Chloroaniline	0.161	5.00	3 *	2.31	5.00	46	10-110	174 *	30
Hexachlorobutadiene	1.04	5.00	21	1.12	5.00	22	10-75	8	30
4-Chloro-3-methylphenol	3.19	5.00	64	3.15	5.00	63	37-120	1	30
2-Methylnaphthalene	2.51	5.00	50	2.47	5.00	49	27-99	1	30
Hexachlorocyclopentadiene	0.617	5.00	12	0.680	5.00	14	10-54	10	30
2,4,6-Trichlorophenol	3.19	5.00	64	3.00	5.00	60	34-118	6	30
2,4,5-Trichlorophenol	3.25	5.00	65	3.13	5.00	63	36-119	4	30
2-Chloronaphthalene	2.50	5.00	50	2.46	5.00	49	30-108	2	30
2-Nitroaniline	3.35	5.00	67	3.14	5.00	63	35-122	6	30
Acenaphthylene	2.87	5.00	57	2.75	5.00	55	39-116	4	30
Dimethyl Phthalate	3.40	5.00	68	3.18	5.00	64	43-116	7	30
2,6-Dinitrotoluene	3.49	5.00	70	3.27	5.00	65	42-120	6	30
Acenaphthene	2.94	5.00	59	2.79	5.00	56	36-108	5	30
3-Nitroaniline	1.53	5.00	31	3.12	5.00	62	24-115	69 *	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater Samp.
Sample Matrix: Water

Service Request: K0801145
Date Extracted: 02/11/2008
Date Analyzed: 02/27/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0801375

Analyte Name	Lab Control Sample KWG0801375-2 Lab Control Spike Result	Expected	%Rec		Duplicate Lab Control Sample KWG0801375-3 Duplicate Lab Control Spike Result	Expected	%Rec	%Rec Limits	RPD	RPD Limit
2,4-Dinitrophenol	2.83	5.00	57		2.50	5.00	50	10-121	12	30
Dibenzofuran	3.04	5.00	61		2.86	5.00	57	36-108	6	30
4-Nitrophenol	3.61	5.00	72		3.29	5.00	66	33-136	9	30
2,4-Dinitrotoluene	3.61	5.00	72		3.49	5.00	70	43-124	3	30
Fluorene	3.05	5.00	61		2.94	5.00	59	37-113	4	30
4-Chlorophenyl Phenyl Ether	2.97	5.00	59		2.76	5.00	55	36-112	7	30
Diethyl Phthalate	3.48	5.00	70		3.29	5.00	66	42-120	6	30
4-Nitroaniline	3.04	5.00	61		3.22	5.00	64	23-120	6	30
2-Methyl-4,6-dinitrophenol	3.31	5.00	66		3.14	5.00	63	24-123	5	30
N-Nitrosodiphenylamine	3.38	5.00	68		3.26	5.00	65	30-115	4	30
4-Bromophenyl Phenyl Ether	3.21	5.00	64		3.05	5.00	61	40-113	5	30
Hexachlorobenzene	3.11	5.00	62		3.02	5.00	60	40-114	3	30
Pentachlorophenol	3.46	5.00	69		3.36	5.00	67	24-123	3	30
Phenanthrene	3.16	5.00	63		3.11	5.00	62	42-113	2	30
Anthracene	3.05	5.00	61		2.87	5.00	57	40-113	6	30
Di-n-butyl Phthalate	3.79	5.00	76		3.65	5.00	73	46-119	4	30
Fluoranthene	3.28	5.00	66		3.22	5.00	64	44-116	2	30
Pyrene	3.21	5.00	64		3.08	5.00	62	42-121	4	30
Butyl Benzyl Phthalate	3.46	5.00	69		3.40	5.00	68	43-121	2	30
3,3'-Dichlorobenzidine	ND	5.00	0	*	1.47	5.00	29	10-101		30
Benz(a)anthracene	3.23	5.00	65		3.18	5.00	64	43-121	2	30
Chrysene	3.30	5.00	66		3.19	5.00	64	45-119	3	30
Bis(2-ethylhexyl) Phthalate	3.49	5.00	70		3.40	5.00	68	34-136	3	30
Di-n-octyl Phthalate	3.51	5.00	70		3.51	5.00	70	39-123	0	30
Benzo(b)fluoranthene	3.28	5.00	66		3.32	5.00	66	42-119	1	30
Benzo(k)fluoranthene	3.26	5.00	65		3.28	5.00	66	43-120	1	30
Benzo(a)pyrene	3.14	5.00	63		3.10	5.00	62	39-116	1	30
Indeno(1,2,3-cd)pyrene	3.36	5.00	67		3.31	5.00	66	42-123	1	30
Dibenz(a,h)anthracene	3.28	5.00	66		3.34	5.00	67	38-130	2	30
Benzo(g,h,i)perylene	3.40	5.00	68		3.45	5.00	69	38-125	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

February 29, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 02/08/08 16:15. The following list is a summary of the Work Orders contained in this report, generated on 02/29/08 08:34.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRB0258	Portland Harbor	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080264	PRB0258-01	Water	02/06/08 16:21	02/08/08 16:15

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 08:34

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRB0258-01 (FO 080264)		**Water**			**Sampled: 02/06/08 16:21**					**RL3**
Acenaphthene	EPA 8270m	ND	*0.0381*	0.0381	ug/l	2x	8020322	02/11/08 14:20	02/20/08 21:28	
Acenaphthylene	"	ND	*0.0381*	0.0381	"	"	"	"	"	
Anthracene	"	ND	*0.0381*	0.0381	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0697**	*0.0190*	0.0190	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0683**	*0.0190*	0.0190	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.103**	*0.0190*	0.0190	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0942**	*0.0381*	0.0381	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0543**	*0.0190*	0.0190	"	"	"	"	"	
Chrysene	"	**0.119**	*0.0190*	0.0190	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.0190*	0.0190	"	"	"	"	"	
Fluoranthene	"	**0.222**	*0.0381*	0.0381	"	"	"	"	"	
Fluorene	"	ND	*0.0381*	0.0381	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0523**	*0.0190*	0.0190	"	"	"	"	"	
Naphthalene	"	ND	*0.0381*	0.0381	"	"	"	"	"	
Phenanthrene	"	**0.129**	*0.0381*	0.0381	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**2.86**	*1.00*	1.90	"	"	"	"	02/25/08 16:55	
Butyl benzyl phthalate	"	ND	*1.00*	1.90	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*1.00*	1.90	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*1.00*	1.90	"	"	"	"	"	
Diethyl phthalate	"	ND	*1.00*	1.90	"	"	"	"	"	
Dimethyl phthalate	"	ND	*1.00*	1.90	"	"	"	"	"	
Pyrene	"	**0.132**	*0.0381*	0.0381	"	"	"	"	02/20/08 21:28	
Surrogate(s): *Fluorene-d10*			*51.1%*		*25 - 125 %*	"			"	
Pyrene-d10			*55.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*66.2%*		*10 - 125 %*	"			"	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:34

Conventional Chemistry Parameters per APHA/EPA Methods

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRB0258-01 (FO 080264)		**Water**				**Sampled: 02/06/08 16:21**				
Total Organic Carbon	EPA 9060	**1.68**	-----	1.00	mg/l	1x	8020286	02/09/08 10:46	02/09/08 15:36	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	02/29/08 08:34

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020322 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8020322-BLK1)									**Extracted: 02/11/08 14:20**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	02/19/08 00:29	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	02/14/08 13:32	
Butyl benzyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	02/19/08 00:29	
Surrogate(s): Fluorene-d10		*Recovery: 70.5%*			*Limits: 25-125%*	"							*02/19/08 00:29*	
Pyrene-d10		*75.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*65.4%*			*10-125%*	"							"	
LCS (8020322-BS1)									**Extracted: 02/11/08 14:20**					
Acenaphthene	EPA 8270m	1.82	0.0400	0.0400	ug/l	2x	--	2.50	72.9%	(35-120)	--	--	02/19/08 01:00	
Acenaphthylene	"	1.81	0.0400	0.0400	"	"	--	"	72.3%	(34-116)	--	--	"	
Anthracene	"	1.65	0.0400	0.0400	"	"	--	"	66.0%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.79	0.0200	0.0200	"	"	--	"	71.8%	(36-128)	--	--	"	
Benzo (a) pyrene	"	1.79	0.0200	0.0200	"	"	--	"	71.6%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.04	0.0200	0.0200	"	"	--	"	81.5%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	1.84	0.0400	0.0400	"	"	--	"	73.6%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	1.85	0.0200	0.0200	"	"	--	"	74.1%	(18-145)	--	--	"	
Chrysene	"	1.77	0.0200	0.0200	"	"	--	"	70.8%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.87	0.0200	0.0200	"	"	--	"	75.0%	(20-141)	--	--	"	
Fluoranthene	"	1.82	0.0400	0.0400	"	"	--	"	72.7%	(31-125)	--	--	"	
Fluorene	"	1.78	0.0400	0.0400	"	"	--	"	71.1%	(27-124)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
02/29/08 08:34

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020322 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8020322-BS1)									**Extracted: 02/11/08 14:20**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	1.87	0.0200	0.0200	ug/l	2x	--	2.50	75.0%	(30-135)	--	--	02/19/08 01:00	
Naphthalene	"	1.77	0.0400	0.0400	"	"	--	"	70.6%	(30-113)	--	--	"	
Phenanthrene	"	1.68	0.0400	0.0400	"	"	--	"	67.0%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	2.96	1.05	2.00	"	"	--	4.00	73.9%	(20-150)	--	--	02/14/08 14:38	
Butyl benzyl phthalate	"	2.81	1.05	2.00	"	"	--	"	70.3%	"	--	--	"	
Di-n-butyl phthalate	"	2.62	1.05	2.00	"	"	--	"	65.5%	"	--	--	"	
Di-n-octyl phthalate	"	2.93	1.05	2.00	"	"	--	"	73.4%	"	--	--	"	
Diethyl phthalate	"	2.51	1.05	2.00	"	"	--	"	62.7%	"	--	--	"	
Dimethyl phthalate	"	2.55	1.05	2.00	"	"	--	"	63.8%	"	--	--	"	
Pyrene	"	1.56	0.0400	0.0400	"	"	--	2.50	62.6%	(21-141)	--	--	02/19/08 01:00	
Surrogate(s): Fluorene-d10		*Recovery: 63.3%*			*Limits: 25-125%*	"							*02/19/08 01:00*	
Pyrene-d10		*66.5%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*67.4%*			*10-125%*	"							"	
LCS Dup (8020322-BSD1)									**Extracted: 02/11/08 14:20**					
Acenaphthene	EPA 8270m	1.79	0.0400	0.0400	ug/l	2x	--	2.50	71.7%	(35-120)	1.76%	(35)	02/19/08 01:32	
Acenaphthylene	"	1.78	0.0400	0.0400	"	"	--	"	71.1%	(34-116)	1.68%	"	"	
Anthracene	"	1.69	0.0400	0.0400	"	"	--	"	67.6%	(24-119)	2.39%	"	"	
Benzo (a) anthracene	"	1.76	0.0200	0.0200	"	"	--	"	70.5%	(36-128)	1.78%	"	"	
Benzo (a) pyrene	"	1.77	0.0200	0.0200	"	"	--	"	71.0%	(17-128)	0.899%	"	"	
Benzo (b) fluoranthene	"	2.03	0.0200	0.0200	"	"	--	"	81.3%	(37-131)	0.225%	"	"	
Benzo (ghi) perylene	"	1.78	0.0400	0.0400	"	"	--	"	71.2%	(26-126)	3.37%	"	"	
Benzo (k) fluoranthene	"	1.74	0.0200	0.0200	"	"	--	"	69.6%	(18-145)	6.36%	"	"	
Chrysene	"	1.75	0.0200	0.0200	"	"	--	"	69.8%	(16-137)	1.41%	"	"	
Dibenzo (a,h) anthracene	"	1.81	0.0200	0.0200	"	"	--	"	72.2%	(20-141)	3.77%	"	"	
Fluoranthene	"	1.82	0.0400	0.0400	"	"	--	"	72.7%	(31-125)	0.00550	"	"	
Fluorene	"	1.76	0.0400	0.0400	"	"	--	"	70.5%	(27-124)	0.780%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.81	0.0200	0.0200	"	"	--	"	72.5%	(30-135)	3.39%	"	"	
Naphthalene	"	1.73	0.0400	0.0400	"	"	--	"	69.1%	(30-113)	2.23%	"	"	
Phenanthrene	"	1.62	0.0400	0.0400	"	"	--	"	64.6%	(34-126)	3.65%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.18	1.05	2.00	"	"	--	4.00	79.6%	(20-150)	7.42%	(50)	02/14/08 15:11	
Butyl benzyl phthalate	"	2.87	1.05	2.00	"	"	--	"	71.7%	"	2.01%	"	"	
Di-n-butyl phthalate	"	2.62	1.05	2.00	"	"	--	"	65.6%	"	0.188%	"	"	
Di-n-octyl phthalate	"	3.02	1.05	2.00	"	"	--	"	75.4%	"	2.71%	"	"	
Diethyl phthalate	"	2.38	1.05	2.00	"	"	--	"	59.6%	"	5.14%	"	"	
Dimethyl phthalate	"	2.54	1.05	2.00	"	"	--	"	63.5%	"	0.549%	"	"	
Pyrene	"	1.51	0.0400	0.0400	"	"	--	2.50	60.5%	(21-141)	3.31%	(35)	02/19/08 01:32	
Surrogate(s): Fluorene-d10		*Recovery: 63.6%*			*Limits: 25-125%*	"							*02/19/08 01:32*	
Pyrene-d10		*64.4%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:34

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020322 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8020322-BSD1)													**Extracted: 02/11/08 14:20**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 66.2%*			*Limits: 10-125%*	*2x*							*02/19/08 01:32*	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:34

Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8020286 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8020286-BLK1)								**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	ND	---	1.00	mg/l	1x	--	--	--	--	--	--	02/09/08 13:06	
LCS (8020286-BS1)								**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	21.2	---	1.00	mg/l	1x	--	20.0	106%	(85-115)	--	--	02/09/08 13:29	
Duplicate (8020286-DUP1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	ND	---	1.00	mg/l	1x	ND	--	--	--	NR	(20)	02/09/08 13:49	
Matrix Spike (8020286-MS1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	25.5	---	1.01	mg/l	1x	ND	25.3	101%	(75-125)	--	--	02/09/08 15:59	
Matrix Spike Dup (8020286-MSD1)				**QC Source: PRA0737-01**				**Extracted: 02/09/08 10:46**						
Total Organic Carbon	EPA 9060	25.8	---	1.01	mg/l	1x	ND	25.3	102%	(75-125)	1.33%	(20)	02/09/08 14:33	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	02/29/08 08:34

Notes and Definitions

Report Specific Notes:

RL3 - Reporting limit raised due to high concentrations of non-target analytes.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
[illegible] 907-562-9200 FAX 562-[illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PRB0258

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Stormwater Samp
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: X (STD) | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 (STD) | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH + Phthalates 8270 SIM	PCBs 209 Congeners	TOC	PRESERVATIVE / REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1 FO 080264	2/6/08 1621	X	X	X		W	3		
2									
3									
4									
5									
6									
7									
8									
9									
10									

RELEASED BY: [signature] DATE: 2/8/08
PRINT NAME: KRIS DENNEY FIRM: City of Portland TIME: 1500
RECEIVED BY: DATE: 2-8-08
PRINT NAME: FIRM: TAF TIME: 1500
RELEASED BY: DATE: 2/8/08
PRINT NAME: FIRM: TAF TIME: 1615
RECEIVED BY: DATE: 2/8/08
PRINT NAME: Jamie Ireland FIRM: TAF TIME: 1615

ADDITIONAL REMARKS: (X) PAH + phthalates as for UIC project w/ Low DLs.
(X)(X) PCB 209 Congeners to Pace Analytical, please. Thanks.
TEMP: 2.1
PAGE 1 OF 1
COC REV 09 2004

TestAmerica Sample Receipt Checklist

Cooler (lbs):

Received by: *(section A)* Date: 2/2/08 Time: 14:15 Initials: JE

Unpacked by: *(section B)* Date: 2/2/08 initials: JE

Logged-in by: Date: 2/8/08 initials: SI

Work Order No. PRB0258

Client: City of Portland

Project: Portland Harbor

Temperature out of range:

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 2.1 °C plastic (glass) NA *(oil/air samples, ESI client)* Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

X None (____Other:_____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
Volatiles/ Oil Quality:			
VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments:_____

PM Reviewed (Initial/Date:)

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

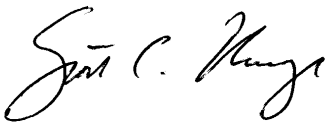
Pace Project #: 1067962
Sample Receipt Date: 02/12/2008
Client Project #: PRB0258
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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Report Prepared Date:
March 4, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Test America-Portland. The sample was analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to correspond to the lowest calibration concentration and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extract were recovered at 44-103%. With the exceptions of five values, which were flagged "P" on the results tables, the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. However, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain background levels of selected PCB congeners. Sample levels similar to the corresponding blank levels were flagged "B" on the results table and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory spike samples were also prepared with the sample batch using a reference matrix that had been fortified with native standards. The results show that the spiked native compounds were recovered at 91-123%, with relative percent differences of 0.0-5.9%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

SUBCONTRACT ORDER

TestAmerica Portland

PRB0258 1067962

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature:_____°C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRB0258-01	**Water**		Sampled: **02/06/08 16:21**	
1668 Coplanar PCBs - SUB	ug/l	02/21/08	08/04/08 16:21	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (A)				

T=3.2°C

Released By 2/11/08 1220
Date/Time

Received By 2-12-08/1040
Date/Time

Released By
Date/Time

Received By
Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America Project # 1067962

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 230194010, 72310129 Type of Ice: Wet (Blue) None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.2° Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: cl 2-12-08

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 02/12/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRB0258-01		
Lab Sample ID	1067962001		
Filename	P80228A_10		
Injected By	SMT		
Total Amount Extracted	1020 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	02/06/2008
ICAL ID	P80228A02	Received	02/12/2008
CCal Filename(s)	P80228A_01	Extracted	02/21/2008
Method Blank ID	BLANK-15578	Analyzed	02/29/2008 01:51

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.097	3.17	2.0	0.875	44
13C-4-MoCB	3	12.536	3.15	2.0	0.943	47
13C-2,2'-DiCB	4	12.908	1.58	2.0	1.23	61
13C-4,4'-DiCB	15	21.261	1.58	2.0	1.35	68
13C-2,2',6-TrCB	19	17.474	1.08	2.0	1.30	65
13C-3,4,4'-TrCB	37	29.938	1.06	2.0	1.37	68
13C-2,2',6,6'-TeCB	54	21.637	0.80	2.0	1.11	56
13C-3,4,4',5-TeCB	81	37.636	0.80	2.0	1.56	78
13C-3,3',4,4'-TeCB	77	38.240	0.80	2.0	1.52	76
13C-2,2',4,6,6'-PeCB	104	28.513	1.59	2.0	1.32	66
13C-2,3,3',4,4'-PeCB	105	42.097	1.61	2.0	1.43	72
13C-2,3,4,4',5-PeCB	114	41.409	1.58	2.0	1.32	66
13C-2,3',4,4',5-PeCB	118	40.839	1.59	2.0	1.49	74
13C-2,3',4,4',5'-PeCB	123	40.470	1.59	2.0	1.47	73
13C-3,3',4,4',5-PeCB	126	45.451	1.61	2.0	1.33	67
13C-2,2',4,4',6,6'-HxCB	155	35.104	1.28	2.0	1.43	71
13C-HxCB (156/157)	156/157	48.687	1.27	4.0	2.64	66
13C-2,3',4,4',5,5'-HxCB	167	47.463	1.28	2.0	1.34	67
13C-3,3',4,4',5,5'-HxCB	169	52.141	1.28	2.0	1.17	58
13C-2,2',3,4',5,6,6'-HpCB	188	41.409	1.08	2.0	2.06	103
13C-2,3,3',4,4',5,5'-HpCB	189	54.831	1.07	2.0	1.53	77
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.195	0.91	2.0	1.91	95
13C-2,3,3',4,4',5,5',6-OcCB	205	57.547	0.91	2.0	1.55	78
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.379	0.78	2.0	1.55	77
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.314	0.80	2.0	1.72	86
13C--DeCB	209	61.060	0.71	2.0	1.60	80
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.142	1.06	2.0	1.41	70
13C-2,3,3',5,5'-PeCB	111	38.341	1.59	2.0	1.55	78
13C-2,2',3,3',5,5',6-HpCB	178	44.713	1.07	2.0	1.49	74
Recovery Standards						
13C-2,5-DiCB	9	15.880	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.389	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.339	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.210	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	57.051	0.92	2.0	NA	NA

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
1		9.109	3.17	0.0325		---	0.0196
2		---	---	ND		---	0.0196
3		12.560	2.84	0.0311	B	---	0.0196
4		12.932	1.45	0.225	B	---	0.0196
5		---	---	ND		---	0.0196
6		16.479	1.56	0.122		---	0.0196
7		16.143	1.80	0.0244		---	0.0196
8		17.090	1.57	0.566	B	---	0.0196
9		15.916	1.58	0.0371		---	0.0196
10		---	---	ND		---	0.0196
11		20.482	1.56	0.936	B	---	0.0196
12	12/13	20.853	1.56	0.0656		---	0.0392
13	12/13	20.853	1.56	(0.0656)		---	0.0392
14		---	---	ND		---	0.0196
15		21.285	1.56	0.430		---	0.0196
16		21.213	1.09	0.476		---	0.0196
17		20.638	1.07	0.447		---	0.0196
18	18/30	20.086	1.05	0.932		---	0.0392
19		17.498	0.98	0.110		---	0.0196
20	20/28	25.176	1.04	1.75		---	0.0392
21	21/33	25.461	1.04	0.982		---	0.0392
22		25.930	1.05	0.678		---	0.0196
23		---	---	ND		---	0.0196
24		---	---	ND		---	0.0196
25		24.421	1.07	0.116		---	0.0196
26	26/29	24.136	1.03	0.284		---	0.0392
27		20.913	1.07	0.0742		---	0.0196
28	20/28	25.176	1.04	(1.75)		---	0.0392
29	26/29	24.136	1.03	(0.284)		---	0.0392
30	18/30	20.086	1.05	(0.932)		---	0.0392
31		24.807	1.03	1.38		---	0.0196
32		21.922	1.06	0.323		---	0.0196
33	21/33	25.461	1.04	(0.982)		---	0.0392
34		---	---	ND		---	0.0196
35		29.502	1.00	0.0603	B	---	0.0196
36		---	---	ND		---	0.0196
37		29.972	1.01	0.534		---	0.0196
38		---	---	ND		---	0.0196
39		---	---	ND		---	0.0196
40	40/41/71	29.771	0.78	0.811		---	0.0588
41	40/41/71	29.771	0.78	(0.811)		---	0.0588
42		29.200	0.77	0.346		---	0.0196
43		27.708	0.75	0.0522		---	0.0196
44	44/47/65	28.580	0.78	1.27		---	0.0588
45	45/51	25.276	0.78	0.269		---	0.0392
46		25.645	0.80	0.0906		---	0.0196
47	44/47/65	28.580	0.78	(1.27)		---	0.0588
48		28.345	0.78	0.294		---	0.0196

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
49	49/69	28.010	0.79	0.693		---	0.0392
50	50/53	24.454	0.80	0.172		---	0.0392
51	45/51	25.276	0.78	(0.269)		---	0.0392
52		27.423	0.79	1.32		---	0.0196
53	50/53	24.454	0.80	(0.172)		---	0.0392
54		---	---	ND		---	0.0196
55		33.561	0.84	0.0215		---	0.0196
56		34.131	0.79	0.423		---	0.0196
57		---	---	ND		---	0.0196
58		---	---	ND		---	0.0196
59	59/62/75	28.982	0.79	0.122		---	0.0588
60		34.366	0.75	0.247		---	0.0196
61	61/70/74/76	33.024	0.78	1.74		---	0.0784
62	59/62/75	28.982	0.79	(0.122)		---	0.0588
63		32.639	0.77	0.0395		---	0.0196
64		30.056	0.79	0.587		---	0.0196
65	44/47/65	28.580	0.78	(1.27)		---	0.0588
66		33.376	0.78	0.823		---	0.0196
67		32.337	0.79	0.0379		---	0.0196
68		31.397	0.73	0.0198		---	0.0196
69	49/69	28.010	0.79	(0.693)		---	0.0392
70	61/70/74/76	33.024	0.78	(1.74)		---	0.0784
71	40/41/71	29.771	0.78	(0.811)		---	0.0588
72		---	---	ND		---	0.0196
73		---	---	ND		---	0.0196
74	61/70/74/76	33.024	0.78	(1.74)		---	0.0784
75	59/62/75	28.982	0.79	(0.122)		---	0.0588
76	61/70/74/76	33.024	0.78	(1.74)		---	0.0784
77		38.274	0.79	0.103		---	0.0196
78		---	---	ND		---	0.0196
79		---	---	ND		---	0.0196
80		---	---	ND		---	0.0196
81		---	---	ND		---	0.0196
82		37.871	1.63	0.166		---	0.0196
83		35.875	1.59	0.0675		---	0.0196
84		33.225	1.58	0.327		---	0.0196
85	85/116/117	37.351	1.48	0.240		---	0.0588
86	86/87/97/108/119/125	36.630	1.57	0.900		---	0.118
87	86/87/97/108/119/125	36.630	1.57	(0.900)		---	0.118
88	88/91	32.991	1.61	0.172		---	0.0392
89		---	---	ND		---	0.0196
90	90/101/113	35.372	1.59	1.18	B	---	0.0588
91	88/91	32.991	1.61	(0.172)		---	0.0392
92		34.701	1.63	0.203	B	---	0.0196
93	93/98/100/102	---	---	ND		---	0.0784
94		---	---	ND		---	0.0196
95		32.001	1.60	0.879	B	---	0.0196
96		---	---	ND		---	0.0196

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	36.630	1.57	(0.900)		---	0.118
98	93/98/100/102	---	---	ND		---	0.0784
99		36.026	1.61	0.532		---	0.0196
100	93/98/100/102	---	---	ND		---	0.0784
101	90/101/113	35.372	1.59	(1.18)	B	---	0.0588
102	93/98/100/102	---	---	ND		---	0.0784
103		---	---	ND		---	0.0196
104		---	---	ND		---	0.0196
105		42.114	1.56	0.553		---	0.0196
106		---	---	ND		---	0.0196
107	107/124	40.118	1.58	0.0559		---	0.0392
108	86/87/97/108/119/125	36.630	1.57	(0.900)		---	0.118
109		40.370	1.55	0.0821		---	0.0196
110	110/115	37.536	1.61	1.50	B	---	0.0392
111		---	---	ND		---	0.0196
112		---	---	ND		---	0.0196
113	90/101/113	35.372	1.59	(1.18)	B	---	0.0588
114		41.426	1.67	0.0344		---	0.0196
115	110/115	37.536	1.61	(1.50)	B	---	0.0392
116	85/116/117	37.351	1.48	(0.240)		---	0.0588
117	85/116/117	37.351	1.48	(0.240)		---	0.0588
118		40.856	1.57	1.16	B	---	0.0196
119	86/87/97/108/119/125	36.630	1.57	(0.900)		---	0.118
120		---	---	ND		---	0.0196
121		---	---	ND		---	0.0196
122		---	---	ND		---	0.0196
123		40.504	1.49	0.0223		---	0.0196
124	107/124	40.118	1.58	(0.0559)		---	0.0392
125	86/87/97/108/119/125	36.630	1.57	(0.900)		---	0.118
126		---	---	ND		---	0.0196
127		---	---	ND		---	0.0196
128	128/166	45.585	1.20	0.246	B	---	0.0392
129	129/138/163	44.243	1.26	1.51	B	---	0.0588
130		43.539	1.20	0.0899	B	---	0.0196
131		40.470	1.35	0.0222		---	0.0196
132		40.957	1.27	0.497	B	---	0.0196
133		---	---	ND		---	0.0196
134	134/143	39.800	1.27	0.0729	B	---	0.0392
135	135/151	38.592	1.26	0.348	B	---	0.0392
136		35.875	1.24	0.143	B	---	0.0196
137		43.791	1.17	0.0828		---	0.0196
138	129/138/163	44.243	1.26	(1.51)	B	---	0.0588
139	139/140	---	---	ND		---	0.0392
140	139/140	---	---	ND		---	0.0392
141		43.103	1.26	0.246	B	---	0.0196
142		---	---	ND		---	0.0196
143	134/143	39.800	1.27	(0.0729)	B	---	0.0392
144		39.196	1.19	0.0571	B	---	0.0196

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
145		---	---	ND		---	0.0196
146		42.248	1.27	0.166	B	---	0.0196
147	147/149	39.598	1.25	0.967	B	---	0.0392
148		---	---	ND		---	0.0196
149	147/149	39.598	1.25	(0.967)	B	---	0.0392
150		---	---	ND		---	0.0196
151	135/151	38.592	1.26	(0.348)	B	---	0.0392
152		---	---	ND		---	0.0196
153	153/168	42.919	1.26	1.06	B	---	0.0392
154		---	---	ND		---	0.0196
155		---	---	ND		---	0.0196
156	156/157	48.687	1.30	0.202	B	---	0.0392
157	156/157	48.687	1.30	(0.202)	B	---	0.0392
158		44.663	1.28	0.158	B	---	0.0196
159		---	---	ND		---	0.0196
160		---	---	ND		---	0.0196
161		---	---	ND		---	0.0196
162		---	---	ND		---	0.0196
163	129/138/163	44.243	1.26	(1.51)	B	---	0.0588
164		43.908	1.30	0.0953	B	---	0.0196
165		---	---	ND		---	0.0196
166	128/166	45.585	1.20	(0.246)	B	---	0.0392
167		47.496	1.17	0.0623	B	---	0.0196
168	153/168	42.919	1.26	(1.06)	B	---	0.0392
169		---	---	ND		---	0.0196
170		51.521	1.03	0.292	B	---	0.0196
171	171/173	47.765	1.02	0.0911	B	---	0.0392
172		49.509	1.06	0.0623	B	---	0.0196
173	171/173	47.765	1.02	(0.0911)	B	---	0.0392
174		46.608	1.05	0.300	B	---	0.0196
175		---	---	ND		---	0.0196
176		42.751	1.08	0.0376	B	---	0.0196
177		47.077	1.03	0.155	B	---	0.0196
178		44.746	1.02	0.0646	B	---	0.0196
179		41.778	1.07	0.127	B	---	0.0196
180	180/193	50.196	1.08	0.723	B	---	0.0392
181		---	---	ND		---	0.0196
182		---	---	ND		---	0.0196
183	183/185	46.390	0.99	0.238	B	---	0.0392
184		---	---	ND		---	0.0196
185	183/185	46.390	0.99	(0.238)	B	---	0.0392
186		---	---	ND		---	0.0196
187		45.719	1.05	0.533	B	---	0.0196
188		---	---	ND		---	0.0196
189		---	---	ND		---	0.0196
190		52.091	1.05	0.0629	B	---	0.0196
191		---	---	ND		---	0.0196
192		---	---	ND		---	0.0196

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L		EMPC ng/L	EML ng/L
193	180/193	50.196	1.08	(0.723)	B	---	0.0392
194		57.072	0.90	0.345	B	---	0.0196
195		54.594	0.95	0.0687	B	---	0.0196
196		52.980	0.90	0.182	B	---	0.0196
197	197/200	49.274	0.84	0.0674	B	---	0.0392
198	198/199	52.292	0.90	1.24	B	---	0.0392
199	198/199	52.292	0.90	(1.24)	B	---	0.0392
200	197/200	49.274	0.84	(0.0674)	B	---	0.0392
201		48.217	0.95	0.0986	B	---	0.0196
202		47.228	0.90	0.459		---	0.0196
203		53.198	0.88	0.719	B	---	0.0196
204		---	---	ND		---	0.0196
205		---	---	ND		---	0.0196
206		59.400	0.77	1.87		---	0.0196
207		55.327	0.80	0.165		---	0.0196
208		54.335	0.77	0.850		---	0.0196
209		61.081	0.71	0.465		---	0.0196

Conc = Concentration
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Nn = Value obtained from additional analyses

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I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRB0258-01
Lab Sample ID	1067962001
Filename	P80228A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	0.0636
Total Dichloro Biphenyls	2.41
Total Trichloro Biphenyls	8.15
Total Tetrachloro Biphenyls	9.48
Total Pentachloro Biphenyls	8.07
Total Hexachloro Biphenyls	6.03
Total Heptachloro Biphenyls	2.69
Total Octachloro Biphenyls	3.18
Total Nonachloro Biphenyls	2.88
Decachloro Biphenyls	0.465
Total PCBs	43.4

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15578		
Filename	P80225B_07		
Injected By	SMT	Matrix	Water
Total Amount Extracted	987 mL	Extracted	02/21/2008
ICAL ID	P80225B02	Analyzed	02/26/2008 11:12
CCal Filename(s)	P80225B_01	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	9.061	3.47	2.0	0.550	27
13C-4-MoCB	3	12.488	3.55	2.0	0.626	31
13C-2,2'-DiCB	4	12.872	1.58	2.0	0.586	29
13C-4,4'-DiCB	15	21.201	1.58	2.0	1.15	58
13C-2,2',6-TrCB	19	17.426	1.07	2.0	0.986	49
13C-3,4,4'-TrCB	37	29.871	1.06	2.0	1.33	67
13C-2,2',6,6'-TeCB	54	21.586	0.79	2.0	0.888	44
13C-3,4,4',5-TeCB	81	37.536	0.79	2.0	1.58	79
13C-3,3',4,4'-TeCB	77	38.156	0.80	2.0	1.55	77
13C-2,2',4,6,6'-PeCB	104	28.446	1.59	2.0	1.05	53
13C-2,3,3',4,4'-PeCB	105	41.997	1.60	2.0	1.52	76
13C-2,3,4,4',5-PeCB	114	41.309	1.58	2.0	1.37	68
13C-2,3',4,4',5-PeCB	118	40.739	1.58	2.0	1.52	76
13C-2,3',4,4',5'-PeCB	123	40.370	1.57	2.0	1.50	75
13C-3,3',4,4',5-PeCB	126	45.318	1.60	2.0	1.45	73
13C-2,2',4,4',6,6'-HxCB	155	35.037	1.28	2.0	1.21	61
13C-HxCB (156/157)	156/157	48.555	1.27	4.0	2.84	71
13C-2,3',4,4',5,5'-HxCB	167	47.347	1.27	2.0	1.43	71
13C-3,3',4,4',5,5'-HxCB	169	51.993	1.28	2.0	1.27	64
13C-2,2',3,4',5,6,6'-HpCB	188	41.326	1.05	2.0	2.01	101
13C-2,3,3',4,4',5,5'-HpCB	189	54.667	1.04	2.0	1.67	83
13C-2,2',3,3',5,5',6,6'-OcCB	202	47.096	0.91	2.0	2.04	102
13C-2,3,3',4,4',5,5',6-OcCB	205	57.383	0.90	2.0	1.75	87
13C-2,2',3,3',4,4',5,5',6-NoCB	206	59.215	0.78	2.0	1.75	87
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	54.171	0.80	2.0	1.90	95
13C--DeCB	209	60.897	0.71	2.0	1.85	93
Cleanup Standards						
13C-2,4,4'-TrCB	28	25.091	1.07	2.0	1.47	74
13C-2,3,3',5,5'-PeCB	111	38.240	1.59	2.0	1.71	85
13C-2,2',3,3',5,5',6-HpCB	178	44.597	1.06	2.0	1.67	84
Recovery Standards						
13C-2,5-DiCB	9	15.844	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	27.322	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	35.255	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	44.110	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	56.887	0.92	2.0	NA	NA

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.0980
2		---	---	ND	---	0.0980
3		---	---	ND	---	0.0980
4		---	---	ND	---	0.0980
5		---	---	ND	---	0.0980
6		---	---	ND	---	0.0980
7		---	---	ND	---	0.0980
8		---	---	ND	---	0.0980
9		---	---	ND	---	0.0980
10		---	---	ND	---	0.0980
11		20.422	1.57	0.704	---	0.0980
12	12/13	---	---	ND	---	0.196
13	12/13	---	---	ND	---	0.196
14		---	---	ND	---	0.0980
15		---	---	ND	---	0.0980
16		---	---	ND	---	0.0980
17		---	---	ND	---	0.0980
18	18/30	---	---	ND	---	0.196
19		---	---	ND	---	0.0980
20	20/28	---	---	ND	---	0.196
21	21/33	---	---	ND	---	0.196
22		---	---	ND	---	0.0980
23		---	---	ND	---	0.0980
24		---	---	ND	---	0.0980
25		---	---	ND	---	0.0980
26	26/29	---	---	ND	---	0.196
27		---	---	ND	---	0.0980
28	20/28	---	---	ND	---	0.196
29	26/29	---	---	ND	---	0.196
30	18/30	---	---	ND	---	0.196
31		---	---	ND	---	0.0980
32		---	---	ND	---	0.0980
33	21/33	---	---	ND	---	0.196
34		---	---	ND	---	0.0980
35		---	---	ND	---	0.0980
36		---	---	ND	---	0.0980
37		---	---	ND	---	0.0980
38		---	---	ND	---	0.0980
39		---	---	ND	---	0.0980
40	40/41/71	---	---	ND	---	0.294
41	40/41/71	---	---	ND	---	0.294
42		---	---	ND	---	0.0980
43		---	---	ND	---	0.0980
44	44/47/65	---	---	ND	---	0.294
45	45/51	---	---	ND	---	0.196

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.0980
47	44/47/65	---	---	ND	---	0.294
48		---	---	ND	---	0.0980
49	49/69	---	---	ND	---	0.196
50	50/53	---	---	ND	---	0.196
51	45/51	---	---	ND	---	0.196
52		---	---	ND	---	0.0980
53	50/53	---	---	ND	---	0.196
54		---	---	ND	---	0.0980
55		---	---	ND	---	0.0980
56		---	---	ND	---	0.0980
57		---	---	ND	---	0.0980
58		---	---	ND	---	0.0980
59	59/62/75	---	---	ND	---	0.294
60		---	---	ND	---	0.0980
61	61/70/74/76	---	---	ND	---	0.392
62	59/62/75	---	---	ND	---	0.294
63		---	---	ND	---	0.0980
64		---	---	ND	---	0.0980
65	44/47/65	---	---	ND	---	0.294
66		---	---	ND	---	0.0980
67		---	---	ND	---	0.0980
68		---	---	ND	---	0.0980
69	49/69	---	---	ND	---	0.196
70	61/70/74/76	---	---	ND	---	0.392
71	40/41/71	---	---	ND	---	0.294
72		---	---	ND	---	0.0980
73		---	---	ND	---	0.0980
74	61/70/74/76	---	---	ND	---	0.392
75	59/62/75	---	---	ND	---	0.294
76	61/70/74/76	---	---	ND	---	0.392
77		---	---	ND	---	0.0980
78		---	---	ND	---	0.0980
79		---	---	ND	---	0.0980
80		---	---	ND	---	0.0980
81		---	---	ND	---	0.0980
82		---	---	ND	---	0.0980
83		---	---	ND	---	0.0980
84		---	---	ND	---	0.0980
85	85/116/117	---	---	ND	---	0.294
86	86/87/97/108/119/125	---	---	ND	---	0.588
87	86/87/97/108/119/125	---	---	ND	---	0.588
88	88/91	---	---	ND	---	0.196
89		---	---	ND	---	0.0980
90	90/101/113	35.288	1.57	0.679	---	0.294

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.196
92		---	---	ND	---	0.0980
93	93/98/100/102	---	---	ND	---	0.392
94		---	---	ND	---	0.0980
95		31.934	1.57	0.349	---	0.0980
96		---	---	ND	---	0.0980
97	86/87/97/108/119/125	---	---	ND	---	0.588
98	93/98/100/102	---	---	ND	---	0.392
99		---	---	ND	---	0.0980
100	93/98/100/102	---	---	ND	---	0.392
101	90/101/113	35.288	1.57	(0.679)	---	0.294
102	93/98/100/102	---	---	ND	---	0.392
103		---	---	ND	---	0.0980
104		---	---	ND	---	0.0980
105		---	---	ND	---	0.0980
106		---	---	ND	---	0.0980
107	107/124	---	---	ND	---	0.196
108	86/87/97/108/119/125	---	---	ND	---	0.588
109		---	---	ND	---	0.0980
110	110/115	37.452	1.59	0.329	---	0.196
111		---	---	ND	---	0.0980
112		---	---	ND	---	0.0980
113	90/101/113	35.288	1.57	(0.679)	---	0.294
114		---	---	ND	---	0.0980
115	110/115	37.452	1.59	(0.329)	---	0.196
116	85/116/117	---	---	ND	---	0.294
117	85/116/117	---	---	ND	---	0.294
118		40.756	1.58	0.229	---	0.0980
119	86/87/97/108/119/125	---	---	ND	---	0.588
120		---	---	ND	---	0.0980
121		---	---	ND	---	0.0980
122		---	---	ND	---	0.0980
123		---	---	ND	---	0.0980
124	107/124	---	---	ND	---	0.196
125	86/87/97/108/119/125	---	---	ND	---	0.588
126		---	---	ND	---	0.0980
127		---	---	ND	---	0.0980
128	128/166	---	---	ND	---	0.196
129	129/138/163	44.127	1.24	2.22	---	0.294
130		---	---	ND	---	0.0980
131		---	---	ND	---	0.0980
132		40.857	1.29	0.468	---	0.0980
133		---	---	ND	---	0.0980
134	134/143	---	---	ND	---	0.196
135	135/151	38.492	1.31	0.622	---	0.196

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		35.792	1.28	0.181	---	0.0980
137		---	---	ND	---	0.0980
138	129/138/163	44.127	1.24	(2.22)	---	0.294
139	139/140	---	---	ND	---	0.196
140	139/140	---	---	ND	---	0.196
141		43.003	1.27	0.481	---	0.0980
142		---	---	ND	---	0.0980
143	134/143	---	---	ND	---	0.196
144		39.112	1.31	0.106	---	0.0980
145		---	---	ND	---	0.0980
146		42.148	1.23	0.253	---	0.0980
147	147/149	39.515	1.24	1.52	---	0.196
148		---	---	ND	---	0.0980
149	147/149	39.515	1.24	(1.52)	---	0.196
150		---	---	ND	---	0.0980
151	135/151	38.492	1.31	(0.622)	---	0.196
152		---	---	ND	---	0.0980
153	153/168	42.802	1.27	2.54	---	0.196
154		---	---	ND	---	0.0980
155		---	---	ND	---	0.0980
156	156/157	---	---	ND	---	0.196
157	156/157	---	---	ND	---	0.196
158		44.563	1.23	0.200	---	0.0980
159		---	---	ND	---	0.0980
160		---	---	ND	---	0.0980
161		---	---	ND	---	0.0980
162		---	---	ND	---	0.0980
163	129/138/163	44.127	1.24	(2.22)	---	0.294
164		43.809	1.27	0.127	---	0.0980
165		---	---	ND	---	0.0980
166	128/166	---	---	ND	---	0.196
167		---	---	ND	---	0.0980
168	153/168	42.802	1.27	(2.54)	---	0.196
169		---	---	ND	---	0.0980
170		51.389	1.06	0.939	---	0.0980
171	171/173	47.649	1.03	0.272	---	0.196
172		49.377	1.04	0.125	---	0.0980
173	171/173	47.649	1.03	(0.272)	---	0.196
174		46.509	1.05	0.668	---	0.0980
175		---	---	ND	---	0.0980
176		---	---	ND	---	0.0980
177		46.962	1.05	0.384	---	0.0980
178		44.630	1.09	0.113	---	0.0980
179		41.695	1.04	0.222	---	0.0980
180	180/193	50.064	1.06	2.14	---	0.196

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15578
Filename P80225B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.0980
182		---	---	ND	---	0.0980
183	183/185	46.274	1.07	0.668	---	0.196
184		---	---	ND	---	0.0980
185	183/185	46.274	1.07	(0.668)	---	0.196
186		---	---	ND	---	0.0980
187		45.603	1.05	0.806	---	0.0980
188		---	---	ND	---	0.0980
189		---	---	ND	---	0.0980
190		51.960	1.01	0.202	---	0.0980
191		---	---	ND	---	0.0980
192		---	---	ND	---	0.0980
193	180/193	50.064	1.06	(2.14)	---	0.196
194		56.909	0.88	0.350	---	0.0980
195		54.451	0.89	0.148	---	0.0980
196		52.848	0.87	0.188	---	0.0980
197	197/200	---	---	ND	---	0.196
198	198/199	52.161	0.93	0.265	---	0.196
199	198/199	52.161	0.93	(0.265)	---	0.196
200	197/200	---	---	ND	---	0.196
201		---	---	ND	---	0.0980
202		---	---	ND	---	0.0980
203		53.050	0.90	0.219	---	0.0980
204		---	---	ND	---	0.0980
205		---	---	ND	---	0.0980
206		---	---	ND	---	0.0980
207		---	---	ND	---	0.0980
208		---	---	ND	---	0.0980
209		---	---	ND	---	0.0980

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15578
Filename P80225B_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.704
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	1.59
Total Hexachloro Biphenyls	8.71
Total Heptachloro Biphenyls	6.54
Total Octachloro Biphenyls	1.17
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	18.7

ND = Not Detected

REPORT OF LABORATORY ANALYSIS

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15462		
Filename	P80227B_03	Matrix	Tissue
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	P80227B02	Extracted	02/13/2008
CCal Filename(s)	P80227B_01	Analyzed	02/28/2008 04:05
Method Blank ID		Injected By	SMT

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	0.915	92	2.0	0.407	20	P
3	1.0	0.964	96	2.0	0.451	23	P
4	1.0	0.994	99	2.0	0.623	31	
15	1.0	1.07	107	2.0	0.882	44	
19	1.0	1.01	101	2.0	0.763	38	
37	1.0	1.17	117	2.0	1.26	63	
54	1.0	1.00	100	2.0	0.773	39	
81	1.0	1.03	103	2.0	1.70	85	
77	1.0	1.10	110	2.0	1.65	83	
104	1.0	0.972	97	2.0	1.22	61	
105	1.0	1.03	103	2.0	1.67	84	
114	1.0	1.03	103	2.0	1.51	76	
118	1.0	1.06	106	2.0	1.71	86	
123	1.0	0.990	99	2.0	1.70	85	
126	1.0	0.980	98	2.0	1.55	78	
155	1.0	1.02	102	2.0	1.57	78	
156/157	2.0	1.96	98	4.0	3.12	78	
167	1.0	1.01	101	2.0	1.54	77	
169	1.0	1.07	107	2.0	1.34	67	
188	1.0	1.00	100	2.0	2.49	125	
189	1.0	1.11	111	2.0	1.92	96	
202	1.0	1.06	106	2.0	2.44	122	
205	1.0	1.01	101	2.0	1.96	98	
206	1.0	1.05	105	2.0	2.02	101	
208	1.0	1.08	108	2.0	2.20	110	
209	1.0	1.18	118	2.0	2.10	105	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15463		
Filename	P80227B_04	Matrix	Tissue
Total Amount Extracted	10.0 g	Dilution	NA
ICAL ID	P80227B02	Extracted	02/13/2008
CCal Filename(s)	P80227B_01	Analyzed	02/28/2008 05:14
Method Blank ID		Injected By	SMT

	Native Analytes			Labeled Analytes			
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**	
1	1.0	0.905	91	2.0	0.420	21	P
3	1.0	0.960	96	2.0	0.407	20	P
4	1.0	1.05	105	2.0	0.536	27	P
15	1.0	1.08	108	2.0	0.814	41	
19	1.0	1.07	107	2.0	0.633	32	
37	1.0	1.23	123	2.0	1.27	63	
54	1.0	1.00	100	2.0	0.670	33	
81	1.0	1.04	104	2.0	1.72	86	
77	1.0	1.10	110	2.0	1.71	85	
104	1.0	0.973	97	2.0	1.18	59	
105	1.0	1.06	106	2.0	1.68	84	
114	1.0	1.03	103	2.0	1.52	76	
118	1.0	1.10	110	2.0	1.73	86	
123	1.0	1.01	101	2.0	1.67	84	
126	1.0	0.999	100	2.0	1.55	78	
155	1.0	1.03	103	2.0	1.52	76	
156/157	2.0	1.98	99	4.0	3.12	78	
167	1.0	1.02	102	2.0	1.54	77	
169	1.0	1.04	104	2.0	1.34	67	
188	1.0	1.01	101	2.0	2.44	122	
189	1.0	1.11	111	2.0	1.88	94	
202	1.0	1.10	110	2.0	2.37	119	
205	1.0	1.02	102	2.0	1.91	96	
206	1.0	1.05	105	2.0	1.98	99	
208	1.0	1.10	110	2.0	2.18	109	
209	1.0	1.14	114	2.0	2.02	101	

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15462	Spike 2 ID	LCSD-15463
Spike 1 Filename	P80227B_03	Spike 2 Filename	P80227B_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	92	91	1.1
4-MoCB	3	96	96	0.0
2,2'-DiCB	4	99	105	5.9
4,4'-DiCB	15	107	108	0.9
2,2',6-TrCB	19	101	107	5.8
3,4,4'-TrCB	37	117	123	5.0
2,2',6,6'-TeCB	54	100	100	0.0
3,3',4,4'-TeCB	77	110	110	0.0
3,4,4',5-TeCB	81	103	104	1.0
2,2',4,6,6'-PeCB	104	97	97	0.0
2,3,3',4,4'-PeCB	105	103	106	2.9
2,3,4,4',5-PeCB	114	103	103	0.0
2,3',4,4',5-PeCB	118	106	110	3.7
2,3',4,4',5'-PeCB	123	99	101	2.0
3,3',4,4',5-PeCB	126	98	100	2.0
2,2',4,4',6,6'-HxCB	155	102	103	1.0
(156/157)	156/157	98	99	1.0
2,3',4,4',5,5'-HxCB	167	101	102	1.0
3,3',4,4',5,5'-HxCB	169	107	104	2.8
2,2',3,4',5,6,6'-HpCB	188	100	101	1.0
2,3,3',4,4',5,5'-HpCB	189	111	111	0.0
2,2',3,3',5,5',6,6'-OcCB	202	106	110	3.7
2,3,3',4,4',5,5',6-OcCB	205	101	102	1.0
2,2',3,3',4,4',5,5',6-NoCB	206	105	105	0.0
2,2',3,3',4,5,5',6,6'-NoCB	208	108	110	1.8
Decachlorobiphenyl	209	118	114	3.4

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

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March 12 – 13, 2008
Composite Sampling Event

GSI Water Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, OR 97204
P: 503.239.8799 F: 503.239.8940
info@gsiwatersolutions.com www.gsiwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
March 12 – 13, 2008 Outfall Basin 53 Composite Stormwater Sampling

To: File

From: Karen Demsey, GSI

Date: June 2, 2009

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during a source control investigation sampling event conducted by the City of Portland (City) on March 12 and March 13, 2008. One composite stormwater sample and one duplicate stormwater sample (FO080409 and FO080414, respectively) were collected from Outfall Basin 53 by the City and submitted for analyses.

The laboratory analyses for these source control program samples were completed by the City's Bureau of Environmental Services (BES) Water Pollution Control Laboratory (WPCL) and subcontracted laboratories. The following laboratories conducted the analyses listed:

- BES WPCL
  - Total Metals – EPA 200.8
  - Total Mercury – WPCL SOP M-10.02
  - Total suspended solids (TSS) – SM 2540D
  - Polychlorinated Biphenyls as Aroclors (PCB Aroclors) – EPA 8082
  - Total Organic Carbon (TOC) – EPA 415.2
- Test America (TA)
  - Polynuclear Aromatic Hydrocarbons (PAHs) – EPA 8270M-SIM
  - Phthalates – EPA 8270M-SIM
  - Total Organic Carbon (TOC) – EPA 9060
- Columbia Analytical Services (CAS)

    - Semivolatile Organic Compounds (SVOCs) – EPA 8270C
- Pace Analytical Services (Pace)
    - Polychlorinated Biphenyls (PCB) Congeners – EPA 1668A

The WPCL summary report for all analyses associated with this stormwater sampling event and the subcontracted laboratory's data reports are attached. The WPCL summary report comments that, with some exceptions (included in the following sections below), all analytical QA/QC criteria were met for these samples including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable.

The following QA/QC review is based on the available documentation supplied from each subcontracted laboratory and on exceptions noted in the WPCL summary report. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report, if available:

- Chain-of-custody for completeness and continuous custody
- Analysis conducted within holding times
- Chemicals of interest detected in method blanks
- Surrogate recoveries within laboratory control limits
- Internal standard recoveries within laboratory control limits
- Matrix spike and matrix spike duplicate results within laboratory control limits
- If applicable, laboratory control sample and duplicate laboratory control sample recoveries within laboratory control limits

The results of the QA/QC review of the subcontracted laboratory reports are presented below.

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained throughout the sample collection and delivery process.

Analysis Holding Times

The samples were extracted and analyzed within the required method-specific holding times.

Method Blanks

Method blanks were processed during the laboratory analyses of PAHs, phthalates, SVOCs and PCB congeners. Bis(2-ethylhexyl)phthalate (BEHP) was detected in the method blank for the EPA 8270M-SIM analyses at a concentration that is significant relative to the sample results. The BEHP detections in the associated samples are flagged with a "B". The result for the primary stormwater sample is considered a result of laboratory contamination (less than the blank concentration). The result for the duplicate sample is considered biased high (less than 10 times the blank concentration).

Surrogate Recoveries

Surrogate recoveries were completed during the subcontracted laboratory analysis of PAHs and SVOCs. All surrogate recoveries were within laboratory control limits.

Internal Standard Recoveries

Internal standard recoveries were processed during the laboratory subcontracted analysis of PCB congeners. Pace reports that all of the recoveries were within the target ranges and accurate values were obtained.

Matrix Spike/Matrix Spike Duplicates

CAS reports there was insufficient volume to perform a matrix spike/matrix spike duplicate (MS/MSD) analysis for SVOCs by EPA 8207C. Laboratory control sample/duplicate laboratory control samples (LCS/DLCS) were analyzed and reported in lieu of the MS/MSD for these samples.

MS/MSD samples were analyzed for TOC. All results were within the control limits.

Laboratory Control/ Duplicate Laboratory Control Samples

Laboratory control/duplicate laboratory control samples (LCS/DLCS) were processed during the laboratory analysis of PAHs, phthalates, and PCB congeners. All LCS recoveries were within laboratory control limits with one exception. The percent recovery advisory criteria were exceeded for bis(2-ethylhexyl)phthalate (which was also detected in the laboratory method blank). As discussed in the Method Blanks section, the results for this analyte are flagged ("B") and should be considered biased high.

LCS/DLCS were also processed during the laboratory analysis of SVOCs. All laboratory control sample recoveries were within laboratory control limits with one exception. The percent recovery advisory criteria were exceeded for hexachlorochlopentadiene in the LCS and DLCS. Therefore, the MRL for this compound may be biased low, as indicated in the WPCL report.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/13/08
Page: 1 of 1
Collected By: DJH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Composite COC

☒ Sample Time recorded in PST

COMP TIME = 3/12/08 2101 TO 3/13/08 0735

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: PCB 209 Congeners (Pace)	General: PCBWLL Aroclors (WPCL)	General: PAH + Phthalates (TA)	General: SVOC's (CAS)	General: TSS	General: TOC (TA)	Metals: Total Metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn, Mn)	Metals: Total Mercury	Field
FO 080409	N DECATUR & RENO SW-53-AAC614	53_SW1	3/12/08	2101	C	●	●	●	●	●	●	●	●	
FO 080414	DUPLICATE	DUP	3/12/08	2101	C	●	●	●	●	●	●	●	●	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1455	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Dale Hutchison Date: 3/13/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 3/13/08
Page: 1 of 1
Collected By: DJH

Project Name: PORTLAND HARBOR STORMWATER SAMP
File Number: 1020.005 Matrix: STORMWTR

OF 53 Stormwater Grab COC

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General	Metals	Field: Temperature (Deg C) ORION #4	Field: Conductivity (umhos/cm) ORION #4	Field: pH (pH units) ORION #4
FO 080384	N DECATUR & RENO SW-53-AAC614	53_SW1	3/13/08	0640	G			8.3	30	6.6

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Time: 0851	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: 3/13/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080409** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM02574
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	52	mg/L	2	SM 2540 D	03/13/08
METALS					
MANGANESE	0.109	mg/L	0.01	EPA 200.7	03/15/08
MERCURY	0.022	µg/L	0.002	WPCLSOP M-1(	03/20/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.65	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.16	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	3.57	µg/L	0.4	EPA 200.8	03/22/08
COPPER	10.6	µg/L	0.2	EPA 200.8	03/22/08
LEAD	18.8	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	2.10	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	65.9	µg/L	0.5	EPA 200.8	03/22/08
GC ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCB)					
Aroclor 1016/1242	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	03/18/08
Aroclor 1232	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1248	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1254	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1260	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1262	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1268	<0.025	µg/L	0.025	EPA 8082	03/18/08
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	3.43	mg/L	1.00	EPA 415.2	03/26/08
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08

Report Date: 04/22/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO080409** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02574
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Benzo(a)anthracene	0.0191	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(a)pyrene	0.0182	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(b)fluoranthene	0.0240	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(ghi)perylene	0.0311	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Benzo(k)fluoranthene	0.0175	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Bis(2-ethylhexyl) phthalate	4.06	µg/L	0.980	EPA 8270M-SIM	03/17/08
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Chrysene	0.0357	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Fluoranthene	0.0740	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Indeno(1,2,3-cd)pyrene	0.0165	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Phenanthrene	0.0429	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Pyrene	0.0559	µg/L	0.0196	EPA 8270M-SIM	03/17/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2,4,5-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
2,4,6-Trichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
2,4-Dichlorophenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
2,4-Dimethylphenol	<4.0	µg/L	4.0	EPA 8270	03/19/08
2,4-Dinitrophenol	<4.0	µg/L	4.0	EPA 8270	03/19/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080409** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02574
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Chlorophenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Nitrophenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/19/08
3-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	03/19/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/19/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Chloro-3-methylphenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Methylphenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
4-Nitroaniline	<0.99	µg/L	0.99	EPA 8270	03/19/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/19/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzoic acid	<5.0	µg/L	5.0	EPA 8270	03/19/08
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	03/19/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-ethylhexyl) phthalate	6.1	µg/L	0.99	EPA 8270	03/19/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/19/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08

Report Date: 04/22/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080409** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: SW-53-AAC614
N DECATUR & RENO
Sample Point Code: 53_SW1
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02574
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorocyclopentadiene	<0.99	µg/L	0.99	EPA 8270	03/19/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/19/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/19/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/19/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/19/08
Pentachlorophenol	<0.99	µg/L	0.99	EPA 8270	03/19/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Phenol	<0.50	µg/L	0.50	EPA 8270	03/19/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08

End of Report for Sample ID: FO080409

Report Date: 04/22/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080414** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Report Page: Page 1 of 4

System ID: AM02575
Sample Point Code: DUP
EID File # : 1020.005
Sample Type: COMPOSITE
LocCode: PORTHASW
Sample Matrix: STORMWTR
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
TOTAL SUSPENDED SOLIDS	52	mg/L	2	SM 2540 D	03/17/08
METALS					
MANGANESE	0.111	mg/L	0.01	EPA 200.7	03/15/08
MERCURY	0.021	µg/L	0.002	WPCLSOP M-1(	03/20/08
METALS BY ICP-MS (TOTAL) - 8					
ARSENIC	0.65	µg/L	0.1	EPA 200.8	03/22/08
CADMIUM	0.17	µg/L	0.1	EPA 200.8	03/22/08
CHROMIUM	3.53	µg/L	0.4	EPA 200.8	03/22/08
COPPER	10.7	µg/L	0.2	EPA 200.8	03/22/08
LEAD	18.9	µg/L	0.1	EPA 200.8	03/22/08
NICKEL	2.15	µg/L	0.2	EPA 200.8	03/22/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/22/08
ZINC	66.5	µg/L	0.5	EPA 200.8	03/22/08
GC ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCB)					
Aroclor 1016/1242	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	03/18/08
Aroclor 1232	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1248	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1254	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1260	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1262	<0.025	µg/L	0.025	EPA 8082	03/18/08
Aroclor 1268	<0.025	µg/L	0.025	EPA 8082	03/18/08
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	3.38	mg/L	1.00	EPA 415.2	03/26/08
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	03/19/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08

Report Date: 04/22/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: FO080414 **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02575
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Benzo(a)anthracene	0.0221	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(a)pyrene	0.0200	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(b)fluoranthene	0.0259	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Benzo(ghi)perylene	0.0321	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Benzo(k)fluoranthene	0.0206	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Bis(2-ethylhexyl) phthalate	40.0	µg/L	24.5	EPA 8270M-SIM	03/17/08
Butyl benzyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Chrysene	0.0410	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Dibenzo(a,h)anthracene	<0.00980	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Dimethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/17/08
Fluoranthene	0.0880	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Indeno(1,2,3-cd)pyrene	0.0191	µg/L	0.00980	EPA 8270M-SIM	03/17/08
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Phenanthrene	0.0522	µg/L	0.0196	EPA 8270M-SIM	03/17/08
Pyrene	0.0701	µg/L	0.0196	EPA 8270M-SIM	03/17/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	03/19/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	03/19/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08

Report Date: 04/22/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO080414** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

System ID: AM02575
Sample Point Code: DUP
EID File # : 1020.005
Sample Type: COMPOSITE
LocCode: PORTHASW
Sample Matrix: STORMWTR
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/19/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/19/08
3-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	03/19/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/19/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
4-Nitroaniline	<0.98	µg/L	0.98	EPA 8270	03/19/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/19/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	03/19/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	03/19/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/19/08
Bis(2-ethylhexyl) phthalate	5.1	µg/L	0.98	EPA 8270	03/19/08
Butyl benzyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/19/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08

Report Date: 04/22/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO080414** **Sample Collected:** 3/12/2008 21:01 **Sample Received:** 03/13/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR STORMWATER SAMP
Address/Location: FIELD DUPLICATE

Sample Point Code: DUP
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02575
EID File # : 1020.005
LocCode: PORTHASW
Collected By: DJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. PAH/phthalate analyte bis(2-Ethylhexyl)phthalate was found in the Method Blank at 10.2 ug/L and recovered high in the LCS and LCS duplicate; the result for this analyte may be a high estimate. Based on low LCS and LCS duplicate recoveries, the result for Semivolatile Organics compound Hexachlorocyclopentadiene may be biased low.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dimethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Di-n-butyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/19/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Hexachlorocyclopentadiene	<0.98	µg/L	0.98	EPA 8270	03/19/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/19/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/19/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/19/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/19/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/19/08
Pentachlorophenol	<0.98	µg/L	0.98	EPA 8270	03/19/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/19/08
Phenol	<0.49	µg/L	0.49	EPA 8270	03/19/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/19/08

End of Report for Sample ID: FO080414

Report Date: 04/22/08 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

April 18, 2008 Analytical Report for Service Request No: K0802263

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: Portland Harbor Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on March 14, 2008. For your reference, these analyses have been assigned our service request number K0802263.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace for

Loan Vo, Ph.D.
Project Chemist

LV/lb

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0802263
Project:	Portland Harbor Stormwater	**Date Received:**	3/14/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 3/14/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Lab Control Sample Exceptions:
The advisory criterion was exceeded for the following analyte in the replicate Laboratory Control Samples (LCS/DLCS) KWG0802505-1 and KWG0802505-2: Hexachlorocyclopentadiene. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Approved by EMW **Date** 4/22/08

Chain of Custody Documentation

Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY
Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K080263

PAGE 1 OF 1 COC #

PROJECT NAME: PORTLAND HARBOR STORMWATER
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore Water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PCP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level SVOCs EPA 8270C	PAH + Phthalates EPA 8270C-SIM			REMARKS
FO080409	3/12/08	2101		STORM WATER	1															X				
FO080414	3/12/08	2101		↓	1															X				

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
___ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run LOW LEVEL analysis for for 8270 list. Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature	Signature	Signature	Signature
Date/Time: 3/14/08 0904	Date/Time: 3/14/08 900	Date/Time: 3/14/08 1200	Date/Time: 3/14/08 1324
Printed Name: Kris Dennis	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland BES	Firm: CAS	Firm:	Firm:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC VD

Client / Project: City of PDX Service Request K08 2263

Received: 3/14/08 Opened: 3/14/08 By: TBlack

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y (N)

5. **Temperature of cooler(s) upon receipt (°C):**	4.5			
Temperature Blank (°C):	NA			
6. If applicable, list Chain of Custody Numbers:				

7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Collected: 03/12/2008
Date Received: 03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO080409
Lab Code: K0802263-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Phenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
2-Chlorophenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
1,3-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
1,4-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
1,2-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzyl Alcohol	ND	U	5.0	1	03/19/08	04/08/08	KWG0802505	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Methylphenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
Hexachloroethane	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Methylphenol†	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
Nitrobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Isophorone	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Nitrophenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
2,4-Dimethylphenol	ND	U	4.0	1	03/19/08	04/08/08	KWG0802505	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2,4-Dichlorophenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
Benzoic Acid	ND	U	5.0	1	03/19/08	04/08/08	KWG0802505	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Naphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chloroaniline	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorobutadiene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chloro-3-methylphenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
2-Methylnaphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorocyclopentadiene	ND	U	0.99	1	03/19/08	04/08/08	KWG0802505	
2,4,6-Trichlorophenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
2,4,5-Trichlorophenol	ND	U	0.50	1	03/19/08	04/08/08	KWG0802505	
2-Chloronaphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Nitroaniline	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Acenaphthylene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Dimethyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2,6-Dinitrotoluene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Collected: 03/12/2008
Date Received: 03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO080409
Lab Code: K0802263-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
3-Nitroaniline	ND	U	0.99	1	03/19/08	04/08/08	KWG0802505	
2,4-Dinitrophenol	ND	U	4.0	1	03/19/08	04/08/08	KWG0802505	
Dibenzofuran	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Nitrophenol	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
2,4-Dinitrotoluene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Fluorene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Diethyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Nitroaniline	ND	U	0.99	1	03/19/08	04/08/08	KWG0802505	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Pentachlorophenol	ND	U	0.99	1	03/19/08	04/08/08	KWG0802505	
Phenanthrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Di-n-butyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
Benz(a)anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Chrysene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Bis(2-ethylhexyl) Phthalate	**6.1**		0.99	1	03/19/08	04/08/08	KWG0802505	
Di-n-octyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(b)fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(k)fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(a)pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	

Comments:

Client:	Portland, City of	**Service Request:**	K0802263
Project:	Portland Harbor Stormwater	**Date Collected:**	03/12/2008
Sample Matrix:	Water	**Date Received:**	03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO080409	**Units:**	ug/L
Lab Code:	K0802263-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	75	16-122	04/08/08	Acceptable
Phenol-d6	76	25-118	04/08/08	Acceptable
Nitrobenzene-d5	71	24-131	04/08/08	Acceptable
2-Fluorobiphenyl	70	26-114	04/08/08	Acceptable
2,4,6-Tribromophenol	112	22-148	04/08/08	Acceptable
Terphenyl-d14	86	28-144	04/08/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Collected: 03/12/2008
Date Received: 03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO080414
Lab Code: K0802263-002

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Phenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
2-Chlorophenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
1,3-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
1,4-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
1,2-Dichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzyl Alcohol	ND	U	4.9	1	03/19/08	04/08/08	KWG0802505	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Methylphenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
Hexachloroethane	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Methylphenol†	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
Nitrobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Isophorone	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Nitrophenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
2,4-Dimethylphenol	ND	U	3.9	1	03/19/08	04/08/08	KWG0802505	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2,4-Dichlorophenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
Benzoic Acid	ND	U	4.9	1	03/19/08	04/08/08	KWG0802505	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Naphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chloroaniline	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorobutadiene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chloro-3-methylphenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
2-Methylnaphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorocyclopentadiene	ND	U	0.98	1	03/19/08	04/08/08	KWG0802505	
2,4,6-Trichlorophenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
2,4,5-Trichlorophenol	ND	U	0.49	1	03/19/08	04/08/08	KWG0802505	
2-Chloronaphthalene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2-Nitroaniline	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Acenaphthylene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Dimethyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
2,6-Dinitrotoluene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	

Comments:

Client:	Portland, City of	**Service Request:**	K0802263
Project:	Portland Harbor Stormwater	**Date Collected:**	03/12/2008
Sample Matrix:	Water	**Date Received:**	03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO080414	**Units:**	ug/L
Lab Code:	K0802263-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
3-Nitroaniline	ND	U	0.98	1	03/19/08	04/08/08	KWG0802505	
2,4-Dinitrophenol	ND	U	3.9	1	03/19/08	04/08/08	KWG0802505	
Dibenzofuran	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Nitrophenol	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
2,4-Dinitrotoluene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Fluorene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Diethyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Nitroaniline	ND	U	0.98	1	03/19/08	04/08/08	KWG0802505	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Hexachlorobenzene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Pentachlorophenol	ND	U	0.98	1	03/19/08	04/08/08	KWG0802505	
Phenanthrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Di-n-butyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/19/08	04/08/08	KWG0802505	
Benz(a)anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Chrysene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Bis(2-ethylhexyl) Phthalate	**5.1**		0.98	1	03/19/08	04/08/08	KWG0802505	
Di-n-octyl Phthalate	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(b)fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(k)fluoranthene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(a)pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/19/08	04/08/08	KWG0802505	

Comments:

Client:	Portland, City of	**Service Request:**	K0802263
Project:	Portland Harbor Stormwater	**Date Collected:**	03/12/2008
Sample Matrix:	Water	**Date Received:**	03/14/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO080414	**Units:**	ug/L
Lab Code:	K0802263-002	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	16-122	04/08/08	Acceptable
Phenol-d6	69	25-118	04/08/08	Acceptable
Nitrobenzene-d5	63	24-131	04/08/08	Acceptable
2-Fluorobiphenyl	61	26-114	04/08/08	Acceptable
2,4,6-Tribromophenol	101	22-148	04/08/08	Acceptable
Terphenyl-d14	75	28-144	04/08/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802505-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Phenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
2-Chlorophenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
1,3-Dichlorobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
1,4-Dichlorobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
1,2-Dichlorobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Benzyl Alcohol	ND	U	4.9	1	03/19/08	03/29/08	KWG0802505	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
2-Methylphenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
Hexachloroethane	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Methylphenol†	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
Nitrobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Isophorone	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
2-Nitrophenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
2,4-Dimethylphenol	ND	U	3.9	1	03/19/08	03/29/08	KWG0802505	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
2,4-Dichlorophenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
Benzoic Acid	ND	U	4.9	1	03/19/08	03/29/08	KWG0802505	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Naphthalene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Chloroaniline	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Hexachlorobutadiene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Chloro-3-methylphenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
2-Methylnaphthalene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Hexachlorocyclopentadiene	ND	U	0.98	1	03/19/08	03/29/08	KWG0802505	
2,4,6-Trichlorophenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
2,4,5-Trichlorophenol	ND	U	0.49	1	03/19/08	03/29/08	KWG0802505	
2-Chloronaphthalene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
2-Nitroaniline	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Acenaphthylene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Dimethyl Phthalate	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
2,6-Dinitrotoluene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	

Comments:

Client:	Portland, City of	**Service Request:**	K0802263
Project:	Portland Harbor Stormwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802505-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
3-Nitroaniline	ND	U	0.98	1	03/19/08	03/29/08	KWG0802505	
2,4-Dinitrophenol	ND	U	3.9	1	03/19/08	03/29/08	KWG0802505	
Dibenzofuran	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Nitrophenol	ND	U	2.0	1	03/19/08	03/29/08	KWG0802505	
2,4-Dinitrotoluene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Fluorene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Diethyl Phthalate	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Nitroaniline	ND	U	0.98	1	03/19/08	03/29/08	KWG0802505	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/19/08	03/29/08	KWG0802505	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Hexachlorobenzene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Pentachlorophenol	ND	U	0.98	1	03/19/08	03/29/08	KWG0802505	
Phenanthrene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Anthracene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Di-n-butyl Phthalate	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Fluoranthene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Pyrene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/19/08	03/29/08	KWG0802505	
Benz(a)anthracene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Chrysene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Bis(2-ethylhexyl) Phthalate	ND	U	0.98	1	03/19/08	03/29/08	KWG0802505	
Di-n-octyl Phthalate	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Benzo(b)fluoranthene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Benzo(k)fluoranthene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Benzo(a)pyrene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/19/08	03/29/08	KWG0802505	

Comments:

Client:	Portland, City of	**Service Request:**	K0802263
Project:	Portland Harbor Stormwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802505-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	69	16-122	03/29/08	Acceptable
Phenol-d6	74	25-118	03/29/08	Acceptable
Nitrobenzene-d5	71	24-131	03/29/08	Acceptable
2-Fluorobiphenyl	64	26-114	03/29/08	Acceptable
2,4,6-Tribromophenol	82	22-148	03/29/08	Acceptable
Terphenyl-d14	85	28-144	03/29/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO080409	K0802263-001	75	76	71	70	112	86
FO080414	K0802263-002	66	69	63	61	101	75
Method Blank	KWG0802505-3	69	74	71	64	82	85
Lab Control Sample	KWG0802505-1	66	72	66	62	90	81
Duplicate Lab Control Sample	KWG0802505-2	74	79	71	67	91	83

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Extracted: 03/19/2008
Date Analyzed: 03/29/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802505

	Lab Control Sample KWG0802505-1 Lab Control Spike				Duplicate Lab Control Sample KWG0802505-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.37	5.00	67		3.39	5.00	68		30-125	1	30
Phenol	3.50	5.00	70		3.46	5.00	69		32-117	1	30
2-Chlorophenol	3.32	5.00	66		3.36	5.00	67		32-117	1	30
1,3-Dichlorobenzene	1.69	5.00	34		1.66	5.00	33		10-79	2	30
1,4-Dichlorobenzene	1.76	5.00	35		1.71	5.00	34		10-81	2	30
1,2-Dichlorobenzene	1.94	5.00	39		1.88	5.00	38		15-86	3	30
Benzyl Alcohol	3.63	5.00	73		3.43	5.00	69		33-119	6	30
Bis(2-chloroisopropyl) Ether	2.78	5.00	56		2.75	5.00	55		29-116	1	30
2-Methylphenol	3.40	5.00	68		3.32	5.00	66		29-115	2	30
Hexachloroethane	1.40	5.00	28		1.28	5.00	26		10-76	9	30
N-Nitrosodi-n-propylamine	3.24	5.00	65		2.94	5.00	59		35-119	10	30
4-Methylphenol	3.47	5.00	69		3.42	5.00	68		30-116	1	30
Nitrobenzene	3.21	5.00	64		3.07	5.00	61		34-122	4	30
Isophorone	3.33	5.00	67		3.15	5.00	63		33-121	6	30
2-Nitrophenol	3.50	5.00	70		3.43	5.00	69		33-120	2	30
2,4-Dimethylphenol	2.72	5.00	54		2.72	5.00	54		10-116	0	30
Bis(2-chloroethoxy)methane	3.60	5.00	72		3.48	5.00	70		34-119	3	30
2,4-Dichlorophenol	3.54	5.00	71		3.45	5.00	69		33-120	3	30
Benzoic Acid	4.69	15.0	31		4.08	15.0	27		10-118	14	30
1,2,4-Trichlorobenzene	2.07	5.00	41		1.98	5.00	40		14-88	5	30
Naphthalene	2.79	5.00	56		2.74	5.00	55		27-103	2	30
4-Chloroaniline	2.72	5.00	54		2.81	5.00	56		10-110	3	30
Hexachlorobutadiene	1.41	5.00	28		1.29	5.00	26		10-75	9	30
4-Chloro-3-methylphenol	3.81	5.00	76		3.63	5.00	73		37-120	5	30
2-Methylnaphthalene	2.68	5.00	54		2.57	5.00	51		27-99	4	30
Hexachlorocyclopentadiene	0.385	5.00	8	*	0.355	5.00	7	*	10-54	8	30
2,4,6-Trichlorophenol	3.64	5.00	73		3.47	5.00	69		34-118	5	30
2,4,5-Trichlorophenol	3.76	5.00	75		3.67	5.00	73		36-119	3	30
2-Chloronaphthalene	2.71	5.00	54		2.62	5.00	52		30-108	4	30
2-Nitroaniline	3.51	5.00	70		3.35	5.00	67		35-122	5	30
Acenaphthylene	3.16	5.00	63		3.02	5.00	60		39-116	5	30
Dimethyl Phthalate	3.81	5.00	76		3.50	5.00	70		43-116	8	30
2,6-Dinitrotoluene	3.98	5.00	80		3.65	5.00	73		42-120	9	30
Acenaphthene	3.12	5.00	62		2.96	5.00	59		36-108	5	30
3-Nitroaniline	3.70	5.00	74		3.39	5.00	68		24-115	9	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: Portland Harbor Stormwater
Sample Matrix: Water

Service Request: K0802263
Date Extracted: 03/19/2008
Date Analyzed: 03/29/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802505

	Lab Control Sample KWG0802505-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802505-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	2.77	5.00	55	2.59	5.00	52	10-121	7	30
Dibenzofuran	3.27	5.00	65	3.07	5.00	61	36-108	6	30
4-Nitrophenol	3.65	5.00	73	3.37	5.00	67	33-136	8	30
2,4-Dinitrotoluene	4.08	5.00	82	3.87	5.00	77	43-124	5	30
Fluorene	3.37	5.00	67	3.14	5.00	63	37-113	7	30
4-Chlorophenyl Phenyl Ether	3.51	5.00	70	3.32	5.00	66	36-112	6	30
Diethyl Phthalate	3.72	5.00	74	3.47	5.00	69	42-120	7	30
4-Nitroaniline	3.86	5.00	77	3.60	5.00	72	23-120	7	30
2-Methyl-4,6-dinitrophenol	3.77	5.00	75	3.55	5.00	71	24-123	6	30
N-Nitrosodiphenylamine	3.86	5.00	77	3.67	5.00	73	30-115	5	30
4-Bromophenyl Phenyl Ether	3.94	5.00	79	3.55	5.00	71	40-113	10	30
Hexachlorobenzene	3.87	5.00	77	3.50	5.00	70	40-114	10	30
Pentachlorophenol	3.48	5.00	70	3.19	5.00	64	24-123	9	30
Phenanthrene	3.72	5.00	74	3.36	5.00	67	42-113	10	30
Anthracene	3.56	5.00	71	3.33	5.00	67	40-113	7	30
Di-n-butyl Phthalate	3.77	5.00	75	3.47	5.00	69	46-119	8	30
Fluoranthene	3.68	5.00	74	3.47	5.00	69	44-116	6	30
Pyrene	3.59	5.00	72	3.29	5.00	66	42-121	9	30
Butyl Benzyl Phthalate	3.48	5.00	70	3.20	5.00	64	43-121	8	30
3,3'-Dichlorobenzidine	3.10	5.00	62	2.93	5.00	59	10-101	6	30
Benz(a)anthracene	3.81	5.00	76	3.51	5.00	70	43-121	8	30
Chrysene	3.87	5.00	77	3.47	5.00	69	45-119	11	30
Bis(2-ethylhexyl) Phthalate	3.54	5.00	71	3.23	5.00	65	34-136	9	30
Di-n-octyl Phthalate	3.86	5.00	77	3.42	5.00	68	39-123	12	30
Benzo(b)fluoranthene	3.81	5.00	76	3.45	5.00	69	42-119	10	30
Benzo(k)fluoranthene	3.86	5.00	77	3.42	5.00	68	43-120	12	30
Benzo(a)pyrene	3.85	5.00	77	3.44	5.00	69	39-116	11	30
Indeno(1,2,3-cd)pyrene	3.78	5.00	76	3.40	5.00	68	42-123	11	30
Dibenz(a,h)anthracene	3.82	5.00	76	3.48	5.00	70	38-130	9	30
Benzo(g,h,i)perylene	3.75	5.00	75	3.34	5.00	67	38-125	12	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

April 15, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 03/14/08 11:30. The following list is a summary of the Work Orders contained in this report, generated on 04/15/08 09:13.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRC0451	Portland Harbor	36238

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO080409	PRC0451-01	Water	03/12/08 21:01	03/14/08 11:30
FO080414	PRC0451-02	Water	03/12/08 21:01	03/14/08 11:30

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

Analytical Case Narrative

TestAmerica - Portland, OR

PRC0451

8270 SIM PDX-UIC
The Method Blank for Batch 8030552 was contaminated with Bis(2-ethylhexyl)phthalate. The save vial was analyzed and confirmed the MB contamination. The samples were not re-extracted due to insufficient sample volume. The data was flagged and reported.

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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0451-01 (FO080409)		**Water**			**Sampled: 03/12/08 21:01**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	8030552	03/17/08 15:50	03/23/08 13:15	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0191**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0182**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0240**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0311**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0175**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0357**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.0740**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0165**	*0.00980*	0.00980	"	"	"	"	"	
Naphthalene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.0429**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**4.06**	*0.516*	0.980	"	"	"	"	03/26/08 19:48	**B, N1**
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0559**	*0.0196*	0.0196	"	"	"	"	03/23/08 13:15	
Surrogate(s): Fluorene-d10			*76.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*72.6%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*63.7%*		*10 - 125 %*	"			"	
PRC0451-02 (FO080414)		**Water**			**Sampled: 03/12/08 21:01**					
Acenaphthene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	8030552	03/17/08 15:50	03/23/08 13:46	
Acenaphthylene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Anthracene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0221**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0200**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0259**	*0.00980*	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0321**	*0.0196*	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0206**	*0.00980*	0.00980	"	"	"	"	"	
Chrysene	"	**0.0410**	*0.00980*	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	*0.00980*	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.0880**	*0.0196*	0.0196	"	"	"	"	"	
Fluorene	"	ND	*0.0196*	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0191**	*0.00980*	0.00980	"	"	"	"	"	

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Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/15/08 09:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0451-02 (FO080414)		**Water**			**Sampled: 03/12/08 21:01**					
Naphthalene	EPA 8270m	ND	*0.0196*	0.0196	ug/l	1x	8030552	03/17/08 15:50	03/23/08 13:46	
Phenanthrene	"	**0.0522**	*0.0196*	0.0196	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**40.0**	*12.9*	24.5	"	25x	"	"	03/26/08 22:01	**B, N1**
Butyl benzyl phthalate	"	ND	*0.516*	0.980	"	1x	"	"	03/26/08 20:22	
Di-n-butyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Dimethyl phthalate	"	ND	*0.516*	0.980	"	"	"	"	"	
Pyrene	"	**0.0701**	*0.0196*	0.0196	"	"	"	"	03/23/08 13:46	
Surrogate(s): Fluorene-d10			*72.1%*		*25 - 125 %*	"			"	
Pyrene-d10			*79.3%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*55.1%*		*10 - 125 %*	"			"	

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6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/15/08 09:13

Conventional Chemistry Parameters per APHA/EPA Methods

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0451-01 (FO080409)		**Water**				**Sampled: 03/12/08 21:01**				
Total Organic Carbon	EPA 9060	**3.43**	-----	1.00	mg/l	1x	8030941	03/26/08 23:37	03/27/08 05:09	
PRC0451-02 (FO080414)		**Water**				**Sampled: 03/12/08 21:01**				
Total Organic Carbon	EPA 9060	**3.38**	-----	1.00	mg/l	1x	8030941	03/26/08 23:37	03/27/08 05:31	

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/15/08 09:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030552 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030552-BLK1)									**Extracted: 03/17/08 15:50**					
Acenaphthene	EPA 8270m	ND	0.0200	0.0200	ug/l	1x	--	--	--	--	--	--	03/21/08 17:22	
Acenaphthylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	0.0100	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	10.2	2.10	4.00	"	4x	--	--	--	--	--	--	03/25/08 22:12	A-01, N1
Butyl benzyl phthalate	"	ND	0.526	1.00	"	1x	--	--	--	--	--	--	03/20/08 15:26	
Di-n-butyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	0.526	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	0.0200	0.0200	"	"	--	--	--	--	--	--	03/21/08 17:22	
Surrogate(s): Fluorene-d10		*Recovery: 86.5%*			*Limits: 25-125%*	"							*03/21/08 17:22*	
Pyrene-d10		*97.4%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*90.0%*			*10-125%*	"							"	
LCS (8030552-BS1)									**Extracted: 03/17/08 15:50**					
Acenaphthene	EPA 8270m	2.18	0.0400	0.0400	ug/l	2x	--	2.50	87.0%	(35-120)	--	--	03/28/08 18:41	
Acenaphthylene	"	2.13	0.0400	0.0400	"	"	--	"	85.1%	(34-116)	--	--	"	
Anthracene	"	2.10	0.0400	0.0400	"	"	--	"	83.8%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.54	0.0200	0.0200	"	"	--	"	102%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.12	0.0200	0.0200	"	"	--	"	84.7%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.43	0.0200	0.0200	"	"	--	"	97.1%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.45	0.0400	0.0400	"	"	--	"	97.9%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.09	0.0200	0.0200	"	"	--	"	83.5%	(18-145)	--	--	"	
Chrysene	"	2.51	0.0200	0.0200	"	"	--	"	100%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.63	0.0200	0.0200	"	"	--	"	105%	(20-141)	--	--	"	
Fluoranthene	"	2.29	0.0400	0.0400	"	"	--	"	91.4%	(31-125)	--	--	"	
Fluorene	"	2.15	0.0400	0.0400	"	"	--	"	86.1%	(27-124)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/15/08 09:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030552 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8030552-BS1)								**Extracted: 03/17/08 15:50**						
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.53	0.0200	0.0200	ug/l	2x	--	2.50	101%	(30-135)	--	--	03/28/08 18:41	
Naphthalene	"	2.11	0.0400	0.0400	"	"	--	"	84.6%	(30-113)	--	--	"	
Phenanthrene	"	1.99	0.0400	0.0400	"	"	--	"	79.6%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	6.85	1.05	2.00	"	"	--	4.00	171%	(20-150)	--	--	03/20/08 17:04	L1, B, N1
Butyl benzyl phthalate	"	4.28	1.05	2.00	"	"	--	"	107%	"	--	--	"	
Di-n-butyl phthalate	"	4.14	1.05	2.00	"	"	--	"	104%	"	--	--	"	
Di-n-octyl phthalate	"	4.00	1.05	2.00	"	"	--	"	100%	"	--	--	"	
Diethyl phthalate	"	3.97	1.05	2.00	"	"	--	"	99.2%	"	--	--	"	
Dimethyl phthalate	"	3.99	1.05	2.00	"	"	--	"	99.8%	"	--	--	"	
Pyrene	"	1.87	0.0400	0.0400	"	"	--	2.50	74.7%	(21-141)	--	--	03/28/08 18:41	
Surrogate(s): Fluorene-d10		*Recovery: 76.0%*			*Limits: 25-125%*	"							*03/28/08 18:41*	
Pyrene-d10		*79.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*87.8%*			*10-125%*	"							"	
LCS Dup (8030552-BSD1)								**Extracted: 03/17/08 15:50**						
Acenaphthene	EPA 8270m	2.67	0.0400	0.0400	ug/l	2x	--	2.50	107%	(35-120)	20.6%	(35)	03/21/08 14:49	
Acenaphthylene	"	2.60	0.0400	0.0400	"	"	--	"	104%	(34-116)	19.9%	"	"	
Anthracene	"	2.86	0.0400	0.0400	"	"	--	"	114%	(24-119)	30.9%	"	"	
Benzo (a) anthracene	"	2.86	0.0200	0.0200	"	"	--	"	115%	(36-128)	11.8%	"	"	
Benzo (a) pyrene	"	2.65	0.0200	0.0200	"	"	--	"	106%	(17-128)	22.3%	"	"	
Benzo (b) fluoranthene	"	2.93	0.0200	0.0200	"	"	--	"	117%	(37-131)	18.7%	"	"	
Benzo (ghi) perylene	"	2.94	0.0400	0.0400	"	"	--	"	117%	(26-126)	18.1%	"	"	
Benzo (k) fluoranthene	"	2.64	0.0200	0.0200	"	"	--	"	106%	(18-145)	23.6%	"	"	
Chrysene	"	2.75	0.0200	0.0200	"	"	--	"	110%	(16-137)	9.13%	"	"	
Dibenzo (a,h) anthracene	"	3.05	0.0200	0.0200	"	"	--	"	122%	(20-141)	14.8%	"	"	
Fluoranthene	"	2.90	0.0400	0.0400	"	"	--	"	116%	(31-125)	23.6%	"	"	
Fluorene	"	2.74	0.0400	0.0400	"	"	--	"	110%	(27-124)	24.0%	"	"	
Indeno (1,2,3-cd) pyrene	"	3.05	0.0200	0.0200	"	"	--	"	122%	(30-135)	18.5%	"	"	
Naphthalene	"	2.44	0.0400	0.0400	"	"	--	"	97.4%	(30-113)	14.1%	"	"	
Phenanthrene	"	2.57	0.0400	0.0400	"	"	--	"	103%	(34-126)	25.5%	"	"	
Bis(2-ethylhexyl)phthalate	"	11.8	1.05	2.00	"	"	--	4.00	294%	(20-150)	52.9%	(50)	03/20/08 17:36	L1, B, N1
Butyl benzyl phthalate	"	4.11	1.05	2.00	"	"	--	"	103%	"	4.08%	"	"	
Di-n-butyl phthalate	"	3.90	1.05	2.00	"	"	--	"	97.6%	"	6.00%	"	"	
Di-n-octyl phthalate	"	3.72	1.05	2.00	"	"	--	"	93.0%	"	7.21%	"	"	
Diethyl phthalate	"	3.75	1.05	2.00	"	"	--	"	93.8%	"	5.62%	"	"	
Dimethyl phthalate	"	3.92	1.05	2.00	"	"	--	"	97.9%	"	1.94%	"	"	
Pyrene	"	2.10	0.0400	0.0400	"	"	--	2.50	83.9%	(21-141)	11.5%	(35)	03/21/08 14:49	
Surrogate(s): Fluorene-d10		*Recovery: 104%*			*Limits: 25-125%*	"							*03/21/08 14:49*	
Pyrene-d10		*91.7%*			*23-150%*	"							"	

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Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030552 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8030552-BSD1)													**Extracted: 03/17/08 15:50**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 106%*			*Limits: 10-125%*	*2x*							*03/21/08 14:49*	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030941 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030941-BLK1)								**Extracted: 03/26/08 23:37**						
Total Organic Carbon	EPA 9060	ND	---	1.00	mg/l	1x	--	--	--	--	--	--	03/27/08 03:16	
LCS (8030941-BS1)								**Extracted: 03/26/08 23:37**						
Total Organic Carbon	EPA 9060	21.8	---	1.00	mg/l	1x	--	20.0	109%	(85-115)	--	--	03/27/08 03:39	
Duplicate (8030941-DUP1)				**QC Source: PRC0451-01**				**Extracted: 03/26/08 23:37**						
Total Organic Carbon	EPA 9060	3.33	---	1.00	mg/l	1x	3.43	--	--	--	2.97%	(20)	03/27/08 04:01	
Matrix Spike (8030941-MS1)				**QC Source: PRC0451-01**				**Extracted: 03/26/08 23:37**						
Total Organic Carbon	EPA 9060	28.2	---	1.01	mg/l	1x	3.43	25.3	97.7%	(75-125)	--	--	03/27/08 04:24	
Matrix Spike Dup (8030941-MSD1)				**QC Source: PRC0451-01**				**Extracted: 03/26/08 23:37**						
Total Organic Carbon	EPA 9060	28.0	---	1.01	mg/l	1x	3.43	25.3	97.0%	(75-125)	0.599%	(20)	03/27/08 04:48	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/15/08 09:13

Notes and Definitions

Report Specific Notes:

A-01	-	Laboratory contamination.
B	-	Analyte was detected in the associated Method Blank.
L1	-	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
N1	-	See case narrative.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard B. Holmes

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008 503-906-9200 FAX 906-9210
[illegible] 907-562-2343 FAX 562-2344

CHAIN OF CUSTODY REPORT

Work Order #: PKL0431

CLIENT: City of Portland

REPORT TO ADDRESS: Jennifer Shackelford

PHONE: FAX:

PROJECT NAME: PORTLAND HARBOR STORMWATER

PROJECT NUMBER:

SAMPLED BY:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PRESERVATIVE

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH + Phthalates (*) 8270 SIM	PCB (**) (PACE) 209 Congeners	TOC	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1 FC080409	3/12/08 2101	X	X	X	W	3		
2 FC080414	3/12/08 2101	X	X	X	W	3		
3								
4								
5								
6								
7								
8								
9								
10								

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: ~~X~~ STD | 7 | 5 | 4 | 3 | 2 | 1 | < 1

Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | < 1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

RELEASED BY: [signature] DATE: 3/14/08
PRINT NAME: KRIS IVENNIS FIRM: City of Portland TIME: 1025
RECEIVED BY: [signature] DATE: 3/14/08
PRINT NAME: [illegible] FIRM: TAP TIME: 1025

RELEASED BY: [signature] DATE: 3-14-08
PRINT NAME: FIRM: TAP TIME: 1130
RECEIVED BY: [signature] DATE: 3/14/08
PRINT NAME: Peggy Siegfried FIRM: TAP TIME: 1130

ADDITIONAL REMARKS: (*) Use custom PAH/Phthalates list as for UIC project w/ low DLs
(**) Please send PCB 209 Congeners TO PACE ANALYTICAL

TEMP:

COC_REV 09/2004

PAGE 1 OF 1

1.7.36

TestAmerica Sample Receipt Checklist

Cooler No:

Received by: (section A) Date 3/14/08 Time 11:36 Initials: KD

Unpacked by: (section B) Date: 3/14/08 Initials: JC

Logged-in by: Date: 3-14-08 Initials: AP

Work Order No: PLC0451

Client: COE

Project: Portland Harbor

Temperature out of range

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other* _____

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 1.7, 3.6 °C plastic glass NA *(oil/air samples, ESI client)* Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____
X None

Container Type:
2 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
____Gel Ice
X Loose Ice
____None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
X None (____Other:_____)

Received from:
X TA Courier
____Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other
_____

B

Sample Status:
(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
Volatiles/ Oil Quality:			
VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers

Comments: _____

PM Reviewed _____ *(Initial/Date)*

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

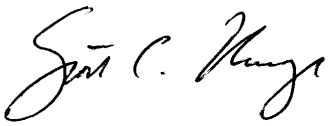
Pace Project #: 1069840
Sample Receipt Date: 03/18/2008
Client Project #: PRC0451
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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Report Prepared Date:
April 2, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of the Test America. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ppt and were corrected for the amount of sample extracted.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 33-146%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Also, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 91-117%, with relative percent differences of 2.1-8.9%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

PB 3/18/08
16
1069840

SUBCONTRACT ORDER

TestAmerica Portland

PRC0451

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature:_____°C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRC0451-01	**Water**		Sampled: **03/12/08 21:01**	
1668 Coplanar PCBs - SUB	ug/l	03/27/08	09/08/08 21:01	***209 Congeners***
Containers Supplied:				001
1L Amber - Unpres. (A)				
Sample ID: PRC0451-02	**Water**		Sampled: **03/12/08 21:01**	
1668 Coplanar PCBs - SUB	ug/l	03/27/08	09/08/08 21:01	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (A)				

Released By	Date/Time	Received By	Date/Time
Jamie J. Clark	3/17/08 13:00	D. Bushy	3/18/08 @ 9:30 T:34°
Released By	Date/Time	Received By	Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America

Project # 1069840

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 1AC 56T 01 9564 0877

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals Intact: ☒ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other Paper

Thermometer Used 230194010, 72310129 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: DB 3/18/08

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒Yes	☐No	☐N/A
Chain of Custody Filled Out:	☒Yes	☐No	☐N/A
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☐Yes	☒No	☐N/A
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☒No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A
Sufficient Volume:	☒Yes	☐No	☐N/A
Correct Containers Used:	☒Yes	☐No	☐N/A
-Pace Containers Used:	☐Yes	☒No	☐N/A
Containers Intact:	☒Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☒N/A
Sample Labels match COC:	☒Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: WT			
All containers needing preservation have been checked.	☐Yes	☐No	☒N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No	
Samples checked for dechlorination:	☐Yes	☐No	☒N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A
Trip Blank Present:	☐Yes	☐No	☒N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☒N/A
Pace Trip Blank Lot # (if purchased):			

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
Initial when completed	Lot # of added preservative
14.	
15.	
16.	

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 03/18/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0451-01		
Lab Sample ID	1069840001		
Filename	P80323B_05		
Injected By	BAL		
Total Amount Extracted	965 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/12/2008
ICAL ID	P80323B01	Received	03/18/2008
CCal Filename(s)	P80323B_02	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 22:48

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.929	3.11	2.0	0.666	33
13C-4-MoCB	3	12.320	3.01	2.0	0.924	46
13C-2,2'-DiCB	4	12.679	1.64	2.0	1.25	63
13C-4,4'-DiCB	15	20.815	1.57	2.0	1.63	81
13C-2,2',6-TrCB	19	17.136	1.10	2.0	1.52	76
13C-3,4,4'-TrCB	37	29.209	1.07	2.0	1.79	90
13C-2,2',6,6'-TeCB	54	21.177	0.78	2.0	1.48	74
13C-3,4,4',5-TeCB	81	36.588	0.80	2.0	1.97	99
13C-3,3',4,4'-TeCB	77	37.175	0.81	2.0	1.93	96
13C-2,2',4,6,6'-PeCB	104	27.834	1.61	2.0	1.84	92
13C-2,3,3',4,4'-PeCB	105	40.864	1.61	2.0	1.79	90
13C-2,3,4,4',5-PeCB	114	40.210	1.60	2.0	1.67	83
13C-2,3',4,4',5-PeCB	118	39.656	1.57	2.0	1.89	94
13C-2,3',4,4',5'-PeCB	123	39.321	1.59	2.0	1.84	92
13C-3,3',4,4',5-PeCB	126	44.067	1.60	2.0	1.73	86
13C-2,2',4,4',6,6'-HxCB	155	34.156	1.28	2.0	1.98	99
13C-HxCB (156/157)	156/157	47.186	1.27	4.0	3.32	83
13C-2,3',4,4',5,5'-HxCB	167	46.012	1.27	2.0	1.65	82
13C-3,3',4,4',5,5'-HxCB	169	50.489	1.28	2.0	1.48	74
13C-2,2',3,4',5,6,6'-HpCB	188	40.210	1.05	2.0	2.89	144
13C-2,3,3',4,4',5,5'-HpCB	189	53.055	1.04	2.0	1.90	95
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.760	0.89	2.0	2.67	133
13C-2,3,3',4,4',5,5',6-OcCB	205	55.641	0.89	2.0	2.09	104
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.387	0.78	2.0	2.11	105
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.559	0.80	2.0	2.32	116
13C--DeCB	209	59.004	0.70	2.0	2.16	108
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.581	1.04	2.0	1.63	82
13C-2,3,3',5,5'-PeCB	111	37.258	1.63	2.0	2.02	101
13C-2,2',3,3',5,5',6-HpCB	178	43.362	1.06	2.0	1.99	100
Recovery Standards						
13C-2,5-DiCB	9	15.591	1.60	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.744	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.391	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.893	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.167	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.518
2		---	---	ND	---	0.518
3		---	---	ND	---	0.518
4		---	---	ND	---	0.518
5		---	---	ND	---	0.518
6		---	---	ND	---	0.518
7		---	---	ND	---	0.518
8		---	---	ND	---	0.518
9		---	---	ND	---	0.518
10		---	---	ND	---	0.518
11		---	---	ND	---	0.622
12	12/13	---	---	ND	---	0.518
13	12/13	---	---	ND	---	0.518
14		---	---	ND	---	0.518
15		---	---	ND	---	0.518
16		---	---	ND	---	0.518
17		---	---	ND	---	0.518
18	18/30	19.676	1.04	0.598	---	0.518
19		---	---	ND	---	0.518
20	20/28	24.614	1.06	1.14	---	0.622
21	21/33	24.883	1.05	0.669	---	0.518
22		---	---	ND	---	0.518
23		---	---	ND	---	0.518
24		---	---	ND	---	0.518
25		---	---	ND	---	0.518
26	26/29	---	---	ND	---	0.518
27		---	---	ND	---	0.518
28	20/28	24.614	1.06	(1.14)	---	0.622
29	26/29	---	---	ND	---	0.518
30	18/30	19.676	1.04	(0.598)	---	0.518
31		24.262	1.06	0.835	---	0.518
32		---	---	ND	---	0.518
33	21/33	24.883	1.05	(0.669)	---	0.518
34		---	---	ND	---	0.518
35		---	---	ND	---	0.518
36		---	---	ND	---	0.518
37		---	---	ND	---	0.518
38		---	---	ND	---	0.518
39		---	---	ND	---	0.518
40	40/41/71	29.041	0.79	0.644	---	0.518
41	40/41/71	29.041	0.79	(0.644)	---	0.518
42		---	---	ND	---	0.518
43		---	---	ND	---	0.518
44	44/47/65	27.901	0.79	0.943	---	0.622
45	45/51	---	---	ND	---	0.518
46		---	---	ND	---	0.518
47	44/47/65	27.901	0.79	(0.943)	---	0.622
48		---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.518
50	50/53	---	---	ND	---	0.518
51	45/51	---	---	ND	---	0.518
52		26.778	0.78	0.926	---	0.518
53	50/53	---	---	ND	---	0.518
54		---	---	ND	---	0.518
55		---	---	ND	---	0.518
56		---	---	ND	---	0.518
57		---	---	ND	---	0.518
58		---	---	ND	---	0.518
59	59/62/75	---	---	ND	---	0.518
60		---	---	ND	---	0.518
61	61/70/74/76	32.160	0.80	1.36	---	0.518
62	59/62/75	---	---	ND	---	0.518
63		---	---	ND	---	0.518
64		---	---	ND	---	0.518
65	44/47/65	27.901	0.79	(0.943)	---	0.622
66		32.513	0.80	0.679	---	0.518
67		---	---	ND	---	0.518
68		---	---	ND	---	0.518
69	49/69	---	---	ND	---	0.518
70	61/70/74/76	32.160	0.80	(1.36)	---	0.518
71	40/41/71	29.041	0.79	(0.644)	---	0.518
72		---	---	ND	---	0.518
73		---	---	ND	---	0.518
74	61/70/74/76	32.160	0.80	(1.36)	---	0.518
75	59/62/75	---	---	ND	---	0.518
76	61/70/74/76	32.160	0.80	(1.36)	---	0.518
77		---	---	ND	---	0.518
78		---	---	ND	---	0.518
79		---	---	ND	---	0.518
80		---	---	ND	---	0.518
81		---	---	ND	---	0.518
82		---	---	ND	---	0.518
83		---	---	ND	---	0.518
84		---	---	ND	---	0.518
85	85/116/117	---	---	ND	---	0.622
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.518
89		---	---	ND	---	0.518
90	90/101/113	34.407	1.59	0.932	---	0.518
91	88/91	---	---	ND	---	0.518
92		---	---	ND	---	0.518
93	93/98/100/102	---	---	ND	---	0.778
94		---	---	ND	---	0.518
95		31.188	1.61	0.712	---	0.518
96		---	---	ND	---	0.518

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.778
99		---	---	ND	---	0.518
100	93/98/100/102	---	---	ND	---	0.778
101	90/101/113	34.407	1.59	(0.932)	---	0.518
102	93/98/100/102	---	---	ND	---	0.778
103		---	---	ND	---	0.518
104		---	---	ND	---	0.518
105		---	---	ND	---	0.518
106		---	---	ND	---	0.518
107	107/124	---	---	ND	---	0.518
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.518
110	110/115	36.504	1.60	1.25	---	0.518
111		---	---	ND	---	0.518
112		---	---	ND	---	0.518
113	90/101/113	34.407	1.59	(0.932)	---	0.518
114		---	---	ND	---	0.518
115	110/115	36.504	1.60	(1.25)	---	0.518
116	85/116/117	---	---	ND	---	0.622
117	85/116/117	---	---	ND	---	0.622
118		39.690	1.57	0.867	---	0.518
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.518
121		---	---	ND	---	0.518
122		---	---	ND	---	0.518
123		---	---	ND	---	0.518
124	107/124	---	---	ND	---	0.518
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.518
127		---	---	ND	---	0.518
128	128/166	---	---	ND	---	1.04
129	129/138/163	42.926	1.28	1.34	---	0.518
130		---	---	ND	---	0.518
131		---	---	ND	---	0.518
132		---	---	ND	---	0.518
133		---	---	ND	---	0.518
134	134/143	---	---	ND	---	0.518
135	135/151	---	---	ND	---	0.529
136		---	---	ND	---	0.518
137		---	---	ND	---	0.518
138	129/138/163	42.926	1.28	(1.34)	---	0.518
139	139/140	---	---	ND	---	0.518
140	139/140	---	---	ND	---	0.518
141		---	---	ND	---	0.518
142		---	---	ND	---	0.518
143	134/143	---	---	ND	---	0.518
144		---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.518
146		---	---	ND	---	0.518
147	147/149	38.466	1.20	0.846	---	0.518
148		---	---	ND	---	0.518
149	147/149	38.466	1.20	(0.846)	---	0.518
150		---	---	ND	---	0.518
151	135/151	---	---	ND	---	0.529
152		---	---	ND	---	0.518
153	153/168	41.652	1.24	0.908	---	0.622
154		---	---	ND	---	0.518
155		---	---	ND	---	0.518
156	156/157	---	---	ND	---	0.518
157	156/157	---	---	ND	---	0.518
158		---	---	ND	---	0.518
159		---	---	ND	---	0.518
160		---	---	ND	---	0.518
161		---	---	ND	---	0.518
162		---	---	ND	---	0.518
163	129/138/163	42.926	1.28	(1.34)	---	0.518
164		---	---	ND	---	0.518
165		---	---	ND	---	0.518
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.518
168	153/168	41.652	1.24	(0.908)	---	0.622
169		---	---	ND	---	0.518
170		---	---	ND	---	0.518
171	171/173	---	---	ND	---	0.518
172		---	---	ND	---	0.518
173	171/173	---	---	ND	---	0.518
174		---	---	ND	---	0.518
175		---	---	ND	---	0.518
176		---	---	ND	---	0.518
177		---	---	ND	---	0.518
178		---	---	ND	---	0.518
179		---	---	ND	---	0.518
180	180/193	48.628	1.06	0.625	---	0.518
181		---	---	ND	---	0.518
182		---	---	ND	---	0.518
183	183/185	---	---	ND	---	0.518
184		---	---	ND	---	0.518
185	183/185	---	---	ND	---	0.518
186		---	---	ND	---	0.518
187		---	---	ND	---	0.518
188		---	---	ND	---	0.518
189		---	---	ND	---	0.518
190		---	---	ND	---	0.518
191		---	---	ND	---	0.518
192		---	---	ND	---	0.518

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.628	1.06	(0.625)	---	0.518
194		---	---	ND	---	0.518
195		---	---	ND	---	0.518
196		---	---	ND	---	0.726
197	197/200	---	---	ND	---	2.59
198	198/199	---	---	ND	---	0.518
199	198/199	---	---	ND	---	0.518
200	197/200	---	---	ND	---	2.59
201		---	---	ND	---	0.518
202		---	---	ND	---	0.518
203		---	---	ND	---	0.518
204		---	---	ND	---	0.518
205		---	---	ND	---	0.518
206		---	---	ND	---	0.518
207		---	---	ND	---	0.518
208		---	---	ND	---	0.518
209		---	---	ND	---	0.518

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0451-01
Lab Sample ID	1069840001
Filename	P80323B_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.24
Total Tetrachloro Biphenyls	4.55
Total Pentachloro Biphenyls	3.76
Total Hexachloro Biphenyls	3.09
Total Heptachloro Biphenyls	0.625
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	15.3

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRC0451-02		
Lab Sample ID	1069840002		
Filename	P80323B_06		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/12/2008
ICAL ID	P80323B01	Received	03/18/2008
CCal Filename(s)	P80323B_02	Extracted	03/19/2008
Method Blank ID	BLANK-15810	Analyzed	03/23/2008 23:51

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.917	3.06	2.0	0.899	45
13C-4-MoCB	3	12.307	3.05	2.0	1.05	53
13C-2,2'-DiCB	4	12.679	1.63	2.0	1.39	69
13C-4,4'-DiCB	15	20.814	1.60	2.0	1.57	79
13C-2,2',6-TrCB	19	17.136	1.07	2.0	1.57	78
13C-3,4,4'-TrCB	37	29.208	1.07	2.0	1.74	87
13C-2,2',6,6'-TeCB	54	21.176	0.81	2.0	1.43	72
13C-3,4,4',5-TeCB	81	36.586	0.79	2.0	2.04	102
13C-3,3',4,4'-TeCB	77	37.190	0.79	2.0	1.97	99
13C-2,2',4,6,6'-PeCB	104	27.833	1.62	2.0	1.69	85
13C-2,3,3',4,4'-PeCB	105	40.862	1.59	2.0	1.79	90
13C-2,3,4,4',5-PeCB	114	40.208	1.58	2.0	1.66	83
13C-2,3',4,4',5-PeCB	118	39.655	1.60	2.0	1.85	93
13C-2,3',4,4',5'-PeCB	123	39.320	1.57	2.0	1.84	92
13C-3,3',4,4',5-PeCB	126	44.082	1.60	2.0	1.70	85
13C-2,2',4,4',6,6'-HxCB	155	34.155	1.26	2.0	1.78	89
13C-HxCB (156/157)	156/157	47.184	1.24	4.0	3.13	78
13C-2,3',4,4',5,5'-HxCB	167	46.010	1.28	2.0	1.55	78
13C-3,3',4,4',5,5'-HxCB	169	50.488	1.27	2.0	1.40	70
13C-2,2',3,4',5,6,6'-HpCB	188	40.208	1.05	2.0	2.91	146
13C-2,3,3',4,4',5,5'-HpCB	189	53.048	1.04	2.0	1.91	96
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.759	0.90	2.0	2.68	134
13C-2,3,3',4,4',5,5',6-OcCB	205	55.635	0.90	2.0	1.99	99
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.402	0.78	2.0	1.98	99
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.553	0.81	2.0	2.31	115
13C--DeCB	209	58.997	0.71	2.0	2.03	101
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.580	1.07	2.0	1.58	79
13C-2,3,3',5,5'-PeCB	111	37.257	1.57	2.0	1.98	99
13C-2,2',3,3',5,5',6-HpCB	178	43.361	1.06	2.0	1.88	94
Recovery Standards						
13C-2,5-DiCB	9	15.590	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.743	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.389	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.891	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.161	0.93	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.495
2		---	---	ND	---	0.495
3		---	---	ND	---	0.495
4		---	---	ND	---	0.495
5		---	---	ND	---	0.495
6		---	---	ND	---	0.495
7		---	---	ND	---	0.495
8		---	---	ND	---	0.495
9		---	---	ND	---	0.495
10		---	---	ND	---	0.495
11		---	---	ND	---	0.594
12	12/13	---	---	ND	---	0.495
13	12/13	---	---	ND	---	0.495
14		---	---	ND	---	0.495
15		---	---	ND	---	0.495
16		---	---	ND	---	0.495
17		---	---	ND	---	0.495
18	18/30	19.676	1.06	0.594	---	0.495
19		---	---	ND	---	0.495
20	20/28	24.613	1.04	1.10	---	0.594
21	21/33	24.882	1.01	0.661	---	0.495
22		---	---	ND	---	0.495
23		---	---	ND	---	0.495
24		---	---	ND	---	0.495
25		---	---	ND	---	0.495
26	26/29	---	---	ND	---	0.495
27		---	---	ND	---	0.495
28	20/28	24.613	1.04	(1.10)	---	0.594
29	26/29	---	---	ND	---	0.495
30	18/30	19.676	1.06	(0.594)	---	0.495
31		24.244	1.04	0.792	---	0.495
32		---	---	ND	---	0.495
33	21/33	24.882	1.01	(0.661)	---	0.495
34		---	---	ND	---	0.495
35		---	---	ND	---	0.495
36		---	---	ND	---	0.495
37		---	---	ND	---	0.495
38		---	---	ND	---	0.495
39		---	---	ND	---	0.495
40	40/41/71	29.040	0.79	0.627	---	0.495
41	40/41/71	29.040	0.79	(0.627)	---	0.495
42		---	---	ND	---	0.495
43		---	---	ND	---	0.495
44	44/47/65	27.900	0.78	0.896	---	0.594
45	45/51	---	---	ND	---	0.495
46		---	---	ND	---	0.495
47	44/47/65	27.900	0.78	(0.896)	---	0.594
48		---	---	ND	---	0.495

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.495
50	50/53	---	---	ND	---	0.495
51	45/51	---	---	ND	---	0.495
52		26.776	0.79	0.864	---	0.495
53	50/53	---	---	ND	---	0.495
54		---	---	ND	---	0.495
55		---	---	ND	---	0.495
56		---	---	ND	---	0.495
57		---	---	ND	---	0.495
58		---	---	ND	---	0.495
59	59/62/75	---	---	ND	---	0.495
60		---	---	ND	---	0.495
61	61/70/74/76	32.159	0.79	1.33	---	0.495
62	59/62/75	---	---	ND	---	0.495
63		---	---	ND	---	0.495
64		---	---	ND	---	0.495
65	44/47/65	27.900	0.78	(0.896)	---	0.594
66		32.511	0.79	0.666	---	0.495
67		---	---	ND	---	0.495
68		---	---	ND	---	0.495
69	49/69	---	---	ND	---	0.495
70	61/70/74/76	32.159	0.79	(1.33)	---	0.495
71	40/41/71	29.040	0.79	(0.627)	---	0.495
72		---	---	ND	---	0.495
73		---	---	ND	---	0.495
74	61/70/74/76	32.159	0.79	(1.33)	---	0.495
75	59/62/75	---	---	ND	---	0.495
76	61/70/74/76	32.159	0.79	(1.33)	---	0.495
77		---	---	ND	---	0.495
78		---	---	ND	---	0.495
79		---	---	ND	---	0.495
80		---	---	ND	---	0.495
81		---	---	ND	---	0.495
82		---	---	ND	---	0.495
83		---	---	ND	---	0.495
84		---	---	ND	---	0.495
85	85/116/117	---	---	ND	---	0.594
86	86/87/97/108/119/125	---	---	ND	---	0.990
87	86/87/97/108/119/125	---	---	ND	---	0.990
88	88/91	---	---	ND	---	0.495
89		---	---	ND	---	0.495
90	90/101/113	34.406	1.62	0.872	---	0.495
91	88/91	---	---	ND	---	0.495
92		---	---	ND	---	0.495
93	93/98/100/102	---	---	ND	---	0.742
94		---	---	ND	---	0.495
95		31.187	1.62	0.656	---	0.495
96		---	---	ND	---	0.495

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	0.990
98	93/98/100/102	---	---	ND	---	0.742
99		---	---	ND	---	0.495
100	93/98/100/102	---	---	ND	---	0.742
101	90/101/113	34.406	1.62	(0.872)	---	0.495
102	93/98/100/102	---	---	ND	---	0.742
103		---	---	ND	---	0.495
104		---	---	ND	---	0.495
105		---	---	ND	---	0.495
106		---	---	ND	---	0.495
107	107/124	---	---	ND	---	0.495
108	86/87/97/108/119/125	---	---	ND	---	0.990
109		---	---	ND	---	0.495
110	110/115	36.502	1.55	1.20	---	0.495
111		---	---	ND	---	0.495
112		---	---	ND	---	0.495
113	90/101/113	34.406	1.62	(0.872)	---	0.495
114		---	---	ND	---	0.495
115	110/115	36.502	1.55	(1.20)	---	0.495
116	85/116/117	---	---	ND	---	0.594
117	85/116/117	---	---	ND	---	0.594
118		39.688	1.58	0.852	---	0.495
119	86/87/97/108/119/125	---	---	ND	---	0.990
120		---	---	ND	---	0.495
121		---	---	ND	---	0.495
122		---	---	ND	---	0.495
123		---	---	ND	---	0.495
124	107/124	---	---	ND	---	0.495
125	86/87/97/108/119/125	---	---	ND	---	0.990
126		---	---	ND	---	0.495
127		---	---	ND	---	0.495
128	128/166	---	---	ND	---	0.990
129	129/138/163	42.925	1.23	1.30	---	0.495
130		---	---	ND	---	0.495
131		---	---	ND	---	0.495
132		---	---	ND	---	0.495
133		---	---	ND	---	0.495
134	134/143	---	---	ND	---	0.495
135	135/151	---	---	ND	---	0.505
136		---	---	ND	---	0.495
137		---	---	ND	---	0.495
138	129/138/163	42.925	1.23	(1.30)	---	0.495
139	139/140	---	---	ND	---	0.495
140	139/140	---	---	ND	---	0.495
141		---	---	ND	---	0.495
142		---	---	ND	---	0.495
143	134/143	---	---	ND	---	0.495
144		---	---	ND	---	0.495

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.495
146		---	---	ND	---	0.495
147	147/149	38.464	1.21	0.832	---	0.495
148		---	---	ND	---	0.495
149	147/149	38.464	1.21	(0.832)	---	0.495
150		---	---	ND	---	0.495
151	135/151	---	---	ND	---	0.505
152		---	---	ND	---	0.495
153	153/168	41.650	1.23	0.904	---	0.594
154		---	---	ND	---	0.495
155		---	---	ND	---	0.495
156	156/157	---	---	ND	---	0.495
157	156/157	---	---	ND	---	0.495
158		---	---	ND	---	0.495
159		---	---	ND	---	0.495
160		---	---	ND	---	0.495
161		---	---	ND	---	0.495
162		---	---	ND	---	0.495
163	129/138/163	42.925	1.23	(1.30)	---	0.495
164		---	---	ND	---	0.495
165		---	---	ND	---	0.495
166	128/166	---	---	ND	---	0.990
167		---	---	ND	---	0.495
168	153/168	41.650	1.23	(0.904)	---	0.594
169		---	---	ND	---	0.495
170		---	---	ND	---	0.495
171	171/173	---	---	ND	---	0.495
172		---	---	ND	---	0.495
173	171/173	---	---	ND	---	0.495
174		---	---	ND	---	0.495
175		---	---	ND	---	0.495
176		---	---	ND	---	0.495
177		---	---	ND	---	0.495
178		---	---	ND	---	0.495
179		---	---	ND	---	0.495
180	180/193	48.626	1.05	0.632	---	0.495
181		---	---	ND	---	0.495
182		---	---	ND	---	0.495
183	183/185	---	---	ND	---	0.495
184		---	---	ND	---	0.495
185	183/185	---	---	ND	---	0.495
186		---	---	ND	---	0.495
187		---	---	ND	---	0.495
188		---	---	ND	---	0.495
189		---	---	ND	---	0.495
190		---	---	ND	---	0.495
191		---	---	ND	---	0.495
192		---	---	ND	---	0.495

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.626	1.05	(0.632)	---	0.495
194		---	---	ND	---	0.495
195		---	---	ND	---	0.495
196		---	---	ND	---	0.693
197	197/200	---	---	ND	---	2.47
198	198/199	---	---	ND	---	0.495
199	198/199	---	---	ND	---	0.495
200	197/200	---	---	ND	---	2.47
201		---	---	ND	---	0.495
202		---	---	ND	---	0.495
203		---	---	ND	---	0.495
204		---	---	ND	---	0.495
205		---	---	ND	---	0.495
206		---	---	ND	---	0.495
207		---	---	ND	---	0.495
208		---	---	ND	---	0.495
209		---	---	ND	---	0.495

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0451-02
Lab Sample ID	1069840002
Filename	P80323B_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	3.15
Total Tetrachloro Biphenyls	4.39
Total Pentachloro Biphenyls	3.58
Total Hexachloro Biphenyls	3.03
Total Heptachloro Biphenyls	0.632
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	14.8

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15810		
Filename	P80322A_12		
Injected By	BAL	Matrix	Water
Total Amount Extracted	965 mL	Extracted	03/19/2008
ICAL ID	P80322A01	Analyzed	03/22/2008 15:27
CCal Filename(s)	P80322A_02	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.881	3.31	2.0	0.748	37
13C-4-MoCB	3	12.284	3.09	2.0	0.809	40
13C-2,2'-DiCB	4	12.655	1.62	2.0	1.09	54
13C-4,4'-DiCB	15	20.803	1.56	2.0	1.25	62
13C-2,2',6-TrCB	19	17.112	1.05	2.0	1.22	61
13C-3,4,4'-TrCB	37	29.192	1.06	2.0	1.45	72
13C-2,2',6,6'-TeCB	54	21.176	0.80	2.0	1.22	61
13C-3,4,4',5-TeCB	81	36.570	0.78	2.0	1.70	85
13C-3,3',4,4'-TeCB	77	37.174	0.79	2.0	1.68	84
13C-2,2',4,6,6'-PeCB	104	27.817	1.59	2.0	1.45	73
13C-2,3,3',4,4'-PeCB	105	40.846	1.60	2.0	1.64	82
13C-2,3,4,4',5-PeCB	114	40.192	1.59	2.0	1.48	74
13C-2,3',4,4',5-PeCB	118	39.639	1.61	2.0	1.68	84
13C-2,3',4,4',5'-PeCB	123	39.303	1.58	2.0	1.64	82
13C-3,3',4,4',5-PeCB	126	44.049	1.57	2.0	1.64	82
13C-2,2',4,4',6,6'-HxCB	155	34.139	1.27	2.0	1.54	77
13C-HxCB (156/157)	156/157	47.151	1.27	4.0	3.11	78
13C-2,3',4,4',5,5'-HxCB	167	45.977	1.27	2.0	1.53	76
13C-3,3',4,4',5,5'-HxCB	169	50.455	1.27	2.0	1.41	71
13C-2,2',3,4',5,6,6'-HpCB	188	40.192	1.05	2.0	2.23	111
13C-2,3,3',4,4',5,5'-HpCB	189	53.006	1.04	2.0	1.75	88
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.726	0.91	2.0	2.21	111
13C-2,3,3',4,4',5,5',6-OcCB	205	55.614	0.90	2.0	1.95	98
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.360	0.77	2.0	1.93	97
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.532	0.79	2.0	2.04	102
13C--DeCB	209	58.976	0.71	2.0	2.05	102
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.564	1.05	2.0	1.41	71
13C-2,3,3',5,5'-PeCB	111	37.241	1.58	2.0	1.78	89
13C-2,2',3,3',5,5',6-HpCB	178	43.345	1.05	2.0	1.73	86
Recovery Standards						
13C-2,5-DiCB	9	15.567	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.744	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.373	1.61	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.875	1.29	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.140	0.90	2.0	NA	NA

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.518
2		---	---	ND	---	0.518
3		---	---	ND	---	0.518
4		---	---	ND	---	0.518
5		---	---	ND	---	0.518
6		---	---	ND	---	0.518
7		---	---	ND	---	0.518
8		---	---	ND	---	0.518
9		---	---	ND	---	0.518
10		---	---	ND	---	0.518
11		---	---	ND	---	0.622
12	12/13	---	---	ND	---	0.518
13	12/13	---	---	ND	---	0.518
14		---	---	ND	---	0.518
15		---	---	ND	---	0.518
16		---	---	ND	---	0.518
17		---	---	ND	---	0.518
18	18/30	---	---	ND	---	0.518
19		---	---	ND	---	0.518
20	20/28	---	---	ND	---	0.622
21	21/33	---	---	ND	---	0.518
22		---	---	ND	---	0.518
23		---	---	ND	---	0.518
24		---	---	ND	---	0.518
25		---	---	ND	---	0.518
26	26/29	---	---	ND	---	0.518
27		---	---	ND	---	0.518
28	20/28	---	---	ND	---	0.622
29	26/29	---	---	ND	---	0.518
30	18/30	---	---	ND	---	0.518
31		---	---	ND	---	0.518
32		---	---	ND	---	0.518
33	21/33	---	---	ND	---	0.518
34		---	---	ND	---	0.518
35		---	---	ND	---	0.518
36		---	---	ND	---	0.518
37		---	---	ND	---	0.518
38		---	---	ND	---	0.518
39		---	---	ND	---	0.518
40	40/41/71	---	---	ND	---	0.518
41	40/41/71	---	---	ND	---	0.518
42		---	---	ND	---	0.518
43		---	---	ND	---	0.518
44	44/47/65	---	---	ND	---	0.622
45	45/51	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

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NC = Not Calculated
*! = See Discussion
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RT = Retention Time
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.518
47	44/47/65	---	---	ND	---	0.622
48		---	---	ND	---	0.518
49	49/69	---	---	ND	---	0.518
50	50/53	---	---	ND	---	0.518
51	45/51	---	---	ND	---	0.518
52		---	---	ND	---	0.518
53	50/53	---	---	ND	---	0.518
54		---	---	ND	---	0.518
55		---	---	ND	---	0.518
56		---	---	ND	---	0.518
57		---	---	ND	---	0.518
58		---	---	ND	---	0.518
59	59/62/75	---	---	ND	---	0.518
60		---	---	ND	---	0.518
61	61/70/74/76	---	---	ND	---	0.518
62	59/62/75	---	---	ND	---	0.518
63		---	---	ND	---	0.518
64		---	---	ND	---	0.518
65	44/47/65	---	---	ND	---	0.622
66		---	---	ND	---	0.518
67		---	---	ND	---	0.518
68		---	---	ND	---	0.518
69	49/69	---	---	ND	---	0.518
70	61/70/74/76	---	---	ND	---	0.518
71	40/41/71	---	---	ND	---	0.518
72		---	---	ND	---	0.518
73		---	---	ND	---	0.518
74	61/70/74/76	---	---	ND	---	0.518
75	59/62/75	---	---	ND	---	0.518
76	61/70/74/76	---	---	ND	---	0.518
77		---	---	ND	---	0.518
78		---	---	ND	---	0.518
79		---	---	ND	---	0.518
80		---	---	ND	---	0.518
81		---	---	ND	---	0.518
82		---	---	ND	---	0.518
83		---	---	ND	---	0.518
84		---	---	ND	---	0.518
85	85/116/117	---	---	ND	---	0.622
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.518
89		---	---	ND	---	0.518
90	90/101/113	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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A = Limit of Detection based on signal to noise
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.518
92		---	---	ND	---	0.518
93	93/98/100/102	---	---	ND	---	0.777
94		---	---	ND	---	0.518
95		---	---	ND	---	0.518
96		---	---	ND	---	0.518
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.777
99		---	---	ND	---	0.518
100	93/98/100/102	---	---	ND	---	0.777
101	90/101/113	---	---	ND	---	0.518
102	93/98/100/102	---	---	ND	---	0.777
103		---	---	ND	---	0.518
104		---	---	ND	---	0.518
105		---	---	ND	---	0.518
106		---	---	ND	---	0.518
107	107/124	---	---	ND	---	0.518
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.518
110	110/115	---	---	ND	---	0.518
111		---	---	ND	---	0.518
112		---	---	ND	---	0.518
113	90/101/113	---	---	ND	---	0.518
114		---	---	ND	---	0.518
115	110/115	---	---	ND	---	0.518
116	85/116/117	---	---	ND	---	0.622
117	85/116/117	---	---	ND	---	0.622
118		---	---	ND	---	0.518
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.518
121		---	---	ND	---	0.518
122		---	---	ND	---	0.518
123		---	---	ND	---	0.518
124	107/124	---	---	ND	---	0.518
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.518
127		---	---	ND	---	0.518
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.518
130		---	---	ND	---	0.518
131		---	---	ND	---	0.518
132		---	---	ND	---	0.518
133		---	---	ND	---	0.518
134	134/143	---	---	ND	---	0.518
135	135/151	---	---	ND	---	0.528

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.518
137		---	---	ND	---	0.518
138	129/138/163	---	---	ND	---	0.518
139	139/140	---	---	ND	---	0.518
140	139/140	---	---	ND	---	0.518
141		---	---	ND	---	0.518
142		---	---	ND	---	0.518
143	134/143	---	---	ND	---	0.518
144		---	---	ND	---	0.518
145		---	---	ND	---	0.518
146		---	---	ND	---	0.518
147	147/149	---	---	ND	---	0.518
148		---	---	ND	---	0.518
149	147/149	---	---	ND	---	0.518
150		---	---	ND	---	0.518
151	135/151	---	---	ND	---	0.528
152		---	---	ND	---	0.518
153	153/168	---	---	ND	---	0.622
154		---	---	ND	---	0.518
155		---	---	ND	---	0.518
156	156/157	---	---	ND	---	0.518
157	156/157	---	---	ND	---	0.518
158		---	---	ND	---	0.518
159		---	---	ND	---	0.518
160		---	---	ND	---	0.518
161		---	---	ND	---	0.518
162		---	---	ND	---	0.518
163	129/138/163	---	---	ND	---	0.518
164		---	---	ND	---	0.518
165		---	---	ND	---	0.518
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.518
168	153/168	---	---	ND	---	0.622
169		---	---	ND	---	0.518
170		---	---	ND	---	0.518
171	171/173	---	---	ND	---	0.518
172		---	---	ND	---	0.518
173	171/173	---	---	ND	---	0.518
174		---	---	ND	---	0.518
175		---	---	ND	---	0.518
176		---	---	ND	---	0.518
177		---	---	ND	---	0.518
178		---	---	ND	---	0.518
179		---	---	ND	---	0.518
180	180/193	---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15810
Filename P80322A_12

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.518
182		---	---	ND	---	0.518
183	183/185	---	---	ND	---	0.518
184		---	---	ND	---	0.518
185	183/185	---	---	ND	---	0.518
186		---	---	ND	---	0.518
187		---	---	ND	---	0.518
188		---	---	ND	---	0.518
189		---	---	ND	---	0.518
190		---	---	ND	---	0.518
191		---	---	ND	---	0.518
192		---	---	ND	---	0.518
193	180/193	---	---	ND	---	0.518
194		---	---	ND	---	0.518
195		---	---	ND	---	0.518
196		---	---	ND	---	0.725
197	197/200	---	---	ND	---	2.59
198	198/199	---	---	ND	---	0.518
199	198/199	---	---	ND	---	0.518
200	197/200	---	---	ND	---	2.59
201		---	---	ND	---	0.518
202		---	---	ND	---	0.518
203		---	---	ND	---	0.518
204		---	---	ND	---	0.518
205		---	---	ND	---	0.518
206		---	---	ND	---	0.518
207		---	---	ND	---	0.518
208		---	---	ND	---	0.518
209		---	---	ND	---	0.518

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15810
Filename P80322A_12

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15811		
Filename	P80322A_03	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL ID	P80322A01	Extracted	03/19/2008
CCal Filename(s)	P80322A_02	Analyzed	03/22/2008 06:03
Method Blank ID	BLANK-15810	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.907	91	2.0	1.21	61
3	1.0	0.964	96	2.0	1.22	61
4	1.0	0.941	94	2.0	1.65	83
15	1.0	0.975	97	2.0	1.67	84
19	1.0	0.936	94	2.0	1.74	87
37	1.0	1.02	102	2.0	1.71	86
54	1.0	0.988	99	2.0	1.67	83
81	1.0	1.01	101	2.0	1.97	99
77	1.0	1.04	104	2.0	1.91	96
104	1.0	0.923	92	2.0	1.86	93
105	1.0	0.965	96	2.0	1.84	92
114	1.0	1.00	100	2.0	1.66	83
118	1.0	0.959	96	2.0	1.87	94
123	1.0	0.981	98	2.0	1.81	90
126	1.0	0.970	97	2.0	1.80	90
155	1.0	0.969	97	2.0	1.89	95
156/157	2.0	1.95	98	4.0	3.39	85
167	1.0	0.973	97	2.0	1.69	84
169	1.0	1.03	103	2.0	1.55	78
188	1.0	0.966	97	2.0	2.58	129
189	1.0	1.10	110	2.0	1.93	96
202	1.0	1.05	105	2.0	2.47	124
205	1.0	0.969	97	2.0	2.13	106
206	1.0	1.02	102	2.0	2.16	108
208	1.0	1.04	104	2.0	2.36	118
209	1.0	0.995	99	2.0	2.31	115

P = Recovery outside of method
1668A control limits
ND = Not Detected
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ng = Nanograms

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15812		
Filename	P80322A_04	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL ID	P80322A01	Extracted	03/19/2008
CCal Filename(s)	P80322A_02	Analyzed	03/22/2008 07:06
Method Blank ID	BLANK-15810	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.956	96	2.0	1.03	51
3	1.0	0.982	98	2.0	1.06	53
4	1.0	0.994	99	2.0	1.38	69
15	1.0	1.06	106	2.0	1.40	70
19	1.0	1.00	100	2.0	1.44	72
37	1.0	1.07	107	2.0	1.52	76
54	1.0	1.06	106	2.0	1.41	71
81	1.0	1.07	107	2.0	1.77	89
77	1.0	1.11	111	2.0	1.77	88
104	1.0	0.997	100	2.0	1.60	80
105	1.0	1.04	104	2.0	1.75	88
114	1.0	1.08	108	2.0	1.55	78
118	1.0	1.03	103	2.0	1.75	87
123	1.0	1.05	105	2.0	1.67	83
126	1.0	1.05	105	2.0	1.75	87
155	1.0	1.04	104	2.0	1.60	80
156/157	2.0	2.06	103	4.0	3.25	81
167	1.0	1.05	105	2.0	1.59	79
169	1.0	1.10	110	2.0	1.52	76
188	1.0	1.04	104	2.0	2.20	110
189	1.0	1.17	117	2.0	1.79	89
202	1.0	1.11	111	2.0	2.18	109
205	1.0	1.02	102	2.0	1.98	99
206	1.0	1.10	110	2.0	1.95	97
208	1.0	1.13	113	2.0	2.09	105
209	1.0	1.07	107	2.0	2.10	105

P = Recovery outside of method
1668A control limits
ND = Not Detected
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! = See Discussion
ng = Nanograms

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-15811	Spike 2 ID	LCSD-15812
Spike 1 Filename	P80322A_03	Spike 2 Filename	P80322A_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	91	96	5.3
4-MoCB	3	96	98	2.1
2,2'-DiCB	4	94	99	5.2
4,4'-DiCB	15	97	106	8.9
2,2',6-TrCB	19	94	100	6.2
3,4,4'-TrCB	37	102	107	4.8
2,2',6,6'-TeCB	54	99	106	6.8
3,3',4,4'-TeCB	77	104	111	6.5
3,4,4',5-TeCB	81	101	107	5.8
2,2',4,6,6'-PeCB	104	92	100	8.3
2,3,3',4,4'-PeCB	105	96	104	8.0
2,3,4,4',5-PeCB	114	100	108	7.7
2,3',4,4',5-PeCB	118	96	103	7.0
2,3',4,4',5'-PeCB	123	98	105	6.9
3,3',4,4',5-PeCB	126	97	105	7.9
2,2',4,4',6,6'-HxCB	155	97	104	7.0
(156/157)	156/157	98	103	5.0
2,3',4,4',5,5'-HxCB	167	97	105	7.9
3,3',4,4',5,5'-HxCB	169	103	110	6.6
2,2',3,4',5,6,6'-HpCB	188	97	104	7.0
2,3,3',4,4',5,5'-HpCB	189	110	117	6.2
2,2',3,3',5,5',6,6'-OcCB	202	105	111	5.6
2,3,3',4,4',5,5',6-OcCB	205	97	102	5.0
2,2',3,3',4,4',5,5',6-NoCB	206	102	110	7.5
2,2',3,3',4,5,5',6,6'-NoCB	208	104	113	8.3
Decachlorobiphenyl	209	99	107	7.8

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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Appendix B

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Appendix B
Outfall 19 MS4 Program Monitoring Documentation

Appendix B
Outfall 19 MS4 Program Monitoring

Part 1: FY 2005 – 2006

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory

6543 N. Burlington Avenue, Room 217, Portland, Oregon 97203 ▪ Sam Adams, Commissioner ▪ Dean Marriott, Director

October 10, 2006

Frank Wildensee
City of Portland, Bureau of Environmental Services
1120 SW 5th Avenue, Room 1000
Portland, OR 97204-1972

LAND USE STORMWATER MONITORING
FISCAL YEAR 2005-06 REPORT
STORM EVENTS

M1 Event 40: April 1, 2006
M1 Event 41: May 7, 2006
M1 Event 42: May 23-24, 2006
OF19 Event 1: March 8, 2006
OF19 Event 2: March 15-16, 2006
OF19 Event 3: May 23-24, 2006

INTRODUCTION

This report presents the results of the six discrete storm sampling events conducted at two different mixed land use stations in fiscal year (FY) 2005-06 to comply with the City of Portland's (City) National Pollutant Discharge Elimination System (NPDES) municipal stormwater discharge permit. In response to increased monitoring requirements of the City's reissued MS4 permit, City of Portland outfall 19 (OF19) was added to the project. These events represent the 40th through 42nd storm monitoring events conducted at M1 and events 1 through 3 at OF19 for this project. Samples were also collected for additional analytes during OF19 event 3 at the request of the Portland Harbor Superfund program in order to characterize potential stormwater impacts in the Portland Harbor. The Environmental Investigations Division performed the work for the Environmental Management Division's Regulatory/Policy section. Field and analytical costs were billed to center code 145-31-043.

BACKGROUND INFORMATION

In 1991, the City implemented a stormwater monitoring program as required by the municipal NPDES stormwater discharge permit application process. Ten stations throughout the city representing residential, commercial, industrial, state highway corridor, open space, and mixed land

uses were selected for stormwater monitoring. In FY 1996-97, the monitoring plan was reduced to four land use stations so limited City resources could be allocated to other stormwater monitoring projects. Three of the four selected stations represented instream conditions, providing an overall measure of water quality in the watersheds. The fourth station, site M1, was located in manhole in a subbasin pilot project area, which is the site of several planned stormwater treatment facilities. In FY 1999-00, one of the three instream sites was dropped in order to fund a best management practice (BMP) monitoring project in that watershed. In FY 2002-03, the two remaining instream sites were dropped from the monitoring plan leaving only the manhole location for continued monitoring for this project. In FY 2005-06, the Stormwater characterization data for many land uses are now obtained from other monitoring projects. Location of an additional land use station is pending. Overviews of the current monitoring locations are shown in Figures 1A and 1B.

OF19 historically has been monitored to identify potential sources of industrial stormwater pollution and to measure the effectiveness of the City's Industrial Stormwater Program. The Industrial Stormwater Program was developed in response to 40 CFR 122.26 "Storm water discharges", which requires certain municipalities to implement a program to control and monitor stormwater runoff associated with industrial activity. OF19 has been monitored for at least three events per year over seven consecutive years starting in FY 1998-99. Industrial Stormwater Program monitoring of OF19 was switched to a biannual schedule in FY 2005-06 with FY 2005-06 being the "off" year. Future monitoring events will be coordinated to meet monitoring objectives of both programs.

SAMPLING LOCATIONS, FIELD PROCEDURES, AND ANALYTICAL PARAMETERS

Sample collection and field parameter measurements are performed by the BES Field Operations section. The BES Water Pollution Control Laboratory (WPCL) provides analytical services. Organic analytical services are provided by STL for the OF19 site.

Sampling Locations

The remaining monitoring site selected from the original ten land use stations is considered to best represent urban stormwater runoff quality from a mixed land use area. Site M1, located at 5241 NE 122nd Ave., is an in-pipe station receiving runoff from 144 acres of residential, commercial, industrial, and open space land uses. The sampling site is located in a 60-inch municipal separate storm sewer pipe accessed by a manhole on the west shoulder of NE 122nd Avenue. A site map is provided in Figure 2A.

OF19 is ranked by the City as one of the "Top Ten" outfalls for potential impacts on water quality and the outfall basin contains a significant number of industrial facilities. Monitoring is conducted in the 475-acre outfall 19 basin located in northwest Portland (Figure 1B). The basin is approximately 20 percent impervious due to significant industrial land use. Stormwater from this basin discharges to the Willamette River through a 42-inch outfall. The sampling manhole is located on the northwest corner of the intersection at NW Front and Kittridge Avenues (Figure 2B). Sampling and flow monitoring are performed in the 42-inch outlet pipe of this manhole.

Field Procedures

Storm Criteria

In order to meet the data quality objectives of this project, monitoring is attempted for storms that are predicted to fulfill specified criteria. Currently, these criteria include a 6-hour antecedent dry period and a minimum of 0.20 inches of precipitation in a 12-hour period.

Flow Monitoring

Both sites have uniformly shaped pipes, well suited for electronic flow quantification. Flow monitoring data are obtained through the use of a Sigma 950 Flow Meter. The flow sensor in the pipe collects level and velocity data, which are used in conjunction with pipe geometry information to calculate flow using the area-velocity method. During a sampling event, the flow meter calculates and records data at five-minute intervals.

Water Quality Sampling

Grab Samples
Grab samples are collected with a decontaminated stainless steel bailer suspended from a nylon rope. The bailer is rinsed once with water from the sampling stream prior to filling the sample bottles and measuring the field parameters. Oil and grease samples are collected directly into the sample bottles.

Composite Samples
An Isco 6700 Portable Sampler is used for sample collection. Site M1 and OF19 are located in a storm sewer lines where a sampler and a flow meter are secured in a manhole. At M1, reinforced vinyl tubing extends from the sampler onto the pipe floor, where a stainless steel sample head is secured. With the additional Portland Harbor Sediment analytes, Teflon-lined tubing is used at OF19 to avoid potential organics contamination. The sampler utilizes a peristaltic pump to draw sample up the tubing and distribute it into composite bottles in the sampler base.

The flow meter is programmed to trigger the sampler every time a specified volume flows past the sensor. In an attempt to divide the storm runoff into 24 volume-proportioned aliquots, the trigger volume is calculated as one twenty-fourth of the expected runoff volume for the event. The expected runoff is calculated using the predicted rain amount for the event, basin size and a basin-specific runoff coefficient. For OF19, the flow meter is programmed to activate the sampler when the water level rises from base flow level to the predetermined trigger level. In order to prevent the sampling program from activating during the minor level increases that often occur before the main storm arrives, a minimum of 0.5 inches is added to the base flow level when calculating trigger level. Eight 1.9-liter decontaminated plastic composite bottles are used in the M1 sampler. Eight 1.9-liter organics decontaminated glass composite bottles are used in the OF19 sampler. For each trigger sent from the flow meter to the sampler, one 600-milliliter aliquot is pumped into a composite bottle. Each bottle receives three aliquots, whereupon the sampler distributor arm advances to the next bottle. Full bottles are removed and replaced with empty bottles as necessary over the course of the event. At the end of the event, a final composite is created by combining bottles that represent greater than 75 percent of the storm flow as recorded by the meter. At site M1, representative bottles are

combined into a churn splitter where analyte-specific sample bottles are then filled from a spigot during churn agitation.

Decontamination Procedures

All equipment that comes in contact with water samples is decontaminated in accordance with Field Operations SOP 7.01a – Decontamination of Sampling Equipment by the following procedure.

1. Wash in non-phosphate detergent (e.g., Alconox Detergent 8 or Liqui-nox).
2. Rinse in tap water.
3. Rinse in 10 percent nitric acid.
4. Rinse with deionized water.
5. Rinse with 10 percent Acetone solution (OF19 only).
6. Rinse with ultrapure water.

Prior to the storm event, both the peristaltic pump tubing and reinforced vinyl tubing at M1 is decontaminated by pumping through the same series of solutions listed above. At the OF19 site, an additional 10 percent Acetone rinse is pumped through Teflon-lined tubing after Step 4.

Analytical Constituents

Grab Samples

Grab samples are monitored in the field for conductivity, pH, and temperature using portable analytical meters. Dissolved oxygen is no longer measured. Grab samples are submitted to the laboratory for analysis of *Escherichia coli* and total oil and grease. Nonpolar oil and grease is measured if total oil and grease is greater than or equal to 10 milligrams per liter (mg/L).

Composite Samples

Composite samples are submitted to the laboratory for analysis of ammonia-nitrogen, nitrate-nitrogen, orthophosphate phosphorus, total dissolved solids, total phosphorus, total solids, total suspended solids, hardness, total metals (chromium, copper, lead, and zinc) and dissolved metals (copper, lead, and zinc). Additional samples were submitted from all three events at OF19 for polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and metals (total and dissolved arsenic, silver, and cadmium, and dissolved chromium).

WEATHER AND SAMPLING SUMMARY

The following section summarizes the weather and sampling information for each of the three events. Weather forecasts were obtained through the City-contracted ERF Company, Inc (ERF). Tables 1 and 2A present the complete rain gauge data as recorded by the City's Hydrological Data Retrieval and Alarm System (HYDRA) for the three storm events and the corresponding 72-hour antecedent dry periods for both sampling locations. While City rain gauges provide the best available estimation of rainfall at monitoring sites they can be located several miles from study areas. Hence, rain gauge data may not accurately depict rainfall conditions at particular sites, especially during events with sporadic, localized rain activity. Gauge 111 (NE Airport Way) is used for the M1 sample location

and is located approximately one and a half miles west of the monitoring site. The previous rain gauge used for M1, Gauge 9 (PDX Business Park), was retired on September 21, 2004. Gauge 121 (Yeon) is used for monitoring site OF19 and is located within two miles of the sampling site. For monitoring conducted at OF19 for the Industrial Stormwater Program, rainfall at OF 19 was formerly estimated as an average of rainfall totals measured at Gauges 121 and 125 (Guilds Lake). Gauge 125 was retired on March 23, 2005. No additional gauges were used for rainfall estimates in the area since Gauge 121 and former Gauge 125 are the only gauges in the vicinity of the sampling site that represent the slight rain shadow in the NW industrial district caused by the West Hills. The river level gauge at Ankeny Pump Station is used to determine Willamette River levels in order to insure that river water has not backed up into the outfall sampling location. The river level must be below 20 feet above mean sea level to avoid potential commingling of OF19 stormwater with Willamette River water. Hourly river level data are presented in Table 2B. All times in this report text, figures and tables are listed in 24-hour, Pacific Standard Time.

Summaries of antecedent, storm event, and sample collection time rainfall for both monitoring locations are presented in the tables below. Detailed descriptions of each monitoring event are also included below in the Events Summary section.

M1 Dry Period Summary

Event	Date	72-Hour Antecedent Rainfall (inches)	24-Hour Antecedent Rainfall (inches)	6-Hour Antecedent Rainfall (inches)	Total Event Rainfall (inches)	Sample Collection Time Rainfall (inches)
40	3/31-4/1/06	0.29	0.12	0.00	0.33	0.33
41	5/7/06	0.13	0.13	0.04	0.29	0.29
42	5/23-24/06	0.46	0.26	0.00	0.59	0.59

OF19 Dry Period Summary

Event	Date	72-Hour Antecedent Rainfall (inches)	24-Hour Antecedent Rainfall (inches)	6-Hour Antecedent Rainfall (inches)	Total Event Rainfall (inches)	Sample Collection Time Rainfall (inches)
1	3/8/06	0.67	0.50	0.04	0.44	0.42
2	3/15-16/06	0.25	0.03	0.00	0.35	0.33
3	5/23-24/06	1.07	0.28	0.07	0.37	0.36

M1 Events Summary

Event 40

ERF predicted moderate rainfall on April 1, 2006 totaling approximately 0.22 inches. Minimal precipitation with a dry period of 17 hours was recorded during the 24 hours preceding the storm.

The sampling equipment was decontaminated, calibrated, and programmed during the afternoon of March 31 with the intent to capture storm activity forecasted to occur within the following 24 hours. Rainfall began around 1700 on March 31 and continued steadily until approximately 0400 on April 1. A total of 0.33 inches of rain fell during the course of the storm event.

A grab sample was not collected for this event due to weekend scheduling conflicts. The sampler collected 21 aliquots with the first aliquot taken at 1805 on March 31 and the final was collected at 0416 on April 1. The final composite sample was made by combining all aliquots into a churn splitter. Subsequent analyte-specific bottles were filled during churn agitation.

With the exception of the missed grab sample, sampling operations went smoothly for this event with no significant problems encountered. The majority of the storm duration was captured and is well represented by the composite sample.

Event 41

ERF predicted surges of light rainfall for the evening of May 7, 2006 and totaling roughly 0.3 inches. Minimal precipitation was recorded during the 72 hours preceding the storm. About 0.04 inches of rain fell during the six hours before sample collection.

The sampling equipment was decontaminated, calibrated, and programmed during the afternoon of May 4 to prepare for the storm event forecasted to occur later that weekend. Morning precipitation on May 7 was enough to initiate sampler, however the bulk of the substantial rainfall began around 1600 and lasted only two hours with a total accumulation of 0.29 inches.

The grab sample was collected at 1714 on May 7 during a heavy downpour, which also coincided with the peak of the event. The sampler collected 24 aliquots with the first representative aliquot taken at 1539 and the last at 1803. The final composite sample was made by combining all aliquots from the afternoon storm event into a churn splitter. Subsequent analyte-specific bottles were filled during churn agitation.

Sampling operations went smoothly for this event with no significant problems encountered. The majority of the storm duration was captured and is well represented by the composite sample.

Event 42

ERF predicted significant rainfall for the morning of May 23, 2006 turning to intermittent showers in the afternoon totaling 0.35 inches. Minimal precipitation with a dry period of 16 hours was recorded during the 24 hours preceding the storm.

The sampling equipment was decontaminated, calibrated, and programmed on the afternoon of May 22 to prepare for anticipated storm activity. Initial rainfall began on May 23 at 0400 and turned to showers continuing through 1900 the following day. The rainfall total for the storm event was 0.59 inches with the most intense showers occurring from 1800 to 2000.

A grab sample was not collected for this event due to peak storm activity occurring during late evening hours. The sampler collected a total of 23 aliquots with the first aliquot taken at 0617 on May 23 and the last at 1901 the following day. The final composite sample was created by combining all 23 aliquots into a churn splitter. Subsequent analyte-specific bottles were filled during churn agitation.

With the exception of the missed grab sample, sampling operations went smoothly for this event with no significant problems encountered. The majority of the storm duration was captured and is well represented by the composite sample.

OF19 Events Summary

Event 1

ERF predicted heavy rainfall for the afternoon of March 8, 2006 and continuing through the morning totaling roughly 0.7 inches. Approximately 0.17 inches of rain was recorded during the 24 hours preceding the storm. About 0.04 inches of rain fell during the two hours before the sampler collected the first aliquot.

The sampling equipment was decontaminated, calibrated, and programmed during the afternoon of March 8 to prepare for the forecasted storm event later that day. Initial rainfall began earlier that morning at 1100. The majority of rain falling between 1300 to 1600 and then turned to showers through the evening. The rainfall total for the storm event was 0.44 inches.
The grab sample was collected on March 8 at 1635 as the intensity of the showers decreased. The first composite aliquot was collected at 1341 on March 8 and the last at 2106. The flow meter paced the sampler accurately as most of the aliquots were collected during the peak of the storm. The final composite sample was created by combining equal volumes of the 24 aliquots collected during the storm event.

Sampling operations went smoothly for this event with no significant problems encountered. The majority of the storm duration was captured and is well represented by the composite sample.

Event 2

ERF predicted minimal showers for the afternoon of March 15, 2006 turning to rain through the following evening of March 16 totaling 0.4 to 0.8 inches. Approximately 0.03 inches of rain was recorded during the 24 hours preceding the storm. No rain fell during the ten hours before sample collection.

The sampling equipment was decontaminated, calibrated, and programmed on the morning of March 14 to prepare for an anticipated 0.5 inch storm event. A slight drizzle began just prior to the first aliquot collection on March 15 around 2130, then turned to steady rain through the following morning on March 16. A second pulse of rain occurred from 0400 to 0900 on March 16 with the

final aliquot collected at 0848. The rainfall total for the storm event was 0.35 inches, which primarily fell in two separate events on March 15 and 16 respectively.

The final composite sample was created by combining bottles 5-8 which represented aliquots collected from 2232 on March 15 to 0848 on March 16. Grab samples were not collected for this event due to staffing limitations. The forecasted rainfall amount was more than the actual rainfall as measured by the raingage. Since the flow meter was programmed with a trigger volume based on the forecasted rainfall amount, the sampler only filled four bottles, which were primarily collected during the storm peaks and are an accurate capture of the bulk of the storm.

Aside from the missed grab sample and inaccurate forecasting which resulted in reduced composite volume, the sampling for this event went smoothly.

Event 3

ERF predicted steady rainfall for the morning of May 23, 2006 and then turning sporadic in the afternoon totaling roughly 0.4 inches. Due to difficulties with Teflon-lined tubing, the dry period for this event was not ideal.

The sampling equipment was decontaminated, calibrated, and programmed during the afternoon of May 22 to prepare for the forecasted storm event later that day. Morning storm runoff on May 23 of approximately 0.38 inches was recorded accurately by the flow meter, however the Teflon lining inside the tubing had inadvertently been kinked causing sampler errors. The meter was reprogrammed based on 0.35 inches of rain expected to continue through the remainder of the day. Site visits on the mornings of May 24, after 0.21 inches of rain and May 25 after an additional 0.16 inches of rain, concluded that the sampler had collected enough volume to consider the event an accurate representation of storm activity.

The composite sample represents a continuous shower period from 1300 on May 23 through 1500 on May 24 totaling approximately 0.36 inches of rain. The final composite sample was created by combining equal volumes of the 18 aliquots collected during the storm event.

Sampling operations were not ideal for this event due to the difficulties with the Teflon-lined tubing, missed grab samples as a result of site visits not coinciding with elevated runoff and sporadic nature of spring storms. The majority of the storm duration was captured and is well represented by the composite sample.

MONITORING AND SAMPLING RESULTS

Hydrographs summarizing flow, rainfall, and sampling information for each storm event are presented in Figures 3A through 3C and 4A through 4C. The individual sample triggers sent from the flow meters to the samplers, which represent aliquots of the composite samples, are represented by the ▲ on the x-axis of the graph. The grab sample collection times are also included on the graphs.

Tables 3 and 4A through 4C presents a summary of all field and laboratory analytical data for the three events. The complete Laboratory Analysis Reports and chain-of-custody records are included in the attachments. Refer to the laboratory reports for information regarding the analytical methods

used and the corresponding method reporting limits. Note that in the attached lab reports for the OF19 site, PAHs are reported twice with two different sets of method detection limits. PAHs were reported as part of the full EPA Method 8270SIM suite; however, in order to achieve lower detection limits for PAHs, additional sample clean-up is performed which removes some of the EPA 8270SIM method target analytes. Subsequently, the analysis must be performed twice in order to report all analytes and achieve desired detection limits for PAHs. Since no PAHs were detected, only the lower detection limits are shown in Table 4B.

DATA EVALUATION

A statistical evaluation of the data will be performed using Minitab Statistical Software, Release 14. The results from this evaluation will be presented in a separate document.

DATA VALIDATION & USABILITY

No problems were encountered with data validation.

CONCLUSION

The 40th through 42nd stormwater sampling events at land use station M1 were conducted on March 31-April 1, May 7, and May 23-24 in 2006. The 1st through 3rd stormwater sampling events at land use station OF19 were conducted on March 8, March 15-16, and May 23-24 in 2006. These were good storm events with sufficient rainfall. All storm criteria were met for all events except Event 3 at land use station OF19. Due to kinked sample tubing, aliquots were not collected for the first part of the storm. Even though the Event 3 did not meet the antecedent dry period criterion and the initial part of the storm was missed, sampling proceeded in order to ensure project completion by the end of the fiscal year. Grab samples were not collected for M1 Events 40 and 42 and OF 19 Events 2 and 3 due to overnight storm events, intermittent rainfall, and staffing conflicts.

GENERAL

The Field Operations and Investigations and Monitoring Services sections of BES prepared this summary report. For any questions concerning this report, contact Aaron Wieting at 503-823-5437.

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FIGURES

Figure 1A: M1 Vicinity Map
Figure 1B: OF19 Vicinity Map
Figure 2A: M1 Site Map
Figure 2B: OF19 Site Map
Figure 3A: M1 Event 40 Hydrograph
Figure 3B: M1 Event 41 Hydrograph
Figure 3C: M1 Event 42 Hydrograph
Figure 4A: OF19 Event 1 Hydrograph
Figure 4B: OF19 Event 2 Hydrograph
Figure 4C: OF19 Event 3 Hydrograph

City of Portland Environmental Services	**Vicinity Map - M1** Land Use Stormwater Monitoring	Figure 1A

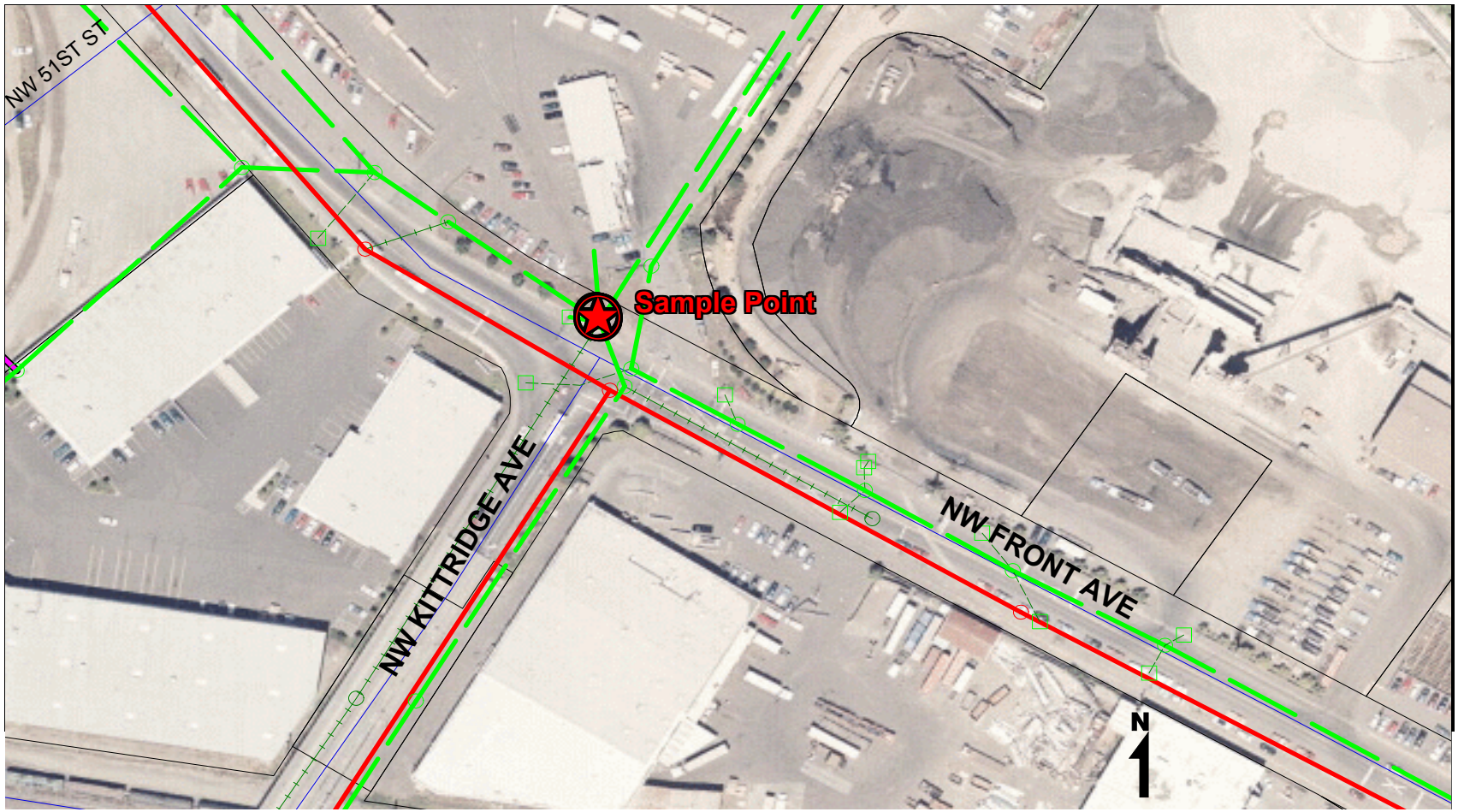
s:\eid\4010.001\datarep\vicmap.xls

City of Portland Environmental Services	**Vicinity Map - OF19** Land Use Stormwater Monitoring	Figure 1B

s:\eid\3060.002\datarep\Maps.xls (vicinity)

City of Portland Environmental Services	**Site Map - M1** Land Use Stormwater Monitoring	Figure 2A

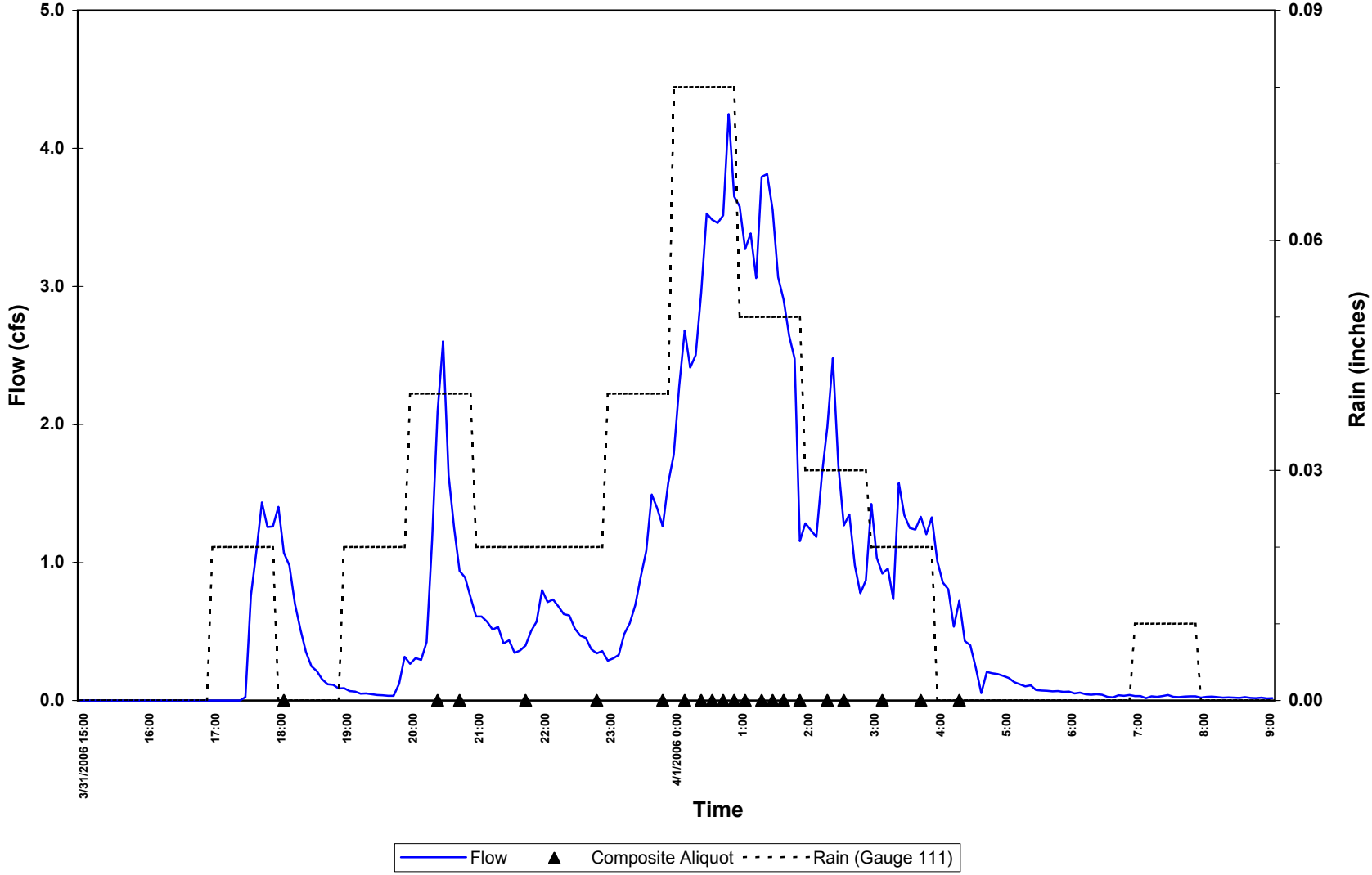
s:\eid\4010.001\datarep\sitemapm1.xls



City of Portland Environmental Services	**Site Map - OF19** Land Use Stormwater Monitoring	Figure 2B

s:\eid\3060.002\datarep\Maps.xls (site)

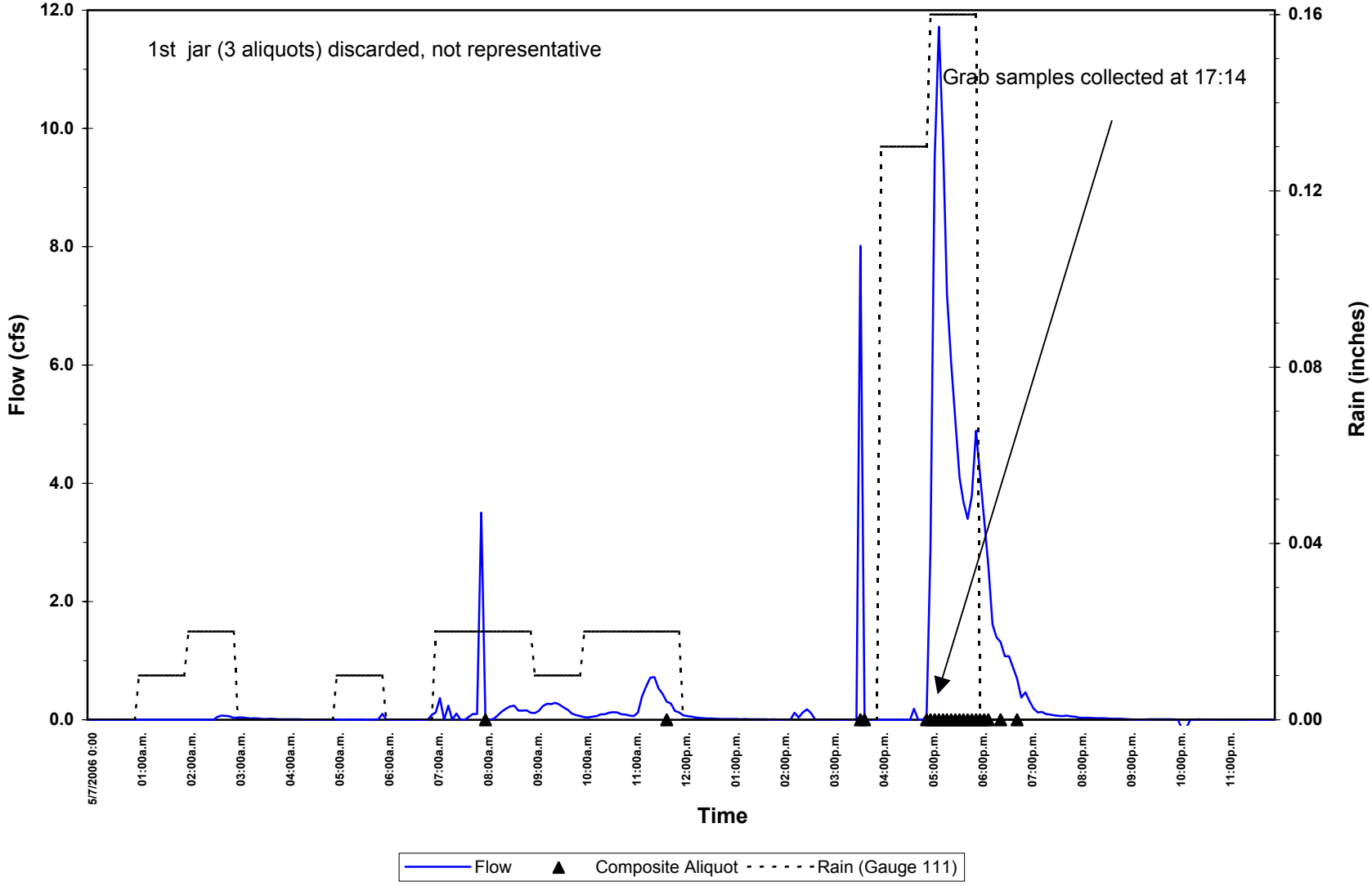
Figure 3A: M1 (NE 122nd Ave) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 40: March 31 - April 1, 2006



s:\eid\4000\4010.001\datarep\fy0506\M1\event40\hgraph40.xls

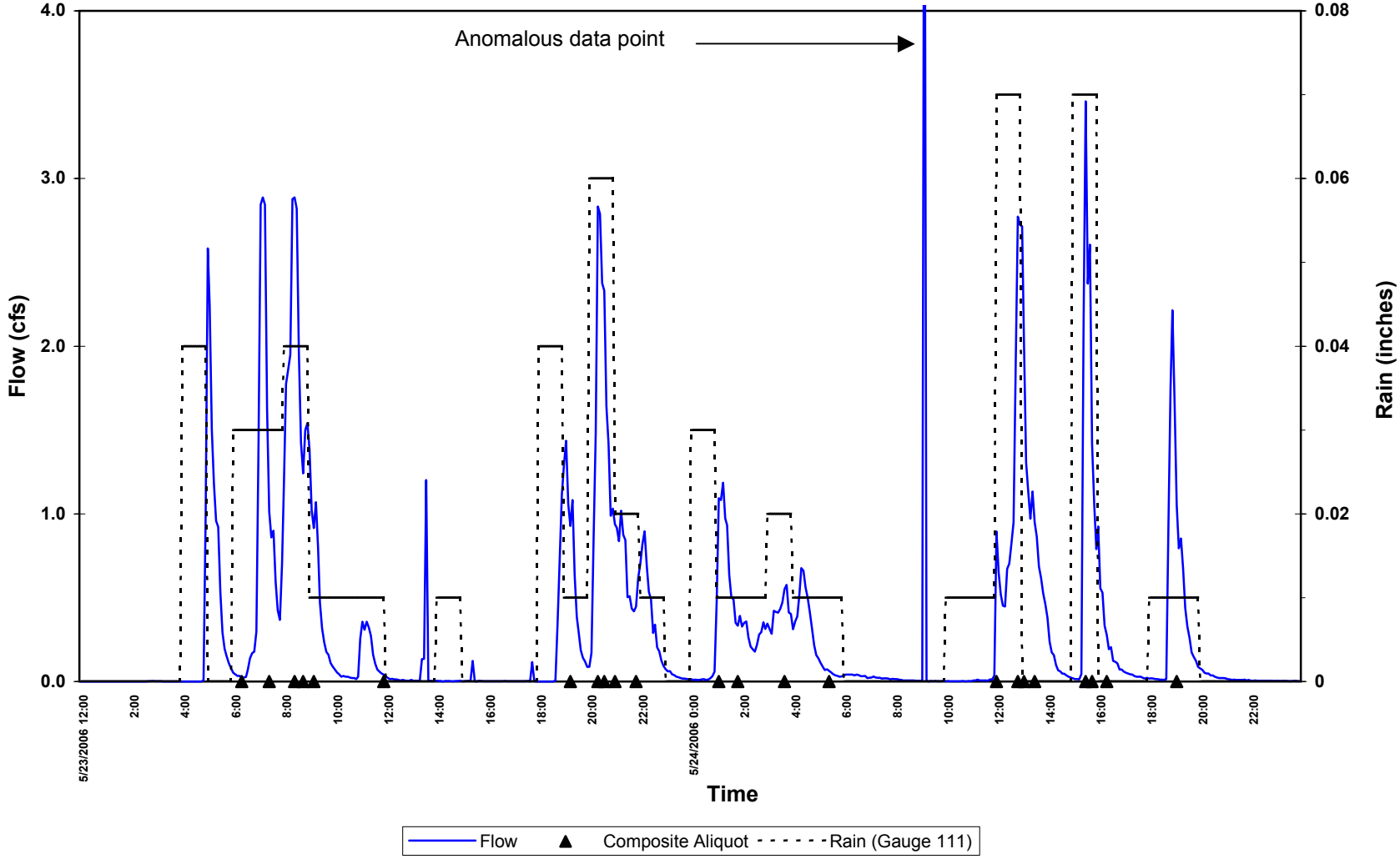
No grab sample collected because storm event occurred in middle of night.

Figure 3B: M1 (NE 122nd Ave) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 41: May 7 - 8, 2006



s:\eid\4000\4010.001\datarep\fy0506\M1\event41\hgraph41.xls

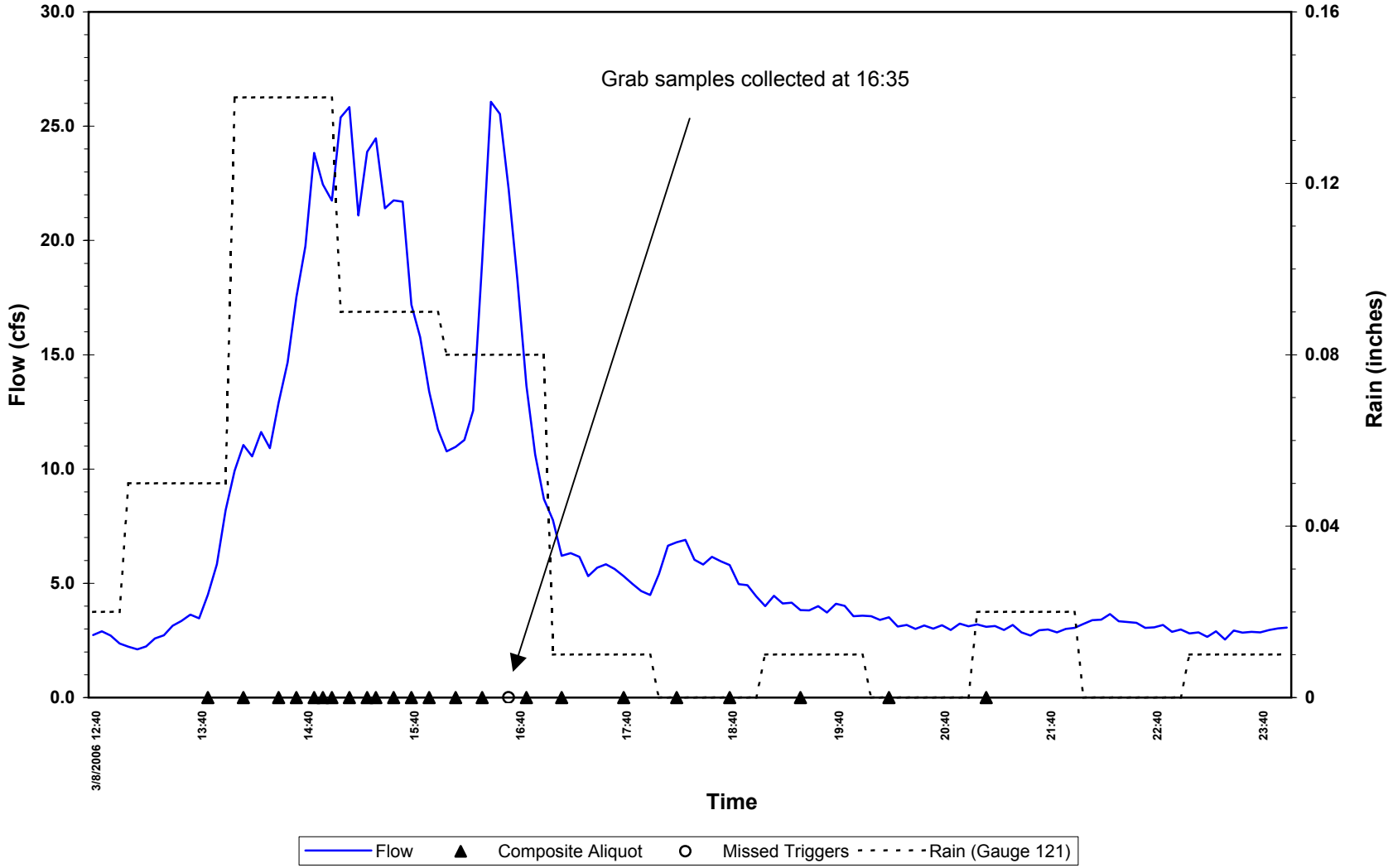
Figure 3C: M1 (NE 122nd Ave) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 42: May 23 - 24, 2006



s:\eid\4000\4010.001\datarep\fy0506\M1\event42\hgraph42.xls

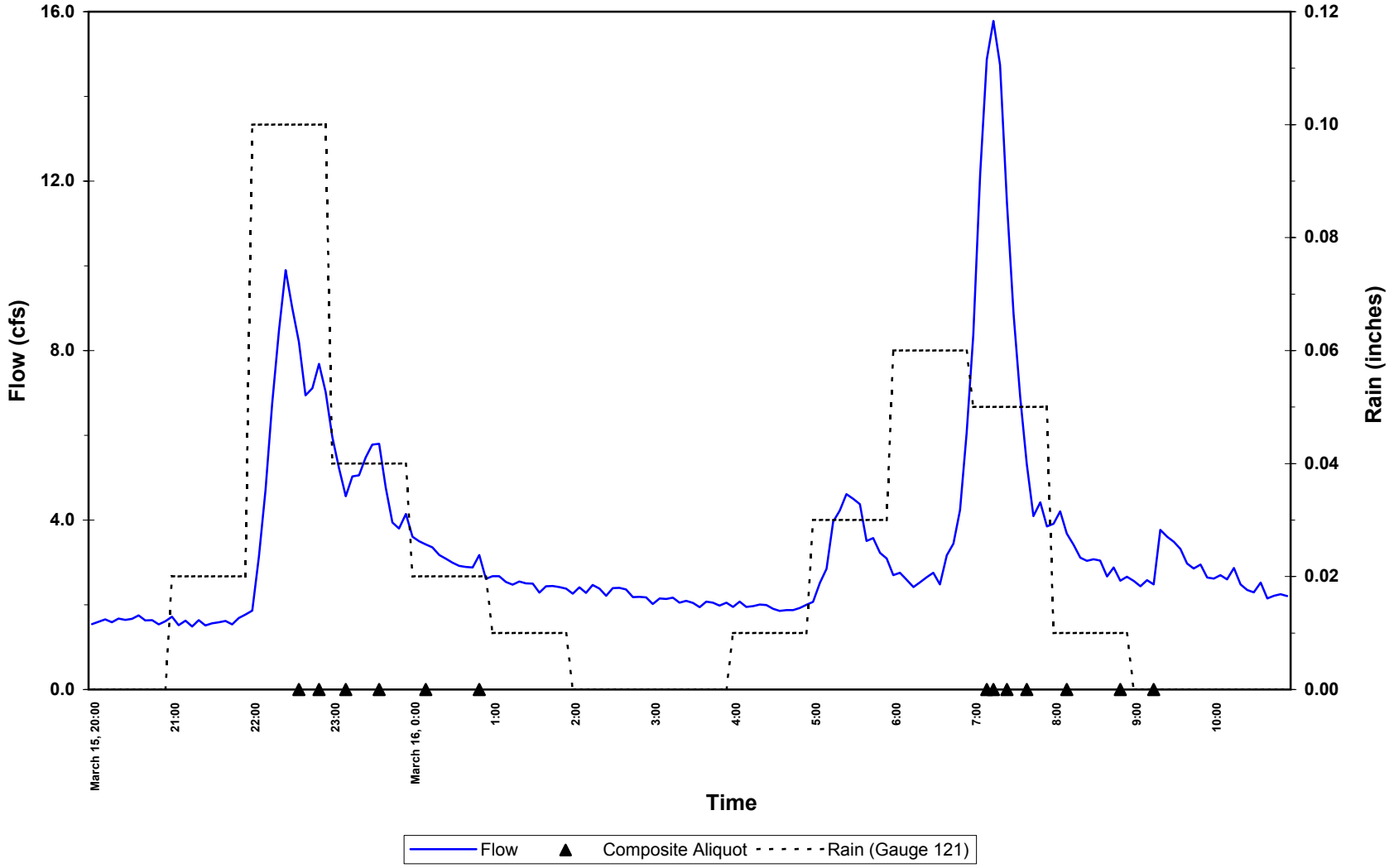
No grab samples collected due to overnight event and intermittent rainfall

Figure 4A: OF19 (NW Yeon) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 1: March 8, 2006



s:\eid\4000\4010.001\datarep\fy0506\OF19\event1\OF19hgraph1.xls

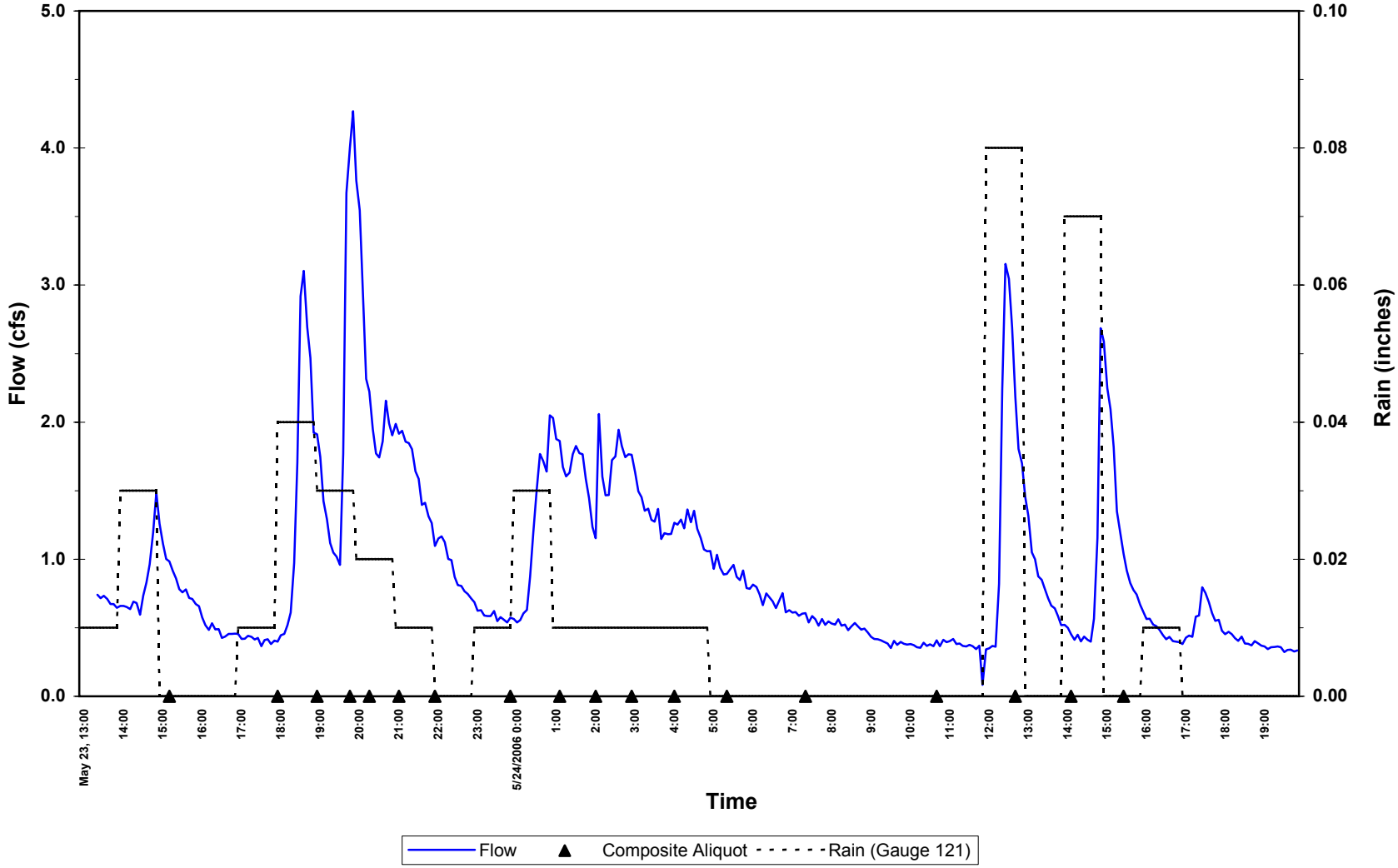
Figure 4B: OF19 (NW Yeon) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 2: March 15-16, 2006



s:\eid\4000\4010.001\datarep\fy0506\OF19\event2\OF19hgraph2.xls

No grab sample collected because storm event occurred in middle of night.

Figure 4C: OF19 (NW Yeon) Hydrograph
Land Use Stormwater Monitoring
FY 2005-06 Event 3: May 23-24, 2006



s:\eid\4000\4010.001\datarep\fy0506\OF19\event3\OF19hgraph3.xls

No grab samples collected due to overnight event and intermittent rainfall

TABLES

Table 1: M1 Event HYDRA Rain Gauge Data
Table 2A: OF19 Event HYDRA Rain Gauge Data
Table 2B: OF19 Event River Level Data
Table 3: M1 Event Analytical Summaries
Table 4A: OF19 Event Analytical Summaries, Conventional Parameters
Table 4B: OF19 Event Analytical Summaries, PCBs and PAHs
Table 4C: OF19 Event Analytical Summaries, Semi-Volatile Organic Compounds

Table 1: HYDRA Rain Gauge Data
Land Use Monitoring
FY 2005-06
Site M1

Daily Rain Report — All Times in Pacific Standard Time

Rain Data Collected by HYDRA - City of Portland

Gauge 111: Airport Way #2

Hour:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Event 40: March 31-April 1, 2006																									
3/28/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/29/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.04	0.01	0.00	0.00	0.00	0.02	0.03	0.00	0.01	0.00	0.00	0.15
3/30/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.03	0.02	0.01	0.01	0.14
3/31/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.04	0.02	0.02	0.04	0.16
4/1/06	0.08	0.05	0.03	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Event 41: May 7, 2006																									
5/3/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/4/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/5/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/6/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/7/06	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.02	0.02	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.13	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.42
Event 42: May 23-24, 2006																									
5/20/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
5/21/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.06	0.08	0.00	0.04	0.23
5/22/06	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.09	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
5/23/06	0.00	0.00	0.00	0.00	0.04	0.00	0.03	0.03	0.04	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.04	0.01	0.06	0.02	0.01	0.00	0.32
5/24/06	0.03	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.07	0.00	0.00	0.07	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.27

- Storm event duration

Table 2A: HYDRA Rain Gauge Data
Land Use Monitoring
FY 2005-06
Site OF19

Daily Rain Report — All Times in Pacific Standard Time

Rain Data Collected by HYDRA - City of Portland

Gauge 121: Yeon

Hour:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Event 1: March 8, 2006																									
3/4/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/5/06	0.00	0.09	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
3/6/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.03	0.01	0.15
3/7/06	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.13	0.08	0.03	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
3/8/06	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.05	0.14	0.09	0.08	0.01	0.00	0.01	0.00	0.02	0.00	0.01	0.52
Event 2: March 15-16, 2006																									
3/12/06	0.08	0.02	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
3/13/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
3/14/06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.12	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.21
3/15/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.04	0.19
3/16/06	0.02	0.01	0.00	0.00	0.01	0.03	0.06	0.05	0.01	0.00	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.35
Event 3: May 23-24, 2006																									
5/20/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/21/06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.12	0.18	0.01	0.01	0.03	0.40
5/22/06	0.00	0.00	0.00	0.00	0.01	0.13	0.03	0.03	0.07	0.02	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
5/23/06	0.00	0.03	0.00	0.00	0.06	0.00	0.15	0.04	0.04	0.00	0.02	0.00	0.00	0.01	0.03	0.00	0.00	0.01	0.04	0.03	0.02	0.01	0.00	0.01	0.50
5/24/06	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23

- Storm event duration

Table 2B: River Level Data
Land Use Monitoring
FY 2005-06
Site OF19

Daily River Level Report																									All measurements in feet above mean sea level
River Level Data Collected by HYDRA - City of Portland																									
Gauge: Ankeny Pump Station																									
Hour:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	**Avg**
Event 1: March 8, 2006																									
3/4/06	8.2	7.9	7.6	7.3	7.1	7.7	8.8	9.6	9.7	9.5	8.9	8.5	8.3	7.9	7.6	7.3	7.0	6.7	6.8	7.4	7.9	8.0	7.9	7.5	8.0
3/5/06	7.3	7.1	6.8	6.5	6.3	6.6	7.5	8.5	8.9	8.9	8.6	8.3	8.0	7.7	7.4	7.1	6.8	6.6	6.3	6.6	7.2	7.6	7.7	7.6	7.4
3/6/06	7.4	7.2	7.0	6.8	6.5	6.5	7.2	8.2	8.9	9.1	9.1	8.8	8.5	8.2	8.1	7.8	7.6	7.4	7.2	7.0	7.1	7.5	7.9	8.0	7.7
3/7/06	8.0	8.0	7.8	7.7	7.6	7.5	7.4	7.6	8.2	8.7	8.8	8.8	8.6	8.6	8.4	8.1	7.9	7.7	7.5	7.3	7.1	6.9	7.0	7.3	7.9
3/8/06	7.6	7.6	7.6	7.5	7.5	7.3	7.2	7.1	7.3	7.5	7.9	8.1	8.1	8.1	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6.9	6.9	7.3	7.5
Event 2: March 15-16, 2006																									
3/12/06	7.9	7.9	8.3	8.7	8.9	8.9	8.7	8.5	8.4	8.2	8.0	7.9	7.8	8.1	8.6	8.9	9.0	8.9	8.8	8.5	8.3	8.0	7.8	7.5	8.4
3/13/06	7.3	7.1	7.3	7.8	8.2	8.2	8.1	7.9	7.8	7.7	7.6	7.4	7.2	7.2	7.7	8.3	8.6	8.6	8.4	8.2	8.0	7.8	7.5	7.3	7.8
3/14/06	7.0	6.8	6.8	7.5	8.3	8.6	8.5	8.1	7.8	7.5	7.2	7.0	6.8	6.6	7.0	7.9	8.7	8.9	8.8	8.3	8.1	7.9	7.7	7.4	7.7
3/15/06	7.2	6.9	6.8	7.4	8.2	8.6	8.6	8.3	7.9	7.7	7.5	7.2	7.0	6.9	7.0	7.7	8.6	9.1	9.2	9.0	8.8	8.7	8.5	8.3	8.0
3/16/06	8.1	8.0	7.8	8.0	8.6	9.1	9.2	9.1	8.8	8.6	8.4	8.1	7.9	7.7	7.5	7.6	8.3	9.0	9.2	9.2	8.9	8.7	8.6	8.3	8.4
Event 3: May 23-24, 2006																									
5/20/06	13.0	13.0	13.0	13.0	12.9	12.9	12.9	12.9	13.0	13.1	13.2	13.2	13.1	13.1	13.1	13.1	13.1	13.0	13.0	13.0	13.0	13.1	13.2	13.3	13.1
5/21/06	13.4	13.5	13.5	13.5	13.4	13.4	13.4	13.4	13.4	13.4	13.5	13.6	13.6	13.7	13.6	13.6	13.6	13.5	13.5	13.4	13.4	13.3	13.4	13.5	13.5
5/22/06	13.7	13.7	13.8	13.7	13.7	13.6	13.6	13.5	13.5	13.5	13.5	13.6	13.6	13.7	13.7	13.7	13.8	13.7	13.6	13.6	13.6	13.5	13.5	13.7	13.6
5/23/06	13.9	14.0	14.1	14.2	14.1	14.1	14.1	14.0	14.0	14.0	13.9	13.9	13.9	14.0	14.1	14.1	14.1	14.1	14.1	14.1	14.0	13.9	13.9	14.0	14.0
5/24/06	14.1	14.3	14.4	14.5	14.5	14.4	14.3	14.3	14.2	14.1	14.1	14.0	14.0	14.1	14.2	14.3	14.3	14.3	14.3	14.3	14.3	14.2	14.2	14.2	14.2

- Storm event duration

s:\eid\3000\3060.002\datarep\fy0506\OF19\0506 hydratab.xls

Table 3: Analytical Summary
Land Use Stormwater Monitoring Location M1
FY 2005-06, Events 40-42

Sample Type	Parameter	Units	Event 40 3/31-4/1/06	Event 41 5/7/06	Event 42 5/23-24/06
Grab	Conductivity (field)	µmhos/cm	NS	19	NS
	E. coli	mpn/100 ml	NS	330	NS
	Oil & Grease, Total	mg/L	NS	5.2	NS
	pH (field)	S.U.	NS	8.5	NS
	Temperature	Deg. C	NS	13.6	NS
Composite	Ammonia-Nitrogen	mg/L	0.22	0.34	0.26
	Nitrate-Nitrogen	mg/L	0.21	0.28	0.34
	Orthophosphate-Phosphorus	mg/L	0.06	0.075	0.023
	Total Dissolved Solids	mg/L	33	16	31
	Total Phosphorus	mg/L	0.38	0.64	0.26
	Total Solids	mg/L	89	248	100
	Total Suspended Solids	mg/L	56	232	69
	Hardness, Total	mg CaCO3/L	15.4	30.5	18.5
	Chromium, Total	µg/L	2.94	11.5	4.83
	Copper, Total	µg/L	12.8	38.3	17.9
	Lead, Total	µg/L	10.2	62.4	24.4
	Zinc, Total	µg/L	100	304	115
	Copper, Dissolved	µg/L	2.96	5.15	6.3
	Lead, Dissolved	µg/L	0.175	0.37	0.3
	Zinc, Dissolved	µg/L	29.5	26.7	37.2

µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100ml = most probable number per 100 milliliters
S.U. = standard units
mg/L = milligrams per liter
mg CaCO3/L = milligrams calcium carbonate per liter
µg/L = micrograms per liter

Table 4A: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2005-06, Events 1-3
Conventional Parameters

Sample Type	Parameter	Units	Event 1 3/8/06	Event 2 3/15-16/06	Event 3 5/23-24/06
Grab	Conductivity (field)	µmhos/cm	29	NS	NS
	E. coli	mpn/100 ml	110	NS	NS
	Oil & Grease, Total	mg/L	< 5	NS	NS
	pH (field)	S.U.	6.6	NS	NS
	Temperature	Deg. C	7.9	NS	NS
Composite	Ammonia-Nitrogen	mg/L	0.078	0.059	0.16
	Nitrate-Nitrogen	mg/L	0.76	0.92	0.75
	Orthophosphate-Phosphorus Dissolved	mg/L	0.02	0.023	0.046
	Total Dissolved Solids	mg/L	38	54	83
	Total Phosphorus	mg/L	0.26	0.17	0.17
	Total Solids	mg/L	174	120	117
	Total Suspended Solids	mg/L	136	66	34
	Hardness, Total	mg CaCO3/L	29.5	29.7	42.1
	Arsenic, Total	µg/L	0.95	0.51	1.31
	Cadmium, Total	µg/L	0.33	0.22	0.22
	Chromium, Total	µg/L	8.01	3.95	3.07
	Copper, Total	µg/L	20.3	12.2	13.5
	Lead, Total	µg/L	21.4	12.3	13.4
	Silver, Total	µg/L	< 0.1	< 0.1	< 0.1
	Zinc, Total	µg/L	169	153	190
	Arsenic, Dissolved	µg/L	0.27	0.34	0.86
	Cadmium, Dissolved	µg/L	< 0.1	< 0.1	< 0.1
	Chromium, Dissolved	µg/L	< 0.4	< 0.4	0.3
	Copper, Dissolved	µg/L	2.99	2.55	5.2
	Lead, Dissolved	µg/L	0.15	0.15	0.26
	Silver, Dissolved	µg/L	< 0.1	< 0.1	< 0.1
	Zinc, Dissolved	µg/L	55.3	68.7	109

µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100ml = most probable number per 100 milliliters
S.U. = standard units
mg/L = milligrams per liter
mg CaCO3/L = milligrams calcium carbonate per liter
µg/L = micrograms per liter

Table 4B: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2005-06, Events 1-3
Additional Parameters: PCBs and PAHs

Analysis	Parameter	Event 1 3/8/06	Event 2 3/15-16/06	Event 3 5/23-24/06
PCBs	Aroclor 1016	< 0.01	< 0.013	< 0.049
	Aroclor 1221	< 0.01	< 0.013	< 0.049
	Aroclor 1232	< 0.01	< 0.013	< 0.049
	Aroclor 1242	< 0.01	< 0.013	< 0.049
	Aroclor 1248	< 0.01	< 0.013	< 0.049
	Aroclor 1254	< 0.01	< 0.013	< 0.049
	Aroclor 1260	< 0.01	< 0.013	< 0.049
PAHs	1-Methylnaphthalene	< 0.11	< 0.11	< 0.1
	2-Methylnaphthalene	< 0.14	< 0.15	< 0.13
	Acenaphthene	< 0.11	< 0.11	< 0.1
	Acenaphthylene	< 0.11	< 0.11	< 0.1
	Anthracene	< 0.11	< 0.11	< 0.1
	Benzo(a)anthracene	< 0.11	< 0.11	< 0.1
	Benzo(a)pyrene	< 0.11	< 0.23	< 0.2
	Benzo(g,h,i)perylene	< 0.11	< 0.11	< 0.1
	Benzofluoranthenes	< 0.21	< 0.23	< 0.2
	Chrysene	< 0.11	< 0.11	< 0.1
	Dibenzo(a,h)anthracene	< 0.11	< 0.11	< 0.1
	Fluoranthene	< 0.11	< 0.11	< 0.1
	Fluorene	< 0.11	< 0.11	< 0.1
	Indeno(1,2,3-cd)pyrene	< 0.11	< 0.11	< 0.1
	Naphthalene	< 0.11	< 0.11	< 0.1
	Phenanthrene	< 0.11	< 0.11	< 0.1
	Pyrene	< 0.11	< 0.11	< 0.1

all units in micrograms per liter (µg/L)

Table 4C: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2005-06, Events 1-3
Additional Parameters: Semi-Volatile Organic Compounds

Parameter	Event 1 3/8/06	Event 2 3/15-16/06	Event 3 5/23-24/06
1,2,4-Trichlorobenzene	< 2.1	< 2.3	< 2
1,2-Dichlorobenzene	< 2.1	< 2.3	< 2
1,3-Dichlorobenzene	< 2.1	< 2.3	< 2
1,4-Dichlorobenzene	< 2.1	< 2.3	< 2
2,4,5-Trichlorophenol	< 2.1	< 2.3	< 2
2,4,6-Trichlorophenol	< 2.1	< 3.4	< 3
2,4-Dichlorophenol	< 2.1	< 2.3	< 2
2,4-Dimethylphenol	< 11	< 11	< 10
2,4-Dinitrophenol	< 11	< 28	< 25
2,4-Dinitrotoluene	< 2.1	< 2.3	< 2
2,6-Dinitrotoluene	< 2.1	< 2.3	< 2
2-Chloronaphthalene	< 2.1	< 0.34	< 0.3
2-Chlorophenol	< 2.1	< 2.3	< 2
2-Methylphenol	< 2.1	< 2.3	< 2
2-Nitroaniline	< 2.1	< 2.3	< 2
2-Nitrophenol	< 2.1	< 2.3	< 2
3- & 4-Methylphenol	< 4.2	< 4.5	< 4
3,3'-Dichlorobenzidine	< 11	< 11	< 10
3-Nitroaniline	< 2.1	< 2.3	< 2
4,6-Dinitro-2-methylphenol	< 11	< 23	< 20
4-Bromophenylphenyl ether	< 2.1	< 2.3	< 2
4-Chloro-3-methylphenol	< 2.1	< 2.3	< 2
4-Chloroaniline	< 3.2	< 2.3	< 2
4-Chlorophenylphenyl ether	< 2.1	< 2.3	< 2
4-Nitroaniline	< 2.1	< 3.4	< 3
4-Nitrophenol	< 11	< 11	< 10
Benzoic acid	< 11	< 11	< 10
Benzyl alcohol	< 2.1	< 2.3	< 2
Benzyl butyl phthalate	< 3.2	< 3.4	< 3
Bis(2-chloroethoxy) methane	< 2.1	< 2.3	< 2
Bis(2-chloroethyl) ether	< 2.1	< 2.3	< 2
Bis(2-chloroisopropyl) ether	< 2.1	< 2.3	< 2
Bis(2-ethylhexyl) phthalate	< 16	< 17	< 15
Carbazole	< 2.1	< 2.3	< 2
Dibenzofuran	< 2.1	< 2.3	< 2
Diethyl phthalate	< 2.1	< 2.3	< 2
Dimethyl phthalate	< 2.1	< 2.3	< 2
Di-n-butyl phthalate	< 2.1	< 2.3	< 2
Di-n-octyl phthalate	< 2.1	< 2.3	< 2
Hexachlorobenzene	< 2.1	< 2.3	< 2
Hexachlorobutadiene	< 2.1	< 3.4	< 3
Hexachlorocyclopentadiene	< 11	< 11	< 10
Hexachloroethane	< 2.1	< 3.4	< 3
Isophorone	< 2.1	< 2.3	< 2
Nitrobenzene	< 2.1	< 2.3	< 2
N-Nitrosodi-n-propylamine	< 2.1	< 2.3	< 2
N-Nitrosodiphenylamine	< 2.1	< 2.3	< 2
Pentachlorophenol	< 2.1	< 4	< 3.5
Phenol	< 2.1	< 3.4	< 3

all units in micrograms per liter (µg/L)

ATTACHMENTS

WPCL Laboratory Analysis Reports
Chain-of-Custody Records

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060398** **Sample Collected:** 3/31/2006 18:05 **Sample Received:** 04/01/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AK02880
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJH

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.22	mg/L	0.02	EPA 350.1	04/05/06
NITRATE-NITROGEN	0.21	mg/L	0.10	EPA 300.0	04/02/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.060	mg/L	0.02	EPA 365.1	04/02/06
TOTAL DISSOLVED SOLIDS	33	mg/L	2	SM 2540 BD	04/03/06
TOTAL PHOSPHORUS	0.38	mg/L	0.03	EPA 365.4	04/06/06
TOTAL SOLIDS	89	mg/L	2	SM 2540 B	04/03/06
TOTAL SUSPENDED SOLIDS	56	mg/L	2	SM 2540 D	04/03/06
METALS					
HARDNESS, TOTAL	15.4	mg CaCO3/L	1.0	SM 2340 B CAL	04/05/06
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	2.96	µg/L	0.2	EPA 200.8	04/05/06
LEAD, DISSOLVED	0.175	µg/L	0.1	EPA 200.8	04/05/06
ZINC, DISSOLVED	29.5	µg/L	0.5	EPA 200.8	04/05/06
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	2.94	µg/L	0.4	EPA 200.8	04/05/06
COPPER	12.8	µg/L	0.2	EPA 200.8	04/05/06
LEAD	10.2	µg/L	0.1	EPA 200.8	04/05/06
ZINC	100	µg/L	0.5	EPA 200.8	04/05/06

End of Report for Sample ID: FO060398

Report Date: 10/10/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 4/1/06
Page: 1 of 1
Collected By: JM, MH

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

Aliquots composited on 3/31/06 @ 1805 - 4/1/06 @ 0416
☑ Sample Time recorded in PST
Churn splitter used to create composite sample.

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
FO 060398	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	4/1/06	0416	C	•	•	•	•	•			•	•	•	•				
	4900 NW KITTRIDGE AVE	CF19			C	•	•	•	•	•			•	•	•	•				

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McCann	Signature:	Signature:	Signature:
Printed Name: Jordan McCann	Printed Name:	Printed Name:	Printed Name:
Time: 1329	Time:	Time:	Time:
Date: 4/1/06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Kluch	Signature:	Signature:	Signature:
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name:
Time: 1329	Time:	Time:	Time:
Date: 4/1/06	Date:	Date:	Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060565** **Sample Collected:** 5/7/2006 17:14 **Sample Received:** 05/08/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE GRAB
Sample Point Code: M1G
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AK04127
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	19	µmhos/cm	1	SM 2510 B	05/08/06
pH (FIELD)	8.5	pH Units	0.1	SM 4500-H B	05/08/06
TEMPERATURE	13.6	Deg. C	0.1	SM 2550 B	05/08/06
MICROBIOLOGY					
E. COLI	330	MPN/100 ml	10	SM 9223 B	05/08/06
GENERAL					
OIL & GREASE, TOTAL	5.2	mg/L	5	EPA 1664	05/30/06

End of Report for Sample ID: FO060565

Report Date: 10/10/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 5/7/06
Page: 1 of 1
Collected By: JTM - MIG
~~MCK 5-9~~

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 060565	5241 NE 122ND AVE MANHOLE GRAB	M1G	5/7/06	1714	G	•	•		13.6	19	8.5
2											
3	4900 NW KITTRIDGE AVE (OF10)	OF10	5/7/06	1650	G	•	•		13.6	39	6.1
4											
5											
6											
7											
8											
9											
10											

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1317	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLann Date: 5/8/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1317	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: KRIS OBNNIS Date: 5/8/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland

Water Pollution Control Laboratory

6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060566** **Sample Collected:** 5/7/2006 15:39 **Sample Received:** 05/08/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AK04128
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJH

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.34	mg/L	0.02	EPA 350.1	05/11/06
NITRATE-NITROGEN	0.28	mg/L	0.10	EPA 300.0	05/08/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.075	mg/L	0.02	EPA 365.1	05/09/06
TOTAL DISSOLVED SOLIDS	16	mg/L	2	SM 2540 BD	05/09/06
TOTAL PHOSPHORUS	0.64	mg/L	0.03	EPA 365.4	05/12/06
TOTAL SOLIDS	248	mg/L	2	SM 2540 B	05/09/06
TOTAL SUSPENDED SOLIDS	232	mg/L	2	SM 2540 D	05/09/06
METALS					
HARDNESS, TOTAL	30.5	mg CaCO3/L	0.5	SM 2340 B CAL	05/09/06
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	5.15	µg/L	0.2	EPA 200.8	05/11/06
LEAD, DISSOLVED	0.37	µg/L	0.1	EPA 200.8	05/11/06
ZINC, DISSOLVED	26.7	µg/L	0.5	EPA 200.8	05/11/06
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	11.5	µg/L	0.4	EPA 200.8	05/11/06
COPPER	38.3	µg/L	0.2	EPA 200.8	05/11/06
LEAD	62.4	µg/L	0.1	EPA 200.8	05/11/06
ZINC	304	µg/L	0.5	EPA 200.8	05/11/06

End of Report for Sample ID: FO060566

Report Date: 10/10/06 **Validated By: Signature on File**

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Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/7/06

Page: 1 of 1

Collected By: WM. MTH

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

All quots collected 5/7/06 @ 1539 - 5/7/06@1844

☑ Sample Time recorded in PST

} Chain splitter used to create composite sample.

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
FO 060566	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	5/7/06	1539	C	•	•	•	•	•			•	•	•	•				
	4900 NW KITTRIDGE AVE (OF19)	OF19			C	•	•	•			•	•	•	•	•	•				

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1317	Time:	Time:	Time:
Printed Name: Jordan McClain	Printed Name:	Printed Name:	Printed Name:
Date: 5/8/06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1317	Time:	Time:	Time:
Printed Name: KRIS DENNIS	Printed Name:	Printed Name:	Printed Name:
Date: 5/8/06	Date:	Date:	Date:

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060673** **Sample Collected:** 5/23/2006 06:17 **Sample Received:** 05/25/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AK04681
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 0617 AND ENDING ON 05/24/06 @ 1901.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.26	mg/L	0.02	EPA 350.1	06/05/06
NITRATE-NITROGEN	0.34	mg/L	0.10	EPA 300.0	05/26/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.023	mg/L	0.02	EPA 365.1	05/26/06
TOTAL DISSOLVED SOLIDS	31	mg/L	2	SM 2540 BD	05/26/06
TOTAL PHOSPHORUS	0.26	mg/L	0.03	EPA 365.4	06/05/06
TOTAL SOLIDS	100	mg/L	2	SM 2540 B	05/26/06
TOTAL SUSPENDED SOLIDS	69	mg/L	2	SM 2540 D	05/26/06
METALS					
HARDNESS, TOTAL	18.5	mg CaCO3/L	0.5	SM 2340 B CAL	05/24/06
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	6.30	µg/L	0.2	EPA 200.8	05/27/06
LEAD, DISSOLVED	0.30	µg/L	0.1	EPA 200.8	05/27/06
ZINC, DISSOLVED	37.2	µg/L	0.5	EPA 200.8	05/27/06
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	4.83	µg/L	0.4	EPA 200.8	05/27/06
COPPER	17.9	µg/L	0.2	EPA 200.8	05/27/06
LEAD	24.4	µg/L	0.1	EPA 200.8	05/27/06
ZINC	115	µg/L	0.5	EPA 200.8	05/27/06

End of Report for Sample ID: FO060673

Report Date: 10/10/06 **Validated By: Signature on File**

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6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/25/06

Page: 1 of 1

Collected By: JTM, LAP, WCR, BAL

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

Aliquots taken OF19 5/23/06 @ 1513 – 5/24/06 @ 1526

☑ Sample Time recorded in PST

Chain Splitter Used for M1 5/23/06 @ 0617 – 5/24/06 @ 1901

Requested Analyses

PCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
FO 060673	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	5/24/06	1901	C	•	•	•	•	•			•	•	•	•				
FO 060674	4900 NW KITTRIDGE AVE (OF19)	OF19	5/24/06	1526	C	•	•	•			•	•	•	•	•	•	•	•	•	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Jordan McCann	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Rona Kinch	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060332** **Sample Collected:** 3/8/2006 16:35 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:

Report Page: Page 1 of 1
System ID: AK02282
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	29	µmhos/cm	1	SM 2510 B	03/08/06
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	03/08/06
TEMPERATURE	7.9	Deg. C	0.1	SM 2550 B	03/08/06
MICROBIOLOGY					
E. COLI	110	MPN/100 ml	1	SM 9223 B	03/09/06
GENERAL					
OIL & GREASE, TOTAL	<5.0	mg/L	5	EPA 1664	03/15/06

End of Report for Sample ID: FO060332

Report Date: 10/10/06 **Validated By: Signature on File**

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Portland, Oregon 97203-4552
(503) 823-5696

Chain-of-Custody

Bureau of Environmental Services

Collected By: JJM, WCP

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☑ Sample Time recorded in PST

Requested Analyses

	WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
1		5241 NE 122ND AVE MANHOLE 6145	MH6	3/8/2006	1130	G		•		11.8	154	5.8
2												
3	FO 060332	4900 NW KITTRIDGE AVE (OF19)	OF19	3/8/2006	1635	G	•	•		7.9	29	6.6
4												
5												
6												
7												
8												
9												
10												

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1522	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLean Date: 3/9/2006	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 1 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Comments:

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.078	mg/L	0.02	EPA 350.1	03/14/06
NITRATE-NITROGEN	0.76	mg/L	0.10	EPA 300.0	03/09/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.020	mg/L	0.02	EPA 365.1	03/10/06
TOTAL DISSOLVED SOLIDS	38	mg/L	2	SM 2540 BD	03/10/06
TOTAL PHOSPHORUS	0.26	mg/L	0.03	EPA 365.4	03/16/06
TOTAL SOLIDS	174	mg/L	2	SM 2540 B	03/10/06
TOTAL SUSPENDED SOLIDS	136	mg/L	2	SM 2540 D	03/10/06
METALS					
HARDNESS, TOTAL	29.5	mg CaCO3/L	0.5	SM 2340 B CAL	03/10/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.27	µg/L	0.1	EPA 200.8	03/09/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/09/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	03/09/06
COPPER, DISSOLVED	2.99	µg/L	0.2	EPA 200.8	03/09/06
LEAD, DISSOLVED	0.15	µg/L	0.1	EPA 200.8	03/09/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/09/06
ZINC, DISSOLVED	55.3	µg/L	0.5	EPA 200.8	03/09/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.95	µg/L	0.045	EPA 200.8	03/23/06
CADMIUM	0.33	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM	8.01	µg/L	0.4	EPA 200.8	03/23/06
COPPER	20.3	µg/L	0.2	EPA 200.8	03/23/06
LEAD	21.4	µg/L	0.1	EPA 200.8	03/23/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC	169	µg/L	0.5	EPA 200.8	03/23/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1221	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1232	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1242	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1248	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1254	<0.010	µg/L	0.010	EPA 8082	03/13/06

Report Date: 10/10/06 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 2 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Comments:

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.010	µg/L	0.010	EPA 8082	03/13/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	03/13/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(a)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzofluoranthenes	<0.21	µg/L	0.21	EPA 8270-SIM	03/13/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,2-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,3-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,4-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1-Methylnaphthalene	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
2,4,5-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4,6-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4-Dichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
2,4-Dinitrophenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
2,4-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,6-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Chloronaphthalene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Chlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Methylnaphthalene	<5.3	µg/L	5.3	EPA 8270-SIM	03/13/06

Report Date: 10/10/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 3 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Comments:

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Nitrophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
3- & 4-Methylphenol	<4.2	µg/L	4.2	EPA 8270-SIM	03/13/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270-SIM	03/13/06
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4,6-Dinitro-2-methylphenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
4-Bromophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Chloro-3-methylphenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Chloroaniline	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
4-Chlorophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Nitrophenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
Acenaphthene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Acenaphthylene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(a)anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(a)pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(g,h,i)perylene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzofluoranthenes	<11	µg/L	11	EPA 8270-SIM	03/13/06
Benzoic acid	<11	µg/L	11	EPA 8270-SIM	03/13/06
Benzyl alcohol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
Bis(2-chloroethoxy) methane	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-chloroethyl) ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-chloroisopropyl) ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270-SIM	03/13/06
Carbazole	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Chrysene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dibenzo(a,h)anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dibenzofuran	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Diethyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dimethyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Di-n-butyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Di-n-octyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Fluoranthene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06

Report Date: 10/10/06 **Validated By: Signature on File**

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6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

Report Page: Page 4 of 4

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorobutadiene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270-SIM	03/13/06
Hexachloroethane	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Indeno(1,2,3-cd)pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Isophorone	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Naphthalene	<5.3	µg/L	5.3	EPA 8270-SIM	03/13/06
Nitrobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
N-Nitrosodi-n-propylamine	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
N-Nitrosodiphenylamine	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Phenanthrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Phenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06

End of Report for Sample ID: FO060335

Report Date: 10/10/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/9/2006
Page: 1 of 1
Collected By: JJM, WCR

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST
First aliquot on 3/8/06 @ 1341, Last aliquot on 3/8/06 @ 2106

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
1	5241 NE 122ND AVE MANHOLE COMPOSITE	MTC			C	•	•	•					•	•	•	•				
2																				
FO 060335	4900 NW KITTRIDGE AVE (OF19)	OF19	3/8/06	1341	C	•	•	•			•	•	•	•	•	•	•	•	•	
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McLaun	Signature:	Signature:	Signature:
Time: 1522	Time:	Time:	Time:
Printed Name: Jordan McLaun	Printed Name:	Printed Name:	Printed Name:
Date: 3/9/2006	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC (pdx Harbor).xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.059	mg/L	0.02	EPA 350.1	03/20/06
NITRATE-NITROGEN	0.92	mg/L	0.10	EPA 300.0	03/17/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.023	mg/L	0.02	EPA 365.1	03/17/06
TOTAL DISSOLVED SOLIDS	54	mg/L	2	SM 2540 BD	03/17/06
TOTAL PHOSPHORUS	0.17	mg/L	0.03	EPA 365.4	03/24/06
TOTAL SOLIDS	120	mg/L	2	SM 2540 B	03/17/06
TOTAL SUSPENDED SOLIDS	66	mg/L	2	SM 2540 D	03/17/06
METALS					
HARDNESS, TOTAL	29.7	mg CaCO3/L	1.0	SM 2340 B CAL	03/22/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.34	µg/L	0.1	EPA 200.8	03/23/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	03/23/06
COPPER, DISSOLVED	2.55	µg/L	0.2	EPA 200.8	03/23/06
LEAD, DISSOLVED	0.15	µg/L	0.1	EPA 200.8	03/23/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC, DISSOLVED	68.7	µg/L	0.5	EPA 200.8	03/23/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.51	µg/L	0.045	EPA 200.8	03/23/06
CADMIUM	0.22	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM	3.95	µg/L	0.4	EPA 200.8	03/23/06
COPPER	12.2	µg/L	0.2	EPA 200.8	03/23/06
LEAD	12.3	µg/L	0.1	EPA 200.8	03/23/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC	153	µg/L	0.5	EPA 200.8	03/23/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1221	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1232	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1242	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1248	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1254	<0.013	µg/L	0.013	EPA 8082	03/22/06

Report Date: 10/10/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.013	µg/L	0.013	EPA 8082	03/22/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
2-Methylnaphthalene	<0.15	µg/L	0.15	EPA 8270-SIM	03/22/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzo(a)pyrene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzofluoranthenes	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,2-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,3-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,4-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1-Methylnaphthalene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
2,4,5-Trichlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,4,6-Trichlorophenol	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
2,4-Dichlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270-SIM	03/22/06
2,4-Dinitrophenol	<28	µg/L	28	EPA 8270-SIM	03/22/06
2,4-Dinitrotoluene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,6-Dinitrotoluene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Chloronaphthalene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
2-Chlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270-SIM	03/22/06

Report Date: 10/10/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 3 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Comments:

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Nitroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Nitrophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
3- & 4-Methylphenol	<4.5	µg/L	4.5	EPA 8270-SIM	03/22/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270-SIM	03/22/06
3-Nitroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4,6-Dinitro-2-methylphenol	<23	µg/L	23	EPA 8270-SIM	03/22/06
4-Bromophenylphenyl ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chloro-3-methylphenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chloroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chlorophenylphenyl ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Nitroaniline	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
4-Nitrophenol	<11	µg/L	11	EPA 8270-SIM	03/22/06
Acenaphthene	<0.57	µg/L	0.57	EPA 8270-SIM	03/22/06
Acenaphthylene	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Anthracene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(a)anthracene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Benzo(a)pyrene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(g,h,i)perylene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Benzofluoranthenes	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Benzoic acid	<11	µg/L	11	EPA 8270-SIM	03/22/06
Benzyl alcohol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Benzyl butyl phthalate	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Bis(2-chloroethoxy) methane	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-chloroethyl) ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-chloroisopropyl) ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-ethylhexyl) phthalate	<17	µg/L	17	EPA 8270-SIM	03/22/06
Carbazole	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Chrysene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Dibenzo(a,h)anthracene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Dibenzofuran	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Diethyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Dimethyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Di-n-butyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Di-n-octyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Fluoranthene	<0.28	µg/L	0.28	EPA 8270-SIM	03/22/06

Report Date: 10/10/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Hexachlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Hexachlorobutadiene	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270-SIM	03/22/06
Hexachloroethane	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Indeno(1,2,3-cd)pyrene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Isophorone	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Naphthalene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Nitrobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
N-Nitrosodi-n-propylamine	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
N-Nitrosodiphenylamine	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Pentachlorophenol	<4.0	µg/L	4.0	EPA 8270-SIM	03/22/06
Phenanthrene	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Phenol	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Pyrene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06

End of Report for Sample ID: FO060362

Report Date: 10/10/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/17/06
Page: 1 of
Collected By: JDM, RCB

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST
3/16/06 @ 2232 — 3/16/06 @ 0848

Requested Analyses

	WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
1		MANHOLE COMPOSITE	M1C			C	•	•	•	•	•										
2																					
3	FO 060362	4900 NW KITTRIDGE AVE (OF19)	OF19			C	•	•	•			•	•	•	•	•	•	•	•	•	
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McLaun Time: 1050	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLaun Date: 3/17/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Kinch Time: 1050	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kinch Date: 3/17/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 1 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.16	mg/L	0.02	EPA 350.1	06/05/06
NITRATE-NITROGEN	0.75	mg/L	0.10	EPA 300.0	05/26/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.046	mg/L	0.02	EPA 365.1	05/26/06
TOTAL DISSOLVED SOLIDS	83	mg/L	2	SM 2540 BD	05/26/06
TOTAL PHOSPHORUS	0.17	mg/L	0.03	EPA 365.4	06/05/06
TOTAL SOLIDS	117	mg/L	2	SM 2540 B	05/26/06
TOTAL SUSPENDED SOLIDS	34	mg/L	2	SM 2540 D	05/26/06
METALS					
HARDNESS, TOTAL	42.1	mg CaCO3/L	0.5	SM 2340 B CAL	05/24/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.86	µg/L	0.1	EPA 200.8	05/27/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	05/27/06
CHROMIUM, DISSOLVED	0.30	µg/L	0.4	EPA 200.8	05/27/06
COPPER, DISSOLVED	5.20	µg/L	0.2	EPA 200.8	05/27/06
LEAD, DISSOLVED	0.26	µg/L	0.1	EPA 200.8	05/27/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	05/27/06
ZINC, DISSOLVED	109	µg/L	0.5	EPA 200.8	05/27/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.31	µg/L	0.1	EPA 200.8	05/27/06
CADMIUM	0.22	µg/L	0.1	EPA 200.8	05/27/06
CHROMIUM	3.07	µg/L	0.4	EPA 200.8	05/27/06
COPPER	13.5	µg/L	0.2	EPA 200.8	05/27/06
LEAD	13.4	µg/L	0.1	EPA 200.8	05/27/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	05/27/06
ZINC	190	µg/L	0.5	EPA 200.8	05/27/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1221	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1232	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1242	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1248	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1254	<0.049	µg/L	0.049	EPA 8082	05/31/06

Report Date: 10/10/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.049	µg/L	0.049	EPA 8082	05/31/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
2-Methylnaphthalene	<0.13	µg/L	0.13	EPA 8270-SIM	05/31/06
Acenaphthene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Acenaphthylene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzo(a)anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(g,h,i)perylene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzofluoranthenes	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Chrysene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Dibenzo(a,h)anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Fluoranthene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Fluorene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Indeno(1,2,3-cd)pyrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Naphthalene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Phenanthrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Pyrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,2-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,3-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,4-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1-Methylnaphthalene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
2,4,5-Trichlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,4,6-Trichlorophenol	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
2,4-Dichlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,4-Dimethylphenol	<10	µg/L	10	EPA 8270-SIM	05/31/06
2,4-Dinitrophenol	<25	µg/L	25	EPA 8270-SIM	05/31/06
2,4-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,6-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Chloronaphthalene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
2-Chlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Methylnaphthalene	<1.0	µg/L	1.0	EPA 8270-SIM	05/31/06

Report Date: 10/10/06 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Nitroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Nitrophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
3- & 4-Methylphenol	<4.0	µg/L	4.0	EPA 8270-SIM	05/31/06
3,3'-Dichlorobenzidine	<10	µg/L	10	EPA 8270-SIM	05/31/06
3-Nitroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4,6-Dinitro-2-methylphenol	<20	µg/L	20	EPA 8270-SIM	05/31/06
4-Bromophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chloro-3-methylphenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chloroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chlorophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Nitroaniline	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
4-Nitrophenol	<10	µg/L	10	EPA 8270-SIM	05/31/06
Acenaphthene	<0.50	µg/L	0.50	EPA 8270-SIM	05/31/06
Acenaphthylene	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Anthracene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(a)anthracene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(g,h,i)perylene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Benzofluoranthenes	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Benzoic acid	<10	µg/L	10	EPA 8270-SIM	05/31/06
Benzyl alcohol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Benzyl butyl phthalate	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Bis(2-chloroethoxy) methane	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-chloroethyl) ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-chloroisopropyl) ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-ethylhexyl) phthalate	<15	µg/L	15	EPA 8270-SIM	05/31/06
Carbazole	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Chrysene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Dibenzo(a,h)anthracene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Dibenzofuran	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Diethyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Dimethyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Di-n-butyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Di-n-octyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Fluoranthene	<0.25	µg/L	0.25	EPA 8270-SIM	05/31/06

Report Date: 10/10/06 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 4 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Hexachlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Hexachlorobutadiene	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Hexachlorocyclopentadiene	<10	µg/L	10	EPA 8270-SIM	05/31/06
Hexachloroethane	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Indeno(1,2,3-cd)pyrene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Isophorone	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Naphthalene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Nitrobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
N-Nitrosodi-n-propylamine	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
N-Nitrosodiphenylamine	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Pentachlorophenol	<3.5	µg/L	3.5	EPA 8270-SIM	05/31/06
Phenanthrene	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Phenol	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Pyrene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06

End of Report for Sample ID: FO060674

Report Date: 10/10/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/25/06

Page: 1 of 1

Collected By: JTM, LAP, WCR, BAL

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

Aliquots taken OF19 5/23/06 @ 1513 – 5/24/06 @ 1526

☑ Sample Time recorded in PST

Chain Splitter Used for M1 5/23/06 @ 0617 – 5/24/06 @ 1901

Requested Analyses

PCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
FO 060673	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	5/24/06	1901	C	•	•	•	•	•			•	•	•	•				
FO 060674	4900 NW KITTRIDGE AVE (OF19)	OF19	5/24/06	1526	C	•	•	•			•	•	•	•	•	•	•	•	•	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Jordan McCann	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Rona Kinch	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:

Additional Documentation for Outfall 19 MS4 Monitoring, FY 2005 – 2006 (Events 1 – 3):

- **Trigger Volume Calculation Worksheets**
- **Daily Field Reports**
- **Composite Bottle Data Sheets**
- **WPCL and Contracting Laboratory Reports**

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name:	NPDES Stormwater Mon	**Project #:**	4010.001	**Storm Event Date:**	2/22-23/2006

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.45	0.0375	380	16552800	620730	0.27	167597	8	3	6983

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.8	0.0667	380	16552800	1103520	0.27	297950	8	3	12415

0.7

10863

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of

Project NPDES Stormwtr Mon
Location OF 19 NW Kittridge : Front
Subject Event 1 FY05-06

Project No. 4010.001
Date 3/8/2006, 3/9/2006
By JTM, WCR

1725 Arrived on site to setup for 0.8" of anticipated rainfall (will calculate runoff trigger volume based on 0.7" → 10863cf.) Removed bottles filled since yesterday's visit (@ 1340 on 3/7/06). Pump/Sampler tubing was decon'd yesterday by the following wash/rinse: non-Phosphate soapy, tap water, nitric solution, DI water, acetone solution, DI water, Ultrapure DI water.
- Uploaded flow meter, reprogrammed w/ updated trigger volume
- swapped meter/sampler batteries
- staged sampler and left site.

1630 Arrived on site after 0.31" of rain since previous visit. Sampler filled 5 bottles, missed last aliquot @ 1635 in bottle 5. Swapped out bottles 1-5 w/ bottles 9-13. Collected grab samples - OG, ecoli, field parameters @ 1635
1656 Left site

3/9/06
1400 Arrived on site after ~ 0.60" of rainfall since visit yesterday. Sampler display reads "program complete". Sampler filled all 8 bottles. Uploaded FM - data appear accurate, meter paced the sampler perfectly. Removed sampler + bottles to return to WPCL
FM filename 03091403.GM4
1415 Left site

@ WPCL Submitted bottles 1-8 composited on 3/8/06. Storm accumulation approximately 0.34" - 0.35"

FO 060332 grab FO 060333 composite

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

 1 JJM

Station ID # _____ Field Sampling Crew JJM, WCR

Date 3/8-9/2006 Time (3/8) 1630 (3/9) 1400

Grab Sample Date and Time 3/8/2006 @ 1635

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	1800mL, turbid	
2	" , "	
3	" , "	
4	" , less turbid	
5	1200mL, turbid	missed trigger @ 1635 - reason unclear?
6	1800mL, turbid	
7	" , less turbid	
8	" , less turbid	

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	1341	3/8/06			
2	1405				
3	1421				
4	1434				
5	1443				
6	1451				
7	1459				
8	1506				
9	1514				
10	1521				
11	1530				
12	1539				

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
13	1550				
14	1606				
15	1620				
16	1635		No Liquid Detected!		
17	1645				
18	1705				
19	1736				
20	1810				
21	1839				
22	1920				
23	2008				
24	2106				

Comments Submitted bottles 1-8, discarded bottles 9-13 which were mostly composited on 3/9/06.

FO 060332 grab

FO 060333 composite Churn splitter was not used to composite due to the presence of organics on the analyte list. A teflon lined churn splitter may suffice for future events.

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.078	mg/L	0.02	EPA 350.1	03/14/06
NITRATE-NITROGEN	0.76	mg/L	0.10	EPA 300.0	03/09/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.020	mg/L	0.02	EPA 365.1	03/10/06
TOTAL DISSOLVED SOLIDS	38	mg/L	2	SM 2540 BD	03/10/06
TOTAL PHOSPHORUS	0.26	mg/L	0.03	EPA 365.4	03/16/06
TOTAL SOLIDS	174	mg/L	2	SM 2540 B	03/10/06
TOTAL SUSPENDED SOLIDS	136	mg/L	2	SM 2540 D	03/10/06
METALS					
HARDNESS, TOTAL	29.5	mg CaCO3/L	0.5	SM 2340 B CAL	03/10/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.27	µg/L	0.1	EPA 200.8	03/09/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/09/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	03/09/06
COPPER, DISSOLVED	2.99	µg/L	0.2	EPA 200.8	03/09/06
LEAD, DISSOLVED	0.15	µg/L	0.1	EPA 200.8	03/09/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/09/06
ZINC, DISSOLVED	55.3	µg/L	0.5	EPA 200.8	03/09/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.95	µg/L	0.045	EPA 200.8	03/23/06
CADMIUM	0.33	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM	8.01	µg/L	0.4	EPA 200.8	03/23/06
COPPER	20.3	µg/L	0.2	EPA 200.8	03/23/06
LEAD	21.4	µg/L	0.1	EPA 200.8	03/23/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC	169	µg/L	0.5	EPA 200.8	03/23/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1221	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1232	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1242	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1248	<0.010	µg/L	0.010	EPA 8082	03/13/06
Aroclor 1254	<0.010	µg/L	0.010	EPA 8082	03/13/06

Report Date: 08/03/06 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 2 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Comments:

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.010	µg/L	0.010	EPA 8082	03/13/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	03/13/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(a)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Benzofluoranthenes	<0.21	µg/L	0.21	EPA 8270-SIM	03/13/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/13/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,2-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,3-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1,4-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
1-Methylnaphthalene	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
2,4,5-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4,6-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4-Dichlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
2,4-Dinitrophenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
2,4-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2,6-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Chloronaphthalene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Chlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Methylnaphthalene	<5.3	µg/L	5.3	EPA 8270-SIM	03/13/06

Report Date: 08/03/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
2-Nitrophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
3- & 4-Methylphenol	<4.2	µg/L	4.2	EPA 8270-SIM	03/13/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270-SIM	03/13/06
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4,6-Dinitro-2-methylphenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
4-Bromophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Chloro-3-methylphenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Chloroaniline	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
4-Chlorophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Nitroaniline	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
4-Nitrophenol	<11	µg/L	11	EPA 8270-SIM	03/13/06
Acenaphthene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Acenaphthylene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(a)anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(a)pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzo(g,h,i)perylene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzofluoranthenes	<11	µg/L	11	EPA 8270-SIM	03/13/06
Benzoic acid	<11	µg/L	11	EPA 8270-SIM	03/13/06
Benzyl alcohol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270-SIM	03/13/06
Bis(2-chloroethoxy) methane	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-chloroethyl) ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-chloroisopropyl) ether	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270-SIM	03/13/06
Carbazole	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Chrysene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dibenzo(a,h)anthracene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dibenzofuran	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Diethyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Dimethyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Di-n-butyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Di-n-octyl phthalate	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Fluoranthene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06

Report Date: 08/03/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060335** **Sample Collected:** 3/8/2006 13:41 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02284
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorobutadiene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270-SIM	03/13/06
Hexachloroethane	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Indeno(1,2,3-cd)pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Isophorone	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Naphthalene	<5.3	µg/L	5.3	EPA 8270-SIM	03/13/06
Nitrobenzene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
N-Nitrosodi-n-propylamine	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
N-Nitrosodiphenylamine	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Pentachlorophenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Phenanthrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Phenol	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06
Pyrene	<2.1	µg/L	2.1	EPA 8270-SIM	03/13/06

End of Report for Sample ID: FO060335

Report Date: 08/03/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/9/2006
Page: 1 of 1
Collected By: JJM, WCR

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST
First aliquot on 3/8/06 @ 1341, Last aliquot on 3/8/06 @ 2106

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
1	5241 NE 122ND AVE MANHOLE COMPOSITE	MTC			C	•	•	•					•	•	•	•				
2																				
FO 060335	4900 NW KITTRIDGE AVE (OF19)	OF19	3/8/06	1341	C	•	•	•			•	•	•	•	•	•	•	•	•	
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McLaun	Signature:	Signature:	Signature:
Time: 1522	Time:	Time:	Time:
Printed Name: Jordan McLaun	Printed Name:	Printed Name:	Printed Name:
Date: 3/9/2006	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC (pdx Harbor).xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060332** **Sample Collected:** 3/8/2006 16:35 **Sample Received:** 03/09/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Comments:

Report Page: Page 1 of 1

System ID: AK02282
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/WCR

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	29	µmhos/cm	1	SM 2510 B	03/08/06
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	03/08/06
TEMPERATURE	7.9	Deg. C	0.1	SM 2550 B	03/08/06
MICROBIOLOGY					
E. COLI	110	MPN/100 ml	1	SM 9223 B	03/09/06
GENERAL					
OIL & GREASE, TOTAL	<5.0	mg/L	5	EPA 1664	03/15/06

End of Report for Sample ID: FO060332

Report Date: 08/03/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

Chain-of-Custody

Bureau of Environmental Services

Collected By: JJM, WCP

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☑ Sample Time recorded in PST

Requested Analyses

	WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
1		5241 NE 122ND AVE MANHOLE 6145	MH6	3/8/2006	1130	G		•		11.8	154	5.8
2												
3	FO 060332	4900 NW KITTRIDGE AVE (OF19)	OF19	3/8/2006	1635	G	•	•		7.9	29	6.6
4												
5												
6												
7												
8												
9												
10												

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1522	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLean Date: 3/9/2006	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

ANALYTICAL REPORT

Job Number: 580-1816-1

Job Description: Portland Harbor Inline Samp

For:
City of Portland BES
6543 N. Burlington Ave
Portland, OR 97203

Attention: Atina Casas

Heather Curbow
Project Mgmt. Assistant
hcurbow@stl-inc.om
03/28/2006

Project Manager: Tom Coyner

STL Seattle is a part of Severn Trent Laboratories, Inc.

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Case Narrative for job: 580-J1816-1

Date: 03/28/2006

Method: 8270C
Batch: 580-4734

Several analytes in the LCS and LCSD analysis had recoveries within the QC limit range, however the relative percent difference (RPD) for both was above the QC RPD limit. The associated sample analysis results were non detect for these analytes. No further action was taken.

8082 Polychlorinated
Batch: 580-4740

Recovery of surrogate compound DCB Decachlorobiphenyl was below the lower QC limit in the sample analysis. The other surrogate was within range and all QC analyses were within QC limits. No further action was taken

SAMPLE SUMMARY

Client: City of Portland BES

Job Number: 580-1816-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-1816-1	P6C0464-01	Water	03/13/2006 2359	03/14/2006 1100

Client: City of Portland BES | Job Number: 580-1816-1

Client Sample ID: **P6C0464-01**

Lab Sample ID: 580-1816-1 | Date Sampled: 03/13/2006 2359
Client Matrix: Water | Date Received: 03/14/2006 1100

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-4814 | Instrument ID: Agilent 5975 Inert
Preparation: 3510C | Prep Batch: 580-4756 | Lab File ID: ak003394.D
Dilution: 1.0 | Initial Weight/Volume: 950 mL
Date Analyzed: 03/16/2006 1505 | Final Weight/Volume: 10 mL
Date Prepared: 03/15/2006 1302 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.010	J	0.0063	0.11
2-Methylnaphthalene	ND		0.0095	0.14
1-Methylnaphthalene	ND		0.034	0.11
Acenaphthylene	ND		0.0042	0.11
Acenaphthene	0.0045	J	0.0032	0.11
Fluorene	ND		0.0084	0.11
Phenanthrene	0.023	J	0.0032	0.11
Anthracene	0.0088	J	0.0084	0.11
Fluoranthene	0.063	J	0.0095	0.11
Pyrene	0.072	J	0.014	0.11
Benzo[a]anthracene	0.017	J	0.0095	0.11
Chrysene	0.034	J	0.0095	0.11
Benzofluoranthene	0.045	J	0.033	0.21
Benzo[a]pyrene	ND		0.063	0.11
Indeno[1,2,3-cd]pyrene	0.016	J	0.016	0.11
Dibenz(a,h)anthracene	ND		0.013	0.11
Benzo[g,h,i]perylene	0.025	J	0.019	0.11

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	79	34 - 146
2-Fluorobiphenyl	65	35 - 143
Terphenyl-d14	71	35 - 166

Client: City of Portland BES

Job Number: 580-1816-1

Client Sample ID: **P6C0464-01**

Lab Sample ID: 580-1816-1
Client Matrix: Water

Date Sampled: 03/13/2006 2359
Date Received: 03/14/2006 1100

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/15/2006 1823
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003363.D
Initial Weight/Volume: 950 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.46	2.1
Bis(2-chloroethyl)ether	ND		0.80	2.1
2-Chlorophenol	ND		0.64	2.1
1,3-Dichlorobenzene	ND		0.54	2.1
1,4-Dichlorobenzene	ND		0.82	2.1
Benzyl alcohol	ND		0.51	2.1
1,2-Dichlorobenzene	ND		0.68	2.1
2-Methylphenol	ND		0.66	2.1
Bis(2-chloroisopropyl) ether	ND		0.70	2.1
3 & 4 Methylphenol	ND		0.31	4.2
N-Nitrosodi-n-propylamine	ND		1.3	2.1
Hexachloroethane	ND		0.69	2.1
Nitrobenzene	ND		0.64	2.1
Isophorone	ND		0.62	2.1
2-Nitrophenol	ND		0.59	2.1
2,4-Dimethylphenol	ND		0.67	11
Benzoic acid	ND		1.1	11
Bis(2-chloroethoxy)methane	ND		0.63	2.1
2,4-Dichlorophenol	ND		0.73	2.1
1,2,4-Trichlorobenzene	ND		0.47	2.1
Naphthalene	ND		0.61	0.53
4-Chloroaniline	ND		0.90	3.2
Hexachlorobutadiene	ND		0.47	2.1
4-Chloro-3-methylphenol	ND		0.55	2.1
2-Methylnaphthalene	ND		1.1	0.53
Hexachlorocyclopentadiene	ND		0.53	11
2,4,6-Trichlorophenol	ND		0.81	2.1
2,4,5-Trichlorophenol	ND		0.84	2.1
2-Chloronaphthalene	ND		0.59	0.21
2-Nitroaniline	ND		0.45	2.1
Dimethyl phthalate	0.50	J	0.49	2.1
Acenaphthylene	ND		0.74	0.21
2,6-Dinitrotoluene	ND		0.56	2.1
3-Nitroaniline	ND		0.76	2.1
Acenaphthene	ND		0.76	0.21
2,4-Dinitrophenol	ND		3.9	11
4-Nitrophenol	ND		1.5	11
Dibenzofuran	ND		0.49	2.1
2,4-Dinitrotoluene	ND		0.51	2.1
Diethyl phthalate	ND		0.64	2.1
4-Chlorophenyl phenyl ether	ND		0.95	2.1
Fluorene	ND		0.64	0.21
4-Nitroaniline	ND		1.1	2.1

Client: City of Portland BES

Job Number: 580-1816-1

Client Sample ID: **P6C0464-01**

Lab Sample ID: 580-1816-1
Client Matrix: Water

Date Sampled: 03/13/2006 2359
Date Received: 03/14/2006 1100

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/15/2006 1823
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003363.D
Initial Weight/Volume: 950 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		2.5	11
N-Nitrosodiphenylamine	ND		0.61	2.1
4-Bromophenyl phenyl ether	ND		0.55	2.1
Hexachlorobenzene	ND		0.38	2.1
Pentachlorophenol	ND		0.65	2.1
Phenanthrene	ND		0.58	0.21
Anthracene	ND		0.46	0.21
Di-n-butyl phthalate	ND		1.0	2.1
Fluoranthene	ND		0.42	0.21
Pyrene	ND		0.43	0.21
Butyl benzyl phthalate	1.4	J	0.68	3.2
3,3'-Dichlorobenzidine	ND		2.6	11
Benzo[a]anthracene	ND		0.50	0.21
Chrysene	ND		0.58	0.21
Bis(2-ethylhexyl) phthalate	7.4	J	0.65	16
Di-n-octyl phthalate	ND		0.47	2.1
Benzofluoranthene	ND		0.80	1.1
Benzo[a]pyrene	ND		0.051	0.21
Indeno[1,2,3-cd]pyrene	ND	*	0.43	0.21
Dibenz(a,h)anthracene	ND	*	0.35	0.21
Benzo[g,h,i]perylene	ND	*	0.27	0.21
Carbazole	ND		0.52	2.1
1-Methylnaphthalene	ND		0.79	3.2

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	39	10 - 120
Phenol-d5	21	10 - 102
Nitrobenzene-d5	83	34 - 146
2-Fluorobiphenyl	97	35 - 143
2,4,6-Tribromophenol	82	29 - 151
Terphenyl-d14	91	35 - 166

Client: City of Portland BES

Job Number: 580-1816-1

Client Sample ID: **P6C0464-01**

Lab Sample ID: 580-1816-1
Client Matrix: Water

Date Sampled: 03/13/2006 2359
Date Received: 03/14/2006 1100

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/21/2006 0735
Date Prepared: 03/15/2006 0942

Analysis Batch: 580-5077
Prep Batch: 580-4740

Instrument ID: 6890N
Lab File ID: ECD17503.D
Initial Weight/Volume: 965 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.0023	0.010
PCB-1221	ND		0.0023	0.010
PCB-1232	ND		0.0023	0.010
PCB-1242	ND		0.0023	0.010
PCB-1248	ND		0.0023	0.010
PCB-1254	ND		0.0025	0.010
PCB-1260	ND		0.0025	0.010

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	60		32 - 134
DCB Decachlorobiphenyl	41	*	55 - 128

Client: City of Portland BES

Job Number: 580-1816-1

Method Blank - Batch: 580-4734

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4734/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1646
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003359.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.44	2.0
Bis(2-chloroethyl)ether	ND		0.76	2.0
2-Chlorophenol	ND		0.60	2.0
1,3-Dichlorobenzene	ND		0.51	2.0
1,4-Dichlorobenzene	ND		0.78	2.0
Benzyl alcohol	ND		0.49	2.0
1,2-Dichlorobenzene	ND		0.65	2.0
2-Methylphenol	ND		0.63	2.0
Bis(2-chloroisopropyl) ether	ND		0.67	2.0
3 & 4 Methylphenol	ND		0.30	4.0
N-Nitrosodi-n-propylamine	ND		1.3	2.0
Hexachloroethane	ND		0.66	2.0
Nitrobenzene	ND		0.61	2.0
Isophorone	ND		0.59	2.0
2-Nitrophenol	ND		0.56	2.0
2,4-Dimethylphenol	ND		0.64	10
Benzoic acid	ND		1.0	10
Bis(2-chloroethoxy)methane	ND		0.59	2.0
2,4-Dichlorophenol	ND		0.69	2.0
1,2,4-Trichlorobenzene	ND		0.44	2.0
Naphthalene	ND		0.58	0.50
4-Chloroaniline	ND		0.85	3.0
Hexachlorobutadiene	ND		0.45	2.0
4-Chloro-3-methylphenol	ND		0.52	2.0
2-Methylnaphthalene	ND		1.1	0.50
Hexachlorocyclopentadiene	ND		0.50	10
2,4,6-Trichlorophenol	ND		0.77	2.0
2,4,5-Trichlorophenol	ND		0.79	2.0
2-Chloronaphthalene	ND		0.57	0.20
2-Nitroaniline	ND		0.42	2.0
Dimethyl phthalate	ND		0.47	2.0
Acenaphthylene	ND		0.71	0.20
2,6-Dinitrotoluene	ND		0.54	2.0
3-Nitroaniline	ND		0.72	2.0
Acenaphthene	ND		0.72	0.20
2,4-Dinitrophenol	ND		3.7	10
4-Nitrophenol	ND		1.4	10
Dibenzofuran	ND		0.47	2.0
2,4-Dinitrotoluene	ND		0.48	2.0
Diethyl phthalate	ND		0.61	2.0
4-Chlorophenyl phenyl ether	ND		0.91	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Method Blank - Batch: 580-4734

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4734/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1646
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003359.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.61	0.20
4-Nitroaniline	ND		1.1	2.0
4,6-Dinitro-2-methylphenol	ND		2.4	10
N-Nitrosodiphenylamine	ND		0.58	2.0
4-Bromophenyl phenyl ether	ND		0.53	2.0
Hexachlorobenzene	ND		0.36	2.0
Pentachlorophenol	ND		0.62	2.0
Phenanthrene	ND		0.55	0.20
Anthracene	ND		0.44	0.20
Di-n-butyl phthalate	ND		0.97	2.0
Fluoranthene	ND		0.40	0.20
Pyrene	ND		0.40	0.20
Butyl benzyl phthalate	ND		0.65	3.0
3,3'-Dichlorobenzidine	ND		2.5	10
Benzo[a]anthracene	ND		0.48	0.20
Chrysene	ND		0.55	0.20
Bis(2-ethylhexyl) phthalate	ND		0.62	15
Di-n-octyl phthalate	ND		0.44	2.0
Benzofluoranthene	ND		0.76	1.0
Benzo[a]pyrene	ND		0.048	0.20
Indeno[1,2,3-cd]pyrene	ND		0.41	0.20
Dibenz(a,h)anthracene	ND		0.34	0.20
Benzo[g,h,i]perylene	ND		0.26	0.20
Carbazole	ND		0.49	2.0
1-Methylnaphthalene	ND		0.75	3.0

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	50	10 - 120
Phenol-d5	27	10 - 102
Nitrobenzene-d5	89	34 - 146
2-Fluorobiphenyl	102	35 - 143
2,4,6-Tribromophenol	67	29 - 151
Terphenyl-d14	84	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4734

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4734/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1710
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003360.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4734/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1734
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003361.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	31	33	10 - 91	6	51		
Bis(2-chloroethyl)ether	95	96	45 - 135	1	50		
2-Chlorophenol	90	90	32 - 144	0	25		
1,3-Dichlorobenzene	102	99	45 - 135	2	50		
1,4-Dichlorobenzene	106	102	36 - 147	4	32		
Benzyl alcohol	53	57	20 - 150	7	50		
1,2-Dichlorobenzene	103	100	45 - 135	2	50		
2-Methylphenol	80	79	44 - 113	2	50		
3 & 4 Methylphenol	69	70	27 - 114	1	50		
N-Nitrosodi-n-propylamine	92	86	44 - 149	7	48		
Hexachloroethane	111	104	45 - 135	6	50		
Nitrobenzene	91	93	45 - 135	3	50		
Isophorone	85	86	45 - 135	2	50		
2-Nitrophenol	95	88	20 - 150	8	50		
2,4-Dimethylphenol	97	98	53 - 133	1	50	J	J
Benzoic acid	99	99	20 - 150	1	50		
Bis(2-chloroethoxy)methane	98	94	45 - 135	4	50		
2,4-Dichlorophenol	97	95	20 - 150	2	50		
1,2,4-Trichlorobenzene	106	102	39 - 143	3	28		
Naphthalene	104	104	42 - 129	0	32		
4-Chloroaniline	102	97	45 - 135	5	50		
Hexachlorobutadiene	103	103	45 - 135	0	50		
4-Chloro-3-methylphenol	92	92	32 - 150	0	33		
2-Methylnaphthalene	98	96	40 - 141	2	30		
Hexachlorocyclopentadiene	91	73	45 - 135	21	50	J	J
2,4,6-Trichlorophenol	103	93	20 - 150	11	50		
2,4,5-Trichlorophenol	99	98	20 - 150	1	50		
2-Chloronaphthalene	107	104	34 - 144	3	50		
2-Nitroaniline	97	86	45 - 135	12	50		
Dimethyl phthalate	98	98	45 - 135	0	50		
Acenaphthylene	105	102	46 - 128	3	45		
2,6-Dinitrotoluene	103	100	45 - 135	3	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4734

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4734/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1710
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003360.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4734/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1734
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003361.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
3-Nitroaniline	118	102	45 - 135	15	50		
Acenaphthene	106	102	50 - 145	4	27		
2,4-Dinitrophenol	84	55	20 - 150	41	50	J	J
4-Nitrophenol	42	35	10 - 111	18	59	J	J
Dibenzofuran	103	98	60 - 120	5	50		
2,4-Dinitrotoluene	93	84	41 - 143	10	35		
Diethyl phthalate	88	87	45 - 135	1	50		
4-Chlorophenyl phenyl ether	102	99	45 - 135	3	50		
Fluorene	107	100	46 - 143	6	29		
4-Nitroaniline	104	75	45 - 135	32	50		
4,6-Dinitro-2-methylphenol	86	52	45 - 135	49	50	J	J
4-Bromophenyl phenyl ether	100	98	45 - 135	2	50		
Hexachlorobenzene	106	107	45 - 135	0	50		
Pentachlorophenol	77	52	10 - 160	38	67		
Phenanthrene	103	99	55 - 132	4	24		
Anthracene	106	98	51 - 134	8	28		
Di-n-butyl phthalate	95	90	45 - 135	5	50		
Fluoranthene	107	92	60 - 131	15	22		
Pyrene	112	93	48 - 157	19	38		
Butyl benzyl phthalate	91	114	45 - 135	23	50		
3,3'-Dichlorobenzidine	109	75	45 - 135	37	50		
Benzo[a]anthracene	102	95	56 - 138	7	29		
Chrysene	115	106	57 - 139	8	33		
Bis(2-ethylhexyl) phthalate	103	115	45 - 135	11	50	J	J
Di-n-octyl phthalate	90	118	45 - 135	27	50		
Benzofluoranthene	109	117	46 - 153	7	41		
Benzo[a]pyrene	96	92	53 - 137	5	27		
Indeno[1,2,3-cd]pyrene	103	51	49 - 148	67	34		*
Dibenz(a,h)anthracene	95	46	49 - 150	69	42		*
Benzo[g,h,i]perylene	115	63	52 - 147	58	32		*
Carbazole	110	92	45 - 135	18	50		
1-Methylnaphthalene	104	101	50 - 150	3	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4734

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4734/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1710
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003360.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4734/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/15/2006 1734
Date Prepared: 03/15/2006 0914

Analysis Batch: 580-4790
Prep Batch: 580-4734
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003361.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	47	52	10 - 120
Phenol-d5	27	30	10 - 102
Nitrobenzene-d5	87	86	34 - 146
2-Fluorobiphenyl	98	97	35 - 143
2,4,6-Tribromophenol	93	84	29 - 151
Terphenyl-d14	105	80	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Method Blank - Batch: 580-4756

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4756/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/16/2006 1328
Date Prepared: 03/15/2006 1302

Analysis Batch: 580-4814
Prep Batch: 580-4756
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003390.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0060	0.10
2-Methylnaphthalene	ND		0.0090	0.13
1-Methylnaphthalene	ND		0.032	0.10
Acenaphthylene	ND		0.0040	0.10
Acenaphthene	ND		0.0030	0.10
Fluorene	ND		0.0080	0.10
Phenanthrene	ND		0.0030	0.10
Anthracene	ND		0.0080	0.10
Fluoranthene	ND		0.0090	0.10
Pyrene	ND		0.013	0.10
Benzo[a]anthracene	ND		0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	ND		0.031	0.20
Benzo[a]pyrene	ND		0.060	0.10
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	71	34 - 146
2-Fluorobiphenyl	64	35 - 143
Terphenyl-d14	68	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4756

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4756/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/16/2006 1351
Date Prepared: 03/15/2006 1302

Analysis Batch: 580-4814
Prep Batch: 580-4756
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003391.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4756/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/16/2006 1416
Date Prepared: 03/15/2006 1302

Analysis Batch: 580-4814
Prep Batch: 580-4756
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003392.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	73	73	42 - 129	1	32		
2-Methylnaphthalene	74	73	40 - 141	1	30		
1-Methylnaphthalene	78	77	50 - 150	1	50		
Acenaphthylene	80	79	46 - 128	1	45		
Acenaphthene	74	73	50 - 145	1	27		
Fluorene	75	74	46 - 143	1	29		
Phenanthrene	73	72	55 - 132	1	24		
Anthracene	80	80	51 - 134	1	28		
Fluoranthene	76	76	60 - 131	0	22		
Pyrene	74	74	48 - 157	0	38		
Benzo[a]anthracene	73	78	56 - 138	6	29		
Chrysene	67	67	57 - 139	0	33		
Benzofluoranthene	78	76	46 - 153	3	41		
Benzo[a]pyrene	72	80	53 - 137	10	27		
Indeno[1,2,3-cd]pyrene	70	71	49 - 148	2	34		
Dibenz(a,h)anthracene	73	74	49 - 150	2	42		
Benzo[g,h,i]perylene	65	67	52 - 147	2	32		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	81	81	34 - 146
2-Fluorobiphenyl	69	68	35 - 143
Terphenyl-d14	73	74	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1816-1

Method Blank - Batch: 580-4740

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-4740/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/21/2006 0628
Date Prepared: 03/15/2006 0942

Analysis Batch: 580-5077
Prep Batch: 580-4740
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17500.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0022	0.010
PCB-1221	ND		0.0022	0.010
PCB-1232	ND		0.0022	0.010
PCB-1242	ND		0.0022	0.010
PCB-1248	ND		0.0022	0.010
PCB-1254	ND		0.0024	0.010
PCB-1260	ND		0.0024	0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	73	32 - 134
DCB Decachlorobiphenyl	56	55 - 128

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4740

Method: 8082
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4740/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/21/2006 0650
Date Prepared: 03/15/2006 0942

Analysis Batch: 580-5077
Prep Batch: 580-4740
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17501.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-4740/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/21/2006 0712
Date Prepared: 03/15/2006 0942

Analysis Batch: 580-5077
Prep Batch: 580-4740
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17502.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1242	93	81	44 - 127	14	27		
PCB-1260	96	85	53 - 130	12	22		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: City of Portland BES Job Number: 580-1816-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control limits

SUBCONTRACT ORDER UPS Ground

North Creek Analytical - Portland 3/14 (Ka)

P6C0464 1.3°C 1816

SENDING LABORATORY:

North Creek Analytical - Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :253-922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: P6C0464-01	**Water**	**Sampled:03/08/06 13:41**		
8270C Semivolatiles	03/23/06 23:59	03/15/06 13:41		LL SVOC to STL Tacoma
8270 SIM PAH	03/23/06 23:59	03/15/06 13:41		LL Sim PAH to STL Tacoma
8082 PCB	03/23/06 23:59	03/15/06 13:41		LL PCB to STL Tacoma
Containers Supplied:				
1L Amber - Unpres. (A)	1L Amber - Unpres. (B)	1L Amber - Unpres. (C)	1L Amber - Unpres. (D)	

Released By — Date 3/13/06 — Received By — Date 3/14/06

Released By — Date — Received By — Date

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E 1st Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 ✓
20332 Empire Ave, Ste F1, Bend, OR 97701-5712 541-383-9310 FAX 382-7588
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PLC0464

NCA CLIENT: City of Portland

REPORT TO:
ADDRESS: Jennifer Shackelford

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PROJECT NAME: NPDES Stormwtr. Mon.

PROJECT NUMBER:

SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [10 STD.] [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5 STD.] [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Request less than standard may incur Rush Charge.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: SVOCs 8270 "Low"	PAH - Low 8270-SIM	PCBs "Low" 8082	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	FO 060335	3/8/06 1341		X	X	X	W	4	⊗	
2										
3										
4										
5										
6										
7										
8										
9										
10										

RELEASED BY: [signature] DATE: 3/10/06
PRINT NAME: Rona Kluch FIRM: City of Portland TIME: 1530

RECEIVED BY: [signature] DATE: 3/10/06
PRINT NAME: Bob F FIRM: NCA TIME: 15:30

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE: 3/10/06 16:20
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: ⊗ Send out to STL for low-level organics.

TEMP: 3.4

COC REV 09/04

PAGE 1 OF 1

LOGIN SAMPLE RECEIPT CHECK LIST

Client: City of Portland BES

Job Number: 580-1816-1

Login Number: 1816

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event Date:** 3/15-16/2006

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.5	0.0417	380	16552800	689700	0.27	186219	8	3	7759

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr Mon
Location NW Killingsworth: Front — OF19
Subject Eventz

Project No. 4010.001
Date 3/14/06
By JTM, WCR

1113 Arrived on site to setup for storm event. Modest trigger volume of 7759 cf was calculated based on a forecasted rainfall amount of 0.5".

— Sampler has 8 decon'd bottles (organics decon)
— Installed new sampler harness w/ wall hooler & ascender
— uploaded FM
— decon'd sampler tubing w/ soapy (non-phosphate), tap, nitric, DI, acetone (organics) wash, DI, Ultrapure DI wash cycle
— changed battery on sampler, ~~programmed w/ a delay to start on 3/15/06 @ 0600~~
— Programmed meter after a field test to ensure setpoint sampling w/ level enable is working properly. Made entry.
SOME BIOFILM ON PROBE, SCRUB. NO CHANGE, ADJUST LEVEL FROM 6.3 TO 4.25"
— Set meter w/ setpoint low level of 4.0", deadband @ 0". Meter appeared to be enabling and disabling sampler according to setpt. setup. JTM maneuvered sensor in & out of setpoint criteria as sampler enabled/disabled.
— Programmed FM w/ setpoint low level enable @ 6.0" w/ deadband at 4.0". Entered pacing of 7759 cf. Swapped battery
— Initiated sampler programming. Display reads "disabled"

1310 left site

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr Mon
Location NW Willbridge : NW Front — OF19
Subject Event 2 FY05-06

Project No. 4010.001
Date 3/15/06, 3/16/06
By JTM, RCB

1516 Arrived on site after 0.21" of rainfall. Sampler display reads program disabled as expected — meter level @ 4.1" w/ level enable set to 6.0". Sampler filled 4 full bottles, 12 aliquots Recorded bottle trigger times.
enabled 1619
disabled 1939
Replaced bottles 1-4, w/ 9-12. Distributor arm positioned above bottle 5.

1536 Left site

3/16/06
1446 Arrived on site after ~ 0.3" of rain since previous visit. Sampler display reads "program disabled" in agreement w/ meter level @ 5.6" (below setpoint enable of 6.0"). Uploaded meter, recorded trigger times — sampler filled 4 bottles. No rain since 1240, so grab samples were not collected today. Swapped out full bottles w/ bottles 13-16. Continued program w/ 0.5" accumulation - 1759

1309 Lef site.

3/17/06
1030 Consulted w/ R. Chowdhury to determine whether adequate volume was collected on 3/15-16/06, Sufficient volume was collected. Submitted bottles 5-8 w/ aliquot time frame 2232 @ 3/15 — 0848 @ 3/16, corresponding rainfall 0.37" accumulation w/ in 12hr. No grabs were collected due to storm occurring during early AM hours.

Attachments

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Page 1 of 1

Station ID # OF19
Date 3/15/06
Grab Sample Date and Time no grab collected for this event

Field Sampling Crew JJM, RCB
Time 3/15/06, 3/16/06, 3/17/06

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	1800mL, turbid	
2	" , less turbid than 1	
3	" , less turbid than 2	
4	" , less turbid than 3	
5	1800mL,	
6	1800mL,	
7	" ,	
8	" ,	

Trigger Data

	Trigger #	24 Hour Time	Time, Date, Missed Triggers		
(1)	1	1628	3/14/06		
	2	1649			
	3	1648			
(2)	4	1654			
	5	1700			
	6	1707	Discarded		
(3)	7	1715			
	8	1724			
	9	1735			
(4)	10	1759			
	11	1836			
	12	1920	3/14/06		

	Trigger #	24 Hour Time	Time, Date, Missed Triggers		
(5)	13	2232	3/15/06		
	14	2250			
	15	2310			
(6)	16	2335			
	17	0006	3/16/06		
	18	0047			
(7)	19	~~0109~~	→ disable		
	20	~~0659~~	→ enable		
	21	0706			
(8)	22	0715			
	23	0723			
	24	0737			

Comments Submitted sample bottles 5-8 after consulting w/ RC 0807 0848 who confirmed that sufficient volume for all analytes.
2219 enable, 0914 disable

No Grab

FO 060362

Composite

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.059	mg/L	0.02	EPA 350.1	03/20/06
NITRATE-NITROGEN	0.92	mg/L	0.10	EPA 300.0	03/17/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.023	mg/L	0.02	EPA 365.1	03/17/06
TOTAL DISSOLVED SOLIDS	54	mg/L	2	SM 2540 BD	03/17/06
TOTAL PHOSPHORUS	0.17	mg/L	0.03	EPA 365.4	03/24/06
TOTAL SOLIDS	120	mg/L	2	SM 2540 B	03/17/06
TOTAL SUSPENDED SOLIDS	66	mg/L	2	SM 2540 D	03/17/06
METALS					
HARDNESS, TOTAL	29.7	mg CaCO3/L	1.0	SM 2340 B CAL	03/22/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.34	µg/L	0.1	EPA 200.8	03/23/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	03/23/06
COPPER, DISSOLVED	2.55	µg/L	0.2	EPA 200.8	03/23/06
LEAD, DISSOLVED	0.15	µg/L	0.1	EPA 200.8	03/23/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC, DISSOLVED	68.7	µg/L	0.5	EPA 200.8	03/23/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.51	µg/L	0.045	EPA 200.8	03/23/06
CADMIUM	0.22	µg/L	0.1	EPA 200.8	03/23/06
CHROMIUM	3.95	µg/L	0.4	EPA 200.8	03/23/06
COPPER	12.2	µg/L	0.2	EPA 200.8	03/23/06
LEAD	12.3	µg/L	0.1	EPA 200.8	03/23/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/23/06
ZINC	153	µg/L	0.5	EPA 200.8	03/23/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1221	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1232	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1242	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1248	<0.013	µg/L	0.013	EPA 8082	03/22/06
Aroclor 1254	<0.013	µg/L	0.013	EPA 8082	03/22/06

Report Date: 08/03/06 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

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Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.013	µg/L	0.013	EPA 8082	03/22/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
2-Methylnaphthalene	<0.15	µg/L	0.15	EPA 8270-SIM	03/22/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzo(a)pyrene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Benzofluoranthenes	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	03/22/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,2-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,3-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1,4-Dichlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
1-Methylnaphthalene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
2,4,5-Trichlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,4,6-Trichlorophenol	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
2,4-Dichlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270-SIM	03/22/06
2,4-Dinitrophenol	<28	µg/L	28	EPA 8270-SIM	03/22/06
2,4-Dinitrotoluene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2,6-Dinitrotoluene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Chloronaphthalene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
2-Chlorophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270-SIM	03/22/06

Report Date: 08/03/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Nitroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
2-Nitrophenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
3- & 4-Methylphenol	<4.5	µg/L	4.5	EPA 8270-SIM	03/22/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270-SIM	03/22/06
3-Nitroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4,6-Dinitro-2-methylphenol	<23	µg/L	23	EPA 8270-SIM	03/22/06
4-Bromophenylphenyl ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chloro-3-methylphenol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chloroaniline	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Chlorophenylphenyl ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
4-Nitroaniline	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
4-Nitrophenol	<11	µg/L	11	EPA 8270-SIM	03/22/06
Acenaphthene	<0.57	µg/L	0.57	EPA 8270-SIM	03/22/06
Acenaphthylene	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Anthracene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(a)anthracene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Benzo(a)pyrene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Benzo(g,h,i)perylene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Benzofluoranthenes	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Benzoic acid	<11	µg/L	11	EPA 8270-SIM	03/22/06
Benzyl alcohol	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Benzyl butyl phthalate	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Bis(2-chloroethoxy) methane	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-chloroethyl) ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-chloroisopropyl) ether	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Bis(2-ethylhexyl) phthalate	<17	µg/L	17	EPA 8270-SIM	03/22/06
Carbazole	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Chrysene	<0.23	µg/L	0.23	EPA 8270-SIM	03/22/06
Dibenzo(a,h)anthracene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Dibenzofuran	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Diethyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Dimethyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Di-n-butyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Di-n-octyl phthalate	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Fluoranthene	<0.28	µg/L	0.28	EPA 8270-SIM	03/22/06

Report Date: 08/03/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060362** **Sample Collected:** 3/15/2006 22:32 **Sample Received:** 03/17/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Comments:

System ID: AK02522
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Hexachlorobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Hexachlorobutadiene	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270-SIM	03/22/06
Hexachloroethane	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Indeno(1,2,3-cd)pyrene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06
Isophorone	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Naphthalene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Nitrobenzene	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
N-Nitrosodi-n-propylamine	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
N-Nitrosodiphenylamine	<2.3	µg/L	2.3	EPA 8270-SIM	03/22/06
Pentachlorophenol	<4.0	µg/L	4.0	EPA 8270-SIM	03/22/06
Phenanthrene	<0.45	µg/L	0.45	EPA 8270-SIM	03/22/06
Phenol	<3.4	µg/L	3.4	EPA 8270-SIM	03/22/06
Pyrene	<0.34	µg/L	0.34	EPA 8270-SIM	03/22/06

End of Report for Sample ID: FO060362

Report Date: 08/03/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/17/06
Page: 1 of
Collected By: JDM, RCB

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST
3/16/06 @ 2232 — 3/16/06 @ 0848

Requested Analyses

	WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
1		MANHOLE COMPOSITE	M1C			C	•	•	•	•	•										
2																					
3	FO 060362	4900 NW KITTRIDGE AVE (OF19)	OF19			C	•	•	•			•	•	•	•	•	•	•	•	•	
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McLaun Time: 1050	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLaun Date: 3/17/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Kinch Time: 1050	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kinch Date: 3/17/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

ANALYTICAL REPORT

Job Number: 580-1915-1

Job Description: Portland Harbor Inline Samp

For:
City of Portland BES
6543 N. Burlington Ave
Portland, OR 97203

Attention: Peter Abrams

Tom Coyner
Project Manager I
tcoyner@stl-inc.com
04/04/2006

Project Manager: Tom Coyner

STL Seattle is a part of Severn Trent Laboratories, Inc.

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Case Narrative for job: 580-J1915-1

Client: City of Portland BES
Date: 04/04/2006

Semivolatile GC-MS

Method Blank Contamination

8270 SIM PAH
The method blank is greater than the MDL but less than 1/2 the RL for Phenanthrene.

Affected Items
MB 580-4927/1-A

Batch: 580-4977
Method: 580-8270C_SIM

METHOD / ANALYST SUMMARY

Client: City of Portland BES

Job Number: 580-1915-1

Method	Analyst	Analyst ID
SW846 8270C	Frans, Ben	BF
SW846 8082	Marfiak, Steve T	STM

SAMPLE SUMMARY

Client: City of Portland BES

Job Number: 580-1915-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-1915-1	P2C0815-01	Water	03/16/2006 1200	03/21/2006 1100

SAMPLE RESULTS

Client: City of Portland BES

Job Number: 580-1915-1

Client Sample ID: P2C0815-01

Lab Sample ID: 580-1915-1
Client Matrix: Water

Date Sampled: 03/16/2006 1200
Date Received: 03/21/2006 1100

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/22/2006 1652
Date Prepared: 03/22/2006 0849

Analysis Batch: 580-4977
Prep Batch: 580-4927

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003514.D
Initial Weight/Volume: 880 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.015	J	0.0068	0.11
2-Methylnaphthalene	0.012	J	0.010	0.15
1-Methylnaphthalene	ND		0.036	0.11
Acenaphthylene	ND		0.0045	0.11
Acenaphthene	0.0056	J	0.0034	0.11
Fluorene	0.010	J	0.0091	0.11
Phenanthrene	0.040	J B	0.0034	0.11
Anthracene	0.011	J *	0.0091	0.11
Fluoranthene	0.068	J	0.010	0.11
Pyrene	0.076	J	0.015	0.11
Benzo[a]anthracene	0.028	J	0.010	0.11
Chrysene	0.025	J	0.010	0.11
Benzofluoranthene	0.054	J	0.035	0.23
Benzo[a]pyrene	ND		0.068	0.23
Indeno[1,2,3-cd]pyrene	ND		0.017	0.11
Dibenz(a,h)anthracene	ND		0.014	0.11
Benzo[g,h,i]perylene	0.024	J	0.020	0.11

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	118	34 - 146
2-Fluorobiphenyl	99	35 - 143
Terphenyl-d14	117	35 - 166

Client: City of Portland BES

Job Number: 580-1915-1

Client Sample ID: **P2C0815-01**

Lab Sample ID: 580-1915-1
Client Matrix: Water

Date Sampled: 03/16/2006 1200
Date Received: 03/21/2006 1100

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/22/2006 1830
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003518.D
Initial Weight/Volume: 880 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		1.0	3.4
Bis(2-chloroethyl)ether	ND		0.33	2.3
2-Chlorophenol	ND		0.27	2.3
1,3-Dichlorobenzene	ND		0.64	2.3
1,4-Dichlorobenzene	ND		0.73	2.3
Benzyl alcohol	ND		0.42	2.3
1,2-Dichlorobenzene	ND		0.58	2.3
2-Methylphenol	ND		0.72	2.3
Bis(2-chloroisopropyl) ether	ND		0.31	2.3
3 & 4 Methylphenol	ND		0.53	4.5
N-Nitrosodi-n-propylamine	ND		0.33	2.3
Hexachloroethane	ND		0.85	3.4
Nitrobenzene	ND		0.19	2.3
Isophorone	ND		0.26	2.3
2-Nitrophenol	ND		0.64	2.3
2,4-Dimethylphenol	ND		1.7	11
Benzoic acid	ND		1.2	11
Bis(2-chloroethoxy)methane	ND		0.35	2.3
2,4-Dichlorophenol	ND		0.34	2.3
1,2,4-Trichlorobenzene	ND		0.66	2.3
Naphthalene	ND		0.70	2.3
4-Chloroaniline	ND		0.55	2.3
Hexachlorobutadiene	ND		0.89	3.4
4-Chloro-3-methylphenol	ND		0.45	2.3
2-Methylnaphthalene	ND		0.20	1.1
Hexachlorocyclopentadiene	ND		0.59	11
2,4,6-Trichlorophenol	ND		0.97	3.4
2,4,5-Trichlorophenol	ND		0.60	2.3
2-Chloronaphthalene	ND		0.088	0.34
2-Nitroaniline	ND		0.32	2.3
Dimethyl phthalate	0.37	J	0.32	2.3
Acenaphthylene	ND		0.13	0.45
2,6-Dinitrotoluene	ND		0.24	2.3
3-Nitroaniline	ND		0.32	2.3
Acenaphthene	ND		0.16	0.57
2,4-Dinitrophenol	ND		8.5	28
4-Nitrophenol	ND		1.9	11
Dibenzofuran	ND		0.31	2.3
2,4-Dinitrotoluene	ND		0.41	2.3
Diethyl phthalate	ND		0.25	2.3
4-Chlorophenyl phenyl ether	ND		0.40	2.3
Fluorene	ND		0.10	0.34
4-Nitroaniline	ND		0.92	3.4

Client: City of Portland BES

Job Number: 580-1915-1

Client Sample ID: **P2C0815-01**

Lab Sample ID: 580-1915-1
Client Matrix: Water

Date Sampled: 03/16/2006 1200
Date Received: 03/21/2006 1100

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/22/2006 1830
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003518.D
Initial Weight/Volume: 880 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		7.5	23
N-Nitrosodiphenylamine	ND		0.31	2.3
4-Bromophenyl phenyl ether	ND		0.32	2.3
Hexachlorobenzene	ND		0.43	2.3
Pentachlorophenol	ND		1.2	4.0
Phenanthrene	ND		0.15	0.45
Anthracene	ND		0.075	0.23
Di-n-butyl phthalate	0.68	J	0.36	2.3
Fluoranthene	ND		0.084	0.28
Pyrene	ND		0.095	0.34
Butyl benzyl phthalate	0.91	J	0.22	3.4
3,3'-Dichlorobenzidine	ND		1.6	11
Benzo[a]anthracene	ND		0.11	0.34
Chrysene	ND		0.059	0.23
Bis(2-ethylhexyl) phthalate	1.4	J	0.68	17
Di-n-octyl phthalate	ND		0.49	2.3
Benzofluoranthene	ND		0.13	0.45
Benzo[a]pyrene	ND		0.055	0.23
Indeno[1,2,3-cd]pyrene	ND		0.085	0.34
Dibenz(a,h)anthracene	ND		0.11	0.34
Benzo[g,h,i]perylene	ND		0.078	0.34
Carbazole	ND		0.25	2.3
1-Methylnaphthalene	ND		0.10	0.34

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	41	10 - 120
Phenol-d5	23	10 - 102
Nitrobenzene-d5	83	34 - 146
2-Fluorobiphenyl	90	35 - 143
2,4,6-Tribromophenol	78	29 - 151
Terphenyl-d14	89	35 - 166

Client: City of Portland BES

Job Number: 580-1915-1

Client Sample ID: P2C0815-01

Lab Sample ID: 580-1915-1
Client Matrix: Water

Date Sampled: 03/16/2006 1200
Date Received: 03/21/2006 1100

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 03/22/2006 1540
Date Prepared: 03/22/2006 0856

Analysis Batch: 580-5083
Prep Batch: 580-4928

Instrument ID: 6890N
Lab File ID: ECD17572.D
Initial Weight/Volume: 780 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.0028	0.013
PCB-1221	ND		0.0028	0.013
PCB-1232	ND		0.0028	0.013
PCB-1242	ND		0.0028	0.013
PCB-1248	ND		0.0028	0.013
PCB-1254	ND		0.0031	0.013
PCB-1260	ND		0.0031	0.013

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	66		32 - 134
DCB Decachlorobiphenyl	54	*	55 - 128

DATA REPORTING QUALIFIERS

Client: City of Portland BES Job Number: 580-1915-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	*	LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control limits

QUALITY CONTROL RESULTS

Client: City of Portland BES

Job Number: 580-1915-1

Method Blank - Batch: 580-4925

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4925/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1716
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003515.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.88	3.0
Bis(2-chloroethyl)ether	ND		0.29	2.0
2-Chlorophenol	ND		0.24	2.0
1,3-Dichlorobenzene	ND		0.56	2.0
1,4-Dichlorobenzene	ND		0.64	2.0
Benzyl alcohol	ND		0.37	2.0
1,2-Dichlorobenzene	ND		0.51	2.0
2-Methylphenol	ND		0.63	2.0
Bis(2-chloroisopropyl) ether	ND		0.27	2.0
3 & 4 Methylphenol	ND		0.47	4.0
N-Nitrosodi-n-propylamine	ND		0.29	2.0
Hexachloroethane	ND		0.75	3.0
Nitrobenzene	ND		0.17	2.0
Isophorone	ND		0.23	2.0
2-Nitrophenol	ND		0.56	2.0
2,4-Dimethylphenol	ND		1.5	10
Benzoic acid	ND		1.0	10
Bis(2-chloroethoxy)methane	ND		0.31	2.0
2,4-Dichlorophenol	ND		0.30	2.0
1,2,4-Trichlorobenzene	ND		0.58	2.0
Naphthalene	ND		0.62	2.0
4-Chloroaniline	ND		0.48	2.0
Hexachlorobutadiene	ND		0.78	3.0
4-Chloro-3-methylphenol	ND		0.40	2.0
2-Methylnaphthalene	ND		0.18	1.0
Hexachlorocyclopentadiene	ND		0.52	10
2,4,6-Trichlorophenol	ND		0.85	3.0
2,4,5-Trichlorophenol	ND		0.53	2.0
2-Chloronaphthalene	ND		0.077	0.30
2-Nitroaniline	ND		0.28	2.0
Dimethyl phthalate	ND		0.28	2.0
Acenaphthylene	ND		0.11	0.40
2,6-Dinitrotoluene	ND		0.21	2.0
3-Nitroaniline	ND		0.28	2.0
Acenaphthene	ND		0.14	0.50
2,4-Dinitrophenol	ND		7.5	25
4-Nitrophenol	ND		1.7	10
Dibenzofuran	ND		0.27	2.0
2,4-Dinitrotoluene	ND		0.36	2.0
Diethyl phthalate	ND		0.22	2.0
4-Chlorophenyl phenyl ether	ND		0.35	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Method Blank - Batch: 580-4925

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4925/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1716
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003515.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.091	0.30
4-Nitroaniline	ND		0.81	3.0
4,6-Dinitro-2-methylphenol	ND		6.6	20
N-Nitrosodiphenylamine	ND		0.27	2.0
4-Bromophenyl phenyl ether	ND		0.28	2.0
Hexachlorobenzene	ND		0.38	2.0
Pentachlorophenol	ND		1.1	3.5
Phenanthrene	ND		0.13	0.40
Anthracene	ND		0.066	0.20
Di-n-butyl phthalate	ND		0.32	2.0
Fluoranthene	ND		0.074	0.25
Pyrene	ND		0.084	0.30
Butyl benzyl phthalate	ND		0.19	3.0
3,3'-Dichlorobenzidine	ND		1.4	10
Benzo[a]anthracene	ND		0.10	0.30
Chrysene	ND		0.052	0.20
Bis(2-ethylhexyl) phthalate	ND		0.60	15
Di-n-octyl phthalate	ND		0.43	2.0
Benzofluoranthene	ND		0.12	0.40
Benzo[a]pyrene	0.35		0.048	0.20
Indeno[1,2,3-cd]pyrene	ND		0.075	0.30
Dibenz(a,h)anthracene	ND		0.099	0.30
Benzo[g,h,i]perylene	ND		0.069	0.30
Carbazole	ND		0.22	2.0
1-Methylnaphthalene	ND		0.091	0.30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	44	10 - 120
Phenol-d5	23	10 - 102
Nitrobenzene-d5	83	34 - 146
2-Fluorobiphenyl	91	35 - 143
2,4,6-Tribromophenol	76	29 - 151
Terphenyl-d14	95	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4925

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4925/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1741
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003516.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4925/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1805
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003517.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	31	26	10 - 91	15	51		J
Bis(2-chloroethyl)ether	95	99	45 - 135	4	50		
2-Chlorophenol	87	86	32 - 144	1	25		
1,3-Dichlorobenzene	100	98	45 - 135	2	50		
1,4-Dichlorobenzene	104	99	36 - 147	4	32		
Benzyl alcohol	53	51	20 - 150	5	50		
1,2-Dichlorobenzene	99	96	45 - 135	3	50		
2-Methylphenol	78	76	44 - 113	2	50		
3 & 4 Methylphenol	69	64	27 - 114	8	50		
N-Nitrosodi-n-propylamine	93	90	44 - 149	3	48		
Hexachloroethane	95	95	45 - 135	0	50		
Nitrobenzene	89	88	45 - 135	0	50		
Isophorone	85	84	45 - 135	2	50		
2-Nitrophenol	86	84	20 - 150	3	50		
2,4-Dimethylphenol	93	90	53 - 133	3	50	J	J
Benzoic acid	93	92	20 - 150	1	50		
Bis(2-chloroethoxy)methane	98	93	45 - 135	5	50		
2,4-Dichlorophenol	90	93	20 - 150	3	50		
1,2,4-Trichlorobenzene	96	96	39 - 143	0	28		
Naphthalene	99	96	42 - 129	4	32		
4-Chloroaniline	102	103	45 - 135	1	50		
Hexachlorobutadiene	96	93	45 - 135	3	50		
4-Chloro-3-methylphenol	89	85	32 - 150	5	33		
2-Methylnaphthalene	94	91	40 - 141	3	30		
Hexachlorocyclopentadiene	60	58	45 - 135	2	50	J	J
2,4,6-Trichlorophenol	91	87	20 - 150	5	50		
2,4,5-Trichlorophenol	95	95	20 - 150	1	50		
2-Chloronaphthalene	102	99	34 - 144	3	50		
2-Nitroaniline	98	94	45 - 135	5	50		
Dimethyl phthalate	94	92	45 - 135	2	50		
Acenaphthylene	100	96	46 - 128	4	45		
2,6-Dinitrotoluene	93	92	45 - 135	2	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4925

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4925/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1741
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003516.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4925/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1805
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003517.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
3-Nitroaniline	119	115	45 - 135	3	50		
Acenaphthene	99	96	50 - 145	3	27		
2,4-Dinitrophenol	69	72	20 - 150	4	50		
4-Nitrophenol	37	37	10 - 111	2	59	J	J
Dibenzofuran	98	95	60 - 120	3	50		
2,4-Dinitrotoluene	89	84	41 - 143	6	35		
Diethyl phthalate	88	84	45 - 135	4	50		
4-Chlorophenyl phenyl ether	97	95	45 - 135	2	50		
Fluorene	99	96	46 - 143	4	29		
4-Nitroaniline	106	106	45 - 135	0	50		
4,6-Dinitro-2-methylphenol	62	68	45 - 135	10	50		J
4-Bromophenyl phenyl ether	95	94	45 - 135	1	50		
Hexachlorobenzene	96	97	45 - 135	0	50		
Pentachlorophenol	57	61	10 - 160	7	67		
Phenanthrene	94	94	55 - 132	0	24		
Anthracene	96	96	51 - 134	0	28		
Di-n-butyl phthalate	93	91	45 - 135	2	50		
Fluoranthene	92	94	60 - 131	2	22		
Pyrene	95	95	48 - 157	0	38		
Butyl benzyl phthalate	105	96	45 - 135	9	50		
3,3'-Dichlorobenzidine	113	114	45 - 135	1	50		
Benzo[a]anthracene	98	93	56 - 138	6	29		
Chrysene	98	103	57 - 139	4	33		
Bis(2-ethylhexyl) phthalate	113	106	45 - 135	7	50	J	J
Di-n-octyl phthalate	118	103	45 - 135	14	50		
Benzofluoranthene	107	102	46 - 153	5	41		
Benzo[a]pyrene	94	94	53 - 137	1	27		
Indeno[1,2,3-cd]pyrene	90	100	49 - 148	10	34		
Dibenz(a,h)anthracene	81	91	49 - 150	11	42		
Benzo[g,h,i]perylene	93	106	52 - 147	13	32		
Carbazole	101	101	45 - 135	0	50		
1-Methylnaphthalene	95	92	50 - 150	3	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4925

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4925/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1741
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003516.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4925/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1805
Date Prepared: 03/22/2006 0842

Analysis Batch: 580-4977
Prep Batch: 580-4925
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003517.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	47	46	10 - 120
Phenol-d5	27	25	10 - 102
Nitrobenzene-d5	85	81	34 - 146
2-Fluorobiphenyl	91	88	35 - 143
2,4,6-Tribromophenol	81	81	29 - 151
Terphenyl-d14	88	89	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Method Blank - Batch: 580-4927

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-4927/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1539
Date Prepared: 03/22/2006 0849

Analysis Batch: 580-4977
Prep Batch: 580-4927
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003511.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0060	0.10
2-Methylnaphthalene	ND		0.0090	0.13
1-Methylnaphthalene	ND		0.032	0.10
Acenaphthylene	ND		0.0040	0.10
Acenaphthene	ND		0.0030	0.10
Fluorene	ND		0.0080	0.10
Phenanthrene	0.0070	J	0.0030	0.10
Anthracene	ND		0.0080	0.10
Fluoranthene	ND		0.0090	0.10
Pyrene	ND		0.013	0.10
Benzo[a]anthracene	ND		0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	ND		0.031	0.20
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	115	34 - 146
2-Fluorobiphenyl	104	35 - 143
Terphenyl-d14	122	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4927

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4927/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1603
Date Prepared: 03/22/2006 0849

Analysis Batch: 580-4977
Prep Batch: 580-4927
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003512.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-4927/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1627
Date Prepared: 03/22/2006 0849

Analysis Batch: 580-4977
Prep Batch: 580-4927
Units: ug/L

Instrument ID: Agilent 5975 Inert
Lab File ID: ak003513.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	110	108	42 - 129	2	32		
2-Methylnaphthalene	111	109	40 - 141	2	30		
1-Methylnaphthalene	118	115	50 - 150	3	50		
Acenaphthylene	116	113	46 - 128	3	45		
Acenaphthene	109	106	50 - 145	3	27		
Fluorene	114	111	46 - 143	3	29		
Phenanthrene	123	121	55 - 132	2	24		
Anthracene	136	134	51 - 134	2	28	*	
Fluoranthene	126	123	60 - 131	2	22		
Pyrene	123	120	48 - 157	2	38		
Benzo[a]anthracene	130	126	56 - 138	3	29		
Chrysene	118	115	57 - 139	2	33		
Benzofluoranthene	127	122	46 - 153	4	41		
Benzo[a]pyrene	114	112	53 - 137	2	27		
Indeno[1,2,3-cd]pyrene	109	113	49 - 148	3	34		
Dibenz(a,h)anthracene	115	119	49 - 150	3	42		
Benzo[g,h,i]perylene	101	105	52 - 147	4	32		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	120	117	34 - 146
2-Fluorobiphenyl	104	101	35 - 143
Terphenyl-d14	128	124	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-1915-1

Method Blank - Batch: 580-4928

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-4928/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1434
Date Prepared: 03/22/2006 0856

Analysis Batch: 580-5083
Prep Batch: 580-4928
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17569.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0022	0.010
PCB-1221	ND		0.0022	0.010
PCB-1232	ND		0.0022	0.010
PCB-1242	ND		0.0022	0.010
PCB-1248	ND		0.0022	0.010
PCB-1254	ND		0.0024	0.010
PCB-1260	ND		0.0024	0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	69	32 - 134
DCB Decachlorobiphenyl	61	55 - 128

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-4928

Method: 8082
Preparation: 3510C

LCS Lab Sample ID: LCS 580-4928/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1456
Date Prepared: 03/22/2006 0856

Analysis Batch: 580-5083
Prep Batch: 580-4928
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17570.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-4928/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 03/22/2006 1518
Date Prepared: 03/22/2006 0856

Analysis Batch: 580-5083
Prep Batch: 580-4928
Units: ug/L

Instrument ID: 6890N
Lab File ID: ECD17571.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1242	82	81	44 - 127	1	27		
PCB-1260	79	89	53 - 130	12	22		

Calculations are performed before rounding to avoid round-off errors in calculated results.

SUBCONTRACT ORDER

North Creek Analytical - Portland

P6C0815

1985

SENDING LABORATORY:

North Creek Analytical - Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :253-922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: P6C0815-01	**Water**	**Sampled:03/16/06 12:00**		**no time on coc**
8270C Semivolatiles	03/30/06 23:59	03/23/06 12:00		LL analysis to STL
8270 SIM PAH	03/30/06 23:59	03/23/06 12:00		LL analysis to STL
8082 PCB	03/30/06 23:59	03/23/06 12:00		LL analysis to STL

Containers Supplied:

1L Amber - Unpres. (A) 1L Amber - Unpres. (B) 1L Amber - Unpres. (C) 1L Amber - Unpres. (D)

Released By	Date	Received By	Date
[signature]	3/20/06	[signature]	3/21/06
Released By	Date	Received By	Date
			1.0 (KN)

LOGIN SAMPLE RECEIPT CHECK LIST

Client: City of Portland BES

Job Number: 580-1915-1

Login Number: 1915

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event D:** Date

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.5	0.0417	380	16552800	689700	0.27	186219	8	3	7759

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwater
Location OF 19 - NW Kittridge & Front
Subject FY05-06 Event 3

Project No. 4010.001
Date 5-23-06
By LAP, JJM

1240 (PST): Arrive on-site (OUTFALL 19). Prepare CSE permit & assemble necessary equipment. JJM enters manhole and calibrates volume using a 500 ml gradvated cylinder. JJM visually inspects sampler tubing & decides to leave it in place (as opposed to replacing). - no crimping or kinks!!!

Checked level (manual = 3.25, meter = 3.15).
- Uploaded FM, meter paced sampler perfectly. (on sec)

1259 Reprogrammed sampler trigger/pacing volume as 5431cf (based on anticipated 0.35" of rain). Restarted flow meter w/out low level setpoint enable.

JJM re-entry to start sampler. All tubing 'areas of concern' are free of obstruction/kink. Fingers crossed.

1309 Left site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page _____ of _____

Project NPDES STORMWATER MON | Project No. 4010.001
Location [redacted] OF19 | Date 5/24/06
Subject FY 05-06 EVENT 3 | By WCR, BCL

[redacted]

- 1012 - DEPART SITE FOR OF-19

1036 - ARR @ OF-19. NO PRECIP., STREETS DRY
SAMPLER DISPLAY: 3.3 BOTTLES 1HR FLW MINUTES, ANOTHER ALIQUOT TAKEN, 5 BOTTLES TAKEN, ALL BEAUTIFULLY FULL. STOP PROGRAM, SWAP BOTTLES

- UPLOAD METER @ 1054 2.57", 0.38 CFS, 8740 CF, 153 FPS 0524 1052. GM4, DATA FILE LOOKS GOOD, CLEAR

- CHARGE SAMPLER BATT, RESTART PROGRAM @ N 1115
- ELITERER (WCR) CHECKED THAT LID TUBING WAS CRIMPED.

1145 - ARRIVE @ WPCL

1306 LEFT MESSAGE FOR DOH ABOUT GRABS FOR BOTH SITES. AWAITING

Attachments MESSAGE INDICATES MORE GRABS ARE NEEDED

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr Mon
Project No. 4010.001
Location OF19
Date 5/25/06
Subject FY05-06 Event 3 (wrap-up?)
By JJM, WCR

1030 Arrived on site to assess progress of storm event sampling. Sampler filled bottles 6 & 8. Downloaded all data from flow meter — 05251036. GM4. Hydrograph looks good although we may not have enough volume to consider event successful. Will analyze hydrograph @ WPCL

Recorded trigger times, replaced bottles & capped. Removed batteries & staged equipment.

1048 Left site.

Review of flow data shows that program on 5/22 – 5/23/06 has a data gap due to powering off sampler. This poweroff was done because sampler tubing was kinked and all triggers from 5/22 – 23/06 event resulted in null aliquots.

Data gap span 5/23/06 @ 0715 — 5/23/06 @ 1325

Bottles 1-6 submitted to lab for analysis. No grab samples submitted due to staffing (event overnight) and scattered nature of spring storms (site visits did not happen during elevated storm activity — grabs would have been baseflow)

FO 060674

Attachments

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # CF19 Field Sampling Crew WCR, BCC

Date 5/24/06, 05/25/06 Time 1041 PST (26)

Grab Sample Date and Time _____

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	turbid, 1800mL	
2	turbid, 1800mL	
3	less turbid, 1800mL	
4	less turbid, 1800 mL	
5	less turbid, 1800 mL	
6	turbid, 1800mL	
7		
8		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	1513	5/23			
2	1758				
3	1857				
4	1950				
5	2016				
6	2102				
7	2157				
8	2355				
9	0108	5/24			
10	0203				
11	0257				
12	0403				

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
13	0522				
14	0724				
15	1042				
16	1241				
17	1409				
18	1526				
19	1759				
20	2218				
21	0322		05/25/06		
22	0351				
23					
24					

Comments PROGRAM WAS STARTED @ 1329 5/23/06, MANUAL PAUSE 1045, 5/24. Bottles 7 & 8 were not included in composite sample and are not representative.

FO 060674

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.16	mg/L	0.02	EPA 350.1	06/05/06
NITRATE-NITROGEN	0.75	mg/L	0.10	EPA 300.0	05/26/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.046	mg/L	0.02	EPA 365.1	05/26/06
TOTAL DISSOLVED SOLIDS	83	mg/L	2	SM 2540 BD	05/26/06
TOTAL PHOSPHORUS	0.17	mg/L	0.03	EPA 365.4	06/05/06
TOTAL SOLIDS	117	mg/L	2	SM 2540 B	05/26/06
TOTAL SUSPENDED SOLIDS	34	mg/L	2	SM 2540 D	05/26/06
METALS					
HARDNESS, TOTAL	42.1	mg CaCO3/L	0.5	SM 2340 B CAL	05/24/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.86	µg/L	0.1	EPA 200.8	05/27/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	05/27/06
CHROMIUM, DISSOLVED	0.30	µg/L	0.4	EPA 200.8	05/27/06
COPPER, DISSOLVED	5.20	µg/L	0.2	EPA 200.8	05/27/06
LEAD, DISSOLVED	0.26	µg/L	0.1	EPA 200.8	05/27/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	05/27/06
ZINC, DISSOLVED	109	µg/L	0.5	EPA 200.8	05/27/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.31	µg/L	0.1	EPA 200.8	05/27/06
CADMIUM	0.22	µg/L	0.1	EPA 200.8	05/27/06
CHROMIUM	3.07	µg/L	0.4	EPA 200.8	05/27/06
COPPER	13.5	µg/L	0.2	EPA 200.8	05/27/06
LEAD	13.4	µg/L	0.1	EPA 200.8	05/27/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	05/27/06
ZINC	190	µg/L	0.5	EPA 200.8	05/27/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1221	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1232	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1242	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1248	<0.049	µg/L	0.049	EPA 8082	05/31/06
Aroclor 1254	<0.049	µg/L	0.049	EPA 8082	05/31/06

Report Date: 10/05/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1260	<0.049	µg/L	0.049	EPA 8082	05/31/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
2-Methylnaphthalene	<0.13	µg/L	0.13	EPA 8270-SIM	05/31/06
Acenaphthene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Acenaphthylene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzo(a)anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(g,h,i)perylene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Benzofluoranthenes	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Chrysene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Dibenzo(a,h)anthracene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Fluoranthene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Fluorene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Indeno(1,2,3-cd)pyrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Naphthalene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Phenanthrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
Pyrene	<0.10	µg/L	0.10	EPA 8270-SIM	05/31/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,2-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,3-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1,4-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
1-Methylnaphthalene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
2,4,5-Trichlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,4,6-Trichlorophenol	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
2,4-Dichlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,4-Dimethylphenol	<10	µg/L	10	EPA 8270-SIM	05/31/06
2,4-Dinitrophenol	<25	µg/L	25	EPA 8270-SIM	05/31/06
2,4-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2,6-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Chloronaphthalene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
2-Chlorophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Methylnaphthalene	<1.0	µg/L	1.0	EPA 8270-SIM	05/31/06

Report Date: 10/05/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 3 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylphenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Nitroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
2-Nitrophenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
3- & 4-Methylphenol	<4.0	µg/L	4.0	EPA 8270-SIM	05/31/06
3,3'-Dichlorobenzidine	<10	µg/L	10	EPA 8270-SIM	05/31/06
3-Nitroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4,6-Dinitro-2-methylphenol	<20	µg/L	20	EPA 8270-SIM	05/31/06
4-Bromophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chloro-3-methylphenol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chloroaniline	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Chlorophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
4-Nitroaniline	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
4-Nitrophenol	<10	µg/L	10	EPA 8270-SIM	05/31/06
Acenaphthene	<0.50	µg/L	0.50	EPA 8270-SIM	05/31/06
Acenaphthylene	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Anthracene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(a)anthracene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Benzo(g,h,i)perylene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Benzofluoranthenes	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Benzoic acid	<10	µg/L	10	EPA 8270-SIM	05/31/06
Benzyl alcohol	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Benzyl butyl phthalate	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Bis(2-chloroethoxy) methane	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-chloroethyl) ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-chloroisopropyl) ether	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Bis(2-ethylhexyl) phthalate	<15	µg/L	15	EPA 8270-SIM	05/31/06
Carbazole	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Chrysene	<0.20	µg/L	0.20	EPA 8270-SIM	05/31/06
Dibenzo(a,h)anthracene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Dibenzofuran	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Diethyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Dimethyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Di-n-butyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Di-n-octyl phthalate	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Fluoranthene	<0.25	µg/L	0.25	EPA 8270-SIM	05/31/06

Report Date: 10/05/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060674** **Sample Collected:** 5/23/2006 15:13 **Sample Received:** 05/25/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)

Report Page: Page 4 of 4

Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK04682
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP/WCR/BAL

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED BEGINNING ON 05/23/06 @ 1513 AND ENDING ON 05/24/06 @ 1526.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluorene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Hexachlorobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Hexachlorobutadiene	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Hexachlorocyclopentadiene	<10	µg/L	10	EPA 8270-SIM	05/31/06
Hexachloroethane	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Indeno(1,2,3-cd)pyrene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06
Isophorone	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Naphthalene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Nitrobenzene	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
N-Nitrosodi-n-propylamine	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
N-Nitrosodiphenylamine	<2.0	µg/L	2.0	EPA 8270-SIM	05/31/06
Pentachlorophenol	<3.5	µg/L	3.5	EPA 8270-SIM	05/31/06
Phenanthrene	<0.40	µg/L	0.40	EPA 8270-SIM	05/31/06
Phenol	<3.0	µg/L	3.0	EPA 8270-SIM	05/31/06
Pyrene	<0.30	µg/L	0.30	EPA 8270-SIM	05/31/06

End of Report for Sample ID: FO060674

Report Date: 10/05/06 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 5/25/06

Page: 1 of 1

Collected By: JTM, LAP, WCR, BAL

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

Aliquots taken OF19 5/23/06 @ 1513 – 5/24/06 @ 1526

☑ Sample Time recorded in PST

Chain Splitter Used for M1 5/23/06 @ 0617 – 5/24/06 @ 1901

Requested Analyses

PCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TSS	General: TS/TDS	General: Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Cu, Pb, Zn)	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs	Outside: PAHs	Outside: PCBs	Comments
FO 060673	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	5/24/06	1901	C	•	•	•	•	•			•	•	•	•				
FO 060674	4900 NW KITTRIDGE AVE (OF19)	OF19	5/24/06	1526	C	•	•	•			•	•	•	•	•	•	•	•	•	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Jordan McCann	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1443	Time:	Time:	Time:
Printed Name: Rona Kinch	Printed Name:	Printed Name:	Printed Name:
Date: 5/25/06	Date:	Date:	Date:

ANALYTICAL REPORT

Job Number: 580-2651-1

Job Description: Semivolatiles

For:
TestAmerica Analytical Testing Corp.
9405 SW Nimbus Ave
Beaverton, OR 97008

Attention: Howard Holmes

Heather Curbow
Project Manager I
hcurbow@stl-inc.com
11/30/2006
Revision: 2

Project Manager: Heather Curbow

STL Seattle is a part of Severn Trent Laboratories, Inc.

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EXECUTIVE SUMMARY - Detections

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-2651-1	**PPE1227-01**					
Naphthalene		0.018	J	0.097	ug/L	8270C
2-Methylnaphthalene		0.019	J	0.13	ug/L	8270C
Fluorene		0.0086	J	0.097	ug/L	8270C
Phenanthrene		0.035	J B	0.097	ug/L	8270C
Fluoranthene		0.064	J	0.097	ug/L	8270C
Pyrene		0.083	J	0.097	ug/L	8270C
Benzo[a]anthracene		0.028	J	0.097	ug/L	8270C
Chrysene		0.052	J	0.097	ug/L	8270C
Benzofluoranthene		0.052	J	0.19	ug/L	8270C
Indeno[1,2,3-cd]pyrene		0.022	J	0.097	ug/L	8270C
Benzo[g,h,i]perylene		0.038	J	0.097	ug/L	8270C
Dimethyl phthalate		1.1	J	2.0	ug/L	8270C
Di-n-butyl phthalate		0.82	J	2.0	ug/L	8270C
Pyrene		0.099	J	0.30	ug/L	8270C
Butyl benzyl phthalate		1.1	J	3.0	ug/L	8270C
Bis(2-ethylhexyl) phthalate		2.3	J	15	ug/L	8270C
Di-n-octyl phthalate		1.1	J	2.0	ug/L	8270C

SAMPLE SUMMARY

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-2651-1	PPE1227-01	Water	05/24/2006 1200	05/26/2006 0735

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Client Sample ID: PPE1227-01

Lab Sample ID: 580-2651-1
Client Matrix: Water

Date Sampled: 05/24/2006 1200
Date Received: 05/26/2006 0735

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 06/01/2006 2147
Date Prepared: 05/31/2006 0827

Analysis Batch: 580-7537
Prep Batch: 580-7276

Instrument ID: SEA040
Lab File ID: ak004881.D
Initial Weight/Volume: 1010 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.87	3.0
Bis(2-chloroethyl)ether	ND		0.29	2.0
2-Chlorophenol	ND		0.24	2.0
1,3-Dichlorobenzene	ND		0.55	2.0
1,4-Dichlorobenzene	ND		0.63	2.0
Benzyl alcohol	ND		0.37	2.0
1,2-Dichlorobenzene	ND		0.50	2.0
2-Methylphenol	ND		0.62	2.0
Bis(2-chloroisopropyl) ether	ND		0.27	2.0
3 & 4 Methylphenol	ND		0.47	4.0
N-Nitrosodi-n-propylamine	ND		0.29	2.0
Hexachloroethane	ND		0.74	3.0
Nitrobenzene	ND		0.17	2.0
Isophorone	ND		0.23	2.0
2-Nitrophenol	ND		0.55	2.0
2,4-Dimethylphenol	ND		1.5	9.9
Benzoic acid	ND		1.0	9.9
Bis(2-chloroethoxy)methane	ND		0.31	2.0
2,4-Dichlorophenol	ND		0.30	2.0
1,2,4-Trichlorobenzene	ND		0.57	2.0
Naphthalene	ND		0.61	2.0
4-Chloroaniline	ND		0.48	2.0
Hexachlorobutadiene	ND		0.77	3.0
4-Chloro-3-methylphenol	ND		0.40	2.0
2-Methylnaphthalene	ND		0.18	0.99
Hexachlorocyclopentadiene	ND		0.51	9.9
2,4,6-Trichlorophenol	ND		0.84	3.0
2,4,5-Trichlorophenol	ND		0.52	2.0
2-Chloronaphthalene	ND		0.076	0.30
2-Nitroaniline	ND		0.28	2.0
Dimethyl phthalate	1.1	J	0.28	2.0
Acenaphthylene	ND		0.11	0.40
2,6-Dinitrotoluene	ND		0.21	2.0
3-Nitroaniline	ND		0.28	2.0
Acenaphthene	ND		0.14	0.50
2,4-Dinitrophenol	ND		7.4	25
4-Nitrophenol	ND		1.7	9.9
Dibenzofuran	ND		0.27	2.0
2,4-Dinitrotoluene	ND		0.36	2.0
Diethyl phthalate	ND		0.22	2.0
4-Chlorophenyl phenyl ether	ND		0.35	2.0
Fluorene	ND		0.090	0.30
4-Nitroaniline	ND		0.80	3.0

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Client Sample ID: PPE1227-01

Lab Sample ID: 580-2651-1
Client Matrix: Water

Date Sampled: 05/24/2006 1200
Date Received: 05/26/2006 0735

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 06/01/2006 2147
Date Prepared: 05/31/2006 0827

Analysis Batch: 580-7537
Prep Batch: 580-7276

Instrument ID: SEA040
Lab File ID: ak004881.D
Initial Weight/Volume: 1010 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		6.5	20
N-Nitrosodiphenylamine	ND		0.27	2.0
4-Bromophenyl phenyl ether	ND		0.28	2.0
Hexachlorobenzene	ND		0.38	2.0
Pentachlorophenol	ND		1.1	3.5
Phenanthrene	ND		0.13	0.40
Anthracene	ND		0.065	0.20
Di-n-butyl phthalate	0.82	J	0.32	2.0
Fluoranthene	ND		0.073	0.25
Pyrene	0.099	J	0.083	0.30
Butyl benzyl phthalate	1.1	J	0.19	3.0
3,3'-Dichlorobenzidine	ND		1.4	9.9
Benzo[a]anthracene	ND		0.10	0.30
Chrysene	ND		0.051	0.20
Bis(2-ethylhexyl) phthalate	2.3	J	0.59	15
Di-n-octyl phthalate	1.1	J	0.43	2.0
Benzofluoranthene	ND		0.12	0.40
Benzo[a]pyrene	ND		0.048	0.20
Indeno[1,2,3-cd]pyrene	ND		0.074	0.30
Dibenz(a,h)anthracene	ND		0.098	0.30
Benzo[g,h,i]perylene	ND		0.068	0.30
Carbazole	ND		0.22	2.0
1-Methylnaphthalene	ND		0.090	0.30

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	34	10 - 120
Phenol-d5	19	10 - 102
Nitrobenzene-d5	92	34 - 146
2-Fluorobiphenyl	91	35 - 143
2,4,6-Tribromophenol	72	29 - 151
Terphenyl-d14	92	35 - 166

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Client Sample ID: PPE1227-01

Lab Sample ID: 580-2651-1
Client Matrix: Water

Date Sampled: 05/24/2006 1200
Date Received: 05/26/2006 0735

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 05/31/2006 1516
Date Prepared: 05/31/2006 0829

Analysis Batch: 580-7339
Prep Batch: 580-7277

Instrument ID: SEA040
Lab File ID: ak004863.D
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.018	J	0.0058	0.097
2-Methylnaphthalene	0.019	J	0.0087	0.13
1-Methylnaphthalene	ND		0.031	0.097
Acenaphthylene	ND		0.0039	0.097
Acenaphthene	ND		0.0029	0.097
Fluorene	0.0086	J	0.0078	0.097
Phenanthrene	0.035	J B	0.0029	0.097
Anthracene	ND		0.0078	0.097
Fluoranthene	0.064	J	0.0087	0.097
Pyrene	0.083	J	0.013	0.097
Benzo[a]anthracene	0.028	J	0.0087	0.097
Chrysene	0.052	J	0.0087	0.097
Benzofluoranthene	0.052	J	0.030	0.19
Benzo[a]pyrene	ND		0.058	0.19
Indeno[1,2,3-cd]pyrene	0.022	J	0.015	0.097
Dibenz(a,h)anthracene	ND		0.012	0.097
Benzo[g,h,i]perylene	0.038	J	0.017	0.097

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	79	34 - 146
2-Fluorobiphenyl	76	35 - 143
Terphenyl-d14	73	35 - 166

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Client Sample ID: PPE1227-01

Lab Sample ID: 580-2651-1
Client Matrix: Water

Date Sampled: 05/24/2006 1200
Date Received: 05/26/2006 0735

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 06/01/2006 0031
Date Prepared: 05/31/2006 1259

Analysis Batch: 580-7490
Prep Batch: 580-7308

Instrument ID: SEA034
Lab File ID: PCB1099.D
Initial Weight/Volume: 1020 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
PCB-1016	ND		0.049
PCB-1221	ND		0.049
PCB-1232	ND		0.049
PCB-1242	ND		0.049
PCB-1248	ND		0.049
PCB-1254	ND		0.049
PCB-1260	ND		0.049

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	101	32 - 134
DCB Decachlorobiphenyl	85	55 - 128

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Method Blank - Batch: 580-7276

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-7276/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/01/2006 2033
Date Prepared: 05/31/2006 0827

Analysis Batch: 580-7537
Prep Batch: 580-7276
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak004878.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.88	3.0
Bis(2-chloroethyl)ether	ND		0.29	2.0
2-Chlorophenol	ND		0.24	2.0
1,3-Dichlorobenzene	ND		0.56	2.0
1,4-Dichlorobenzene	ND		0.64	2.0
Benzyl alcohol	ND		0.37	2.0
1,2-Dichlorobenzene	ND		0.51	2.0
2-Methylphenol	ND		0.63	2.0
Bis(2-chloroisopropyl) ether	ND		0.27	2.0
3 & 4 Methylphenol	ND		0.47	4.0
N-Nitrosodi-n-propylamine	ND		0.29	2.0
Hexachloroethane	ND		0.75	3.0
Nitrobenzene	ND		0.17	2.0
Isophorone	ND		0.23	2.0
2-Nitrophenol	ND		0.56	2.0
2,4-Dimethylphenol	ND		1.5	10
Benzoic acid	ND		1.0	10
Bis(2-chloroethoxy)methane	ND		0.31	2.0
2,4-Dichlorophenol	ND		0.30	2.0
1,2,4-Trichlorobenzene	ND		0.58	2.0
Naphthalene	ND		0.62	2.0
4-Chloroaniline	ND		0.48	2.0
Hexachlorobutadiene	ND		0.78	3.0
4-Chloro-3-methylphenol	ND		0.40	2.0
2-Methylnaphthalene	ND		0.18	1.0
Hexachlorocyclopentadiene	ND		0.52	10
2,4,6-Trichlorophenol	ND		0.85	3.0
2,4,5-Trichlorophenol	ND		0.53	2.0
2-Chloronaphthalene	ND		0.077	0.30
2-Nitroaniline	ND		0.28	2.0
Dimethyl phthalate	ND		0.28	2.0
Acenaphthylene	ND		0.11	0.40
2,6-Dinitrotoluene	ND		0.21	2.0
3-Nitroaniline	ND		0.28	2.0
Acenaphthene	ND		0.14	0.50
2,4-Dinitrophenol	ND		7.5	25
4-Nitrophenol	ND		1.7	10
Dibenzofuran	ND		0.27	2.0
2,4-Dinitrotoluene	ND		0.36	2.0
Diethyl phthalate	ND		0.22	2.0
4-Chlorophenyl phenyl ether	ND		0.35	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Method Blank - Batch: 580-7276

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-7276/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/01/2006 2033
Date Prepared: 05/31/2006 0827

Analysis Batch: 580-7537
Prep Batch: 580-7276
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak004878.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.091	0.30
4-Nitroaniline	ND		0.81	3.0
4,6-Dinitro-2-methylphenol	ND		6.6	20
N-Nitrosodiphenylamine	ND		0.27	2.0
4-Bromophenyl phenyl ether	ND		0.28	2.0
Hexachlorobenzene	ND		0.38	2.0
Pentachlorophenol	ND		1.1	3.5
Phenanthrene	ND		0.13	0.40
Anthracene	ND		0.066	0.20
Di-n-butyl phthalate	0.47	J	0.32	2.0
Fluoranthene	ND		0.074	0.25
Pyrene	ND		0.084	0.30
Butyl benzyl phthalate	ND		0.19	3.0
3,3'-Dichlorobenzidine	ND		1.4	10
Benzo[a]anthracene	ND		0.10	0.30
Chrysene	ND		0.052	0.20
Bis(2-ethylhexyl) phthalate	ND		0.60	15
Di-n-octyl phthalate	ND		0.43	2.0
Benzofluoranthene	ND		0.12	0.40
Benzo[a]pyrene	ND		0.048	0.20
Indeno[1,2,3-cd]pyrene	ND		0.075	0.30
Dibenz(a,h)anthracene	ND		0.099	0.30
Benzo[g,h,i]perylene	ND		0.069	0.30
Carbazole	ND		0.22	2.0
1-Methylnaphthalene	ND		0.091	0.30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol		
Phenol-d5		
Nitrobenzene-d5		
2-Fluorobiphenyl		
2,4,6-Tribromophenol		
Terphenyl-d14		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-7276

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-7276/2-A	Analysis Batch: 580-7537	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-7276	Lab File ID: ak004879.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	06/01/2006 2058		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 0827		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-7276/3-A	Analysis Batch: 580-7537	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-7276	Lab File ID: ak004880.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	06/01/2006 2123		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 0827		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol						J	J
Bis(2-chloroethyl)ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
Benzyl alcohol							
1,2-Dichlorobenzene							
2-Methylphenol							
Bis(2-chloroisopropyl) ether							
3 & 4 Methylphenol							
N-Nitrosodi-n-propylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol						J	J
Benzoic acid						J	J
Bis(2-chloroethoxy)methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene							
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-methylphenol							
2-Methylnaphthalene							
Hexachlorocyclopentadiene						J	J
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethyl phthalate							
Acenaphthylene							

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-7276

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-7276/2-A	Analysis Batch:	580-7537	Instrument ID:	SEA040
Client Matrix:	Water	Prep Batch:	580-7276	Lab File ID:	ak004879.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	06/01/2006 2058			Final Weight/Volume:	10 mL
Date Prepared:	05/31/2006 0827			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-7276/3-A	Analysis Batch:	580-7537	Instrument ID:	SEA040
Client Matrix:	Water	Prep Batch:	580-7276	Lab File ID:	ak004880.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	06/01/2006 2123			Final Weight/Volume:	10 mL
Date Prepared:	05/31/2006 0827			Injection Volume:	

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene							
3-Nitroaniline							
Acenaphthene							
2,4-Dinitrophenol						J	J
4-Nitrophenol						J	J
Dibenzofuran							
2,4-Dinitrotoluene							
Diethyl phthalate							
4-Chlorophenyl phenyl ether							
Fluorene							
4-Nitroaniline							
4,6-Dinitro-2-methylphenol						J	J
N-Nitrosodiphenylamine							
4-Bromophenyl phenyl ether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene							
Anthracene							
Di-n-butyl phthalate							
Fluoranthene							
Pyrene							
Butyl benzyl phthalate							
3,3'-Dichlorobenzidine							
Benzo[a]anthracene							
Chrysene							
Bis(2-ethylhexyl) phthalate						J	J
Di-n-octyl phthalate							
Benzofluoranthene							
Benzo[a]pyrene							
Indeno[1,2,3-cd]pyrene							
Dibenz(a,h)anthracene							
Benzo[g,h,i]perylene							

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-7276

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-7276/2-A	Analysis Batch:	580-7537	Instrument ID:	SEA040
Client Matrix:	Water	Prep Batch:	580-7276	Lab File ID:	ak004879.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	06/01/2006 2058			Final Weight/Volume:	10 mL
Date Prepared:	05/31/2006 0827			Injection Volume:	

LCSD Lab Sample ID:	LCSD 580-7276/3-A	Analysis Batch:	580-7537	Instrument ID:	SEA040
Client Matrix:	Water	Prep Batch:	580-7276	Lab File ID:	ak004880.D
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	06/01/2006 2123			Final Weight/Volume:	10 mL
Date Prepared:	05/31/2006 0827			Injection Volume:	

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole							
1-Methylnaphthalene							

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol			
Phenol-d5			
Nitrobenzene-d5			
2-Fluorobiphenyl			
2,4,6-Tribromophenol			
Terphenyl-d14			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Method Blank - Batch: 580-7277

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-7277/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/31/2006 1339
Date Prepared: 05/31/2006 0829

Analysis Batch: 580-7339
Prep Batch: 580-7277
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak004859.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0060	0.10
2-Methylnaphthalene	ND		0.0090	0.13
1-Methylnaphthalene	ND		0.032	0.10
Acenaphthylene	ND		0.0040	0.10
Acenaphthene	ND		0.0030	0.10
Fluorene	ND		0.0080	0.10
Phenanthrene	0.0033	J	0.0030	0.10
Anthracene	ND		0.0080	0.10
Fluoranthene	ND		0.0090	0.10
Pyrene	ND		0.013	0.10
Benzo[a]anthracene	ND		0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	ND		0.031	0.20
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	78	34 - 146
2-Fluorobiphenyl	81	35 - 143
Terphenyl-d14	85	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-7277

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-7277/2-A	Analysis Batch: 580-7339	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-7277	Lab File ID: ak004860.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	05/31/2006 1403		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 0829		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-7277/3-A	Analysis Batch: 580-7339	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-7277	Lab File ID: ak004861.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	05/31/2006 1427		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 0829		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene							
2-Methylnaphthalene							
1-Methylnaphthalene							
Acenaphthylene							
Acenaphthene							
Fluorene							
Phenanthrene							
Anthracene							
Fluoranthene							
Pyrene							
Benzo[a]anthracene							
Chrysene							
Benzofluoranthene							
Benzo[a]pyrene							
Indeno[1,2,3-cd]pyrene							
Dibenz(a,h)anthracene							
Benzo[g,h,i]perylene							

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5			
2-Fluorobiphenyl			
Terphenyl-d14			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Method Blank - Batch: 580-7308

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-7308/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 05/31/2006 2320
Date Prepared: 05/31/2006 1259

Analysis Batch: 580-7490
Prep Batch: 580-7308
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB1096.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.50
PCB-1221	ND		0.50
PCB-1232	ND		0.50
PCB-1242	ND		0.50
PCB-1248	ND		0.50
PCB-1254	ND		0.50
PCB-1260	ND		0.50

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	112	32 - 134
DCB Decachlorobiphenyl	111	55 - 128

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-7308

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-7308/2-A	Analysis Batch: 580-7490	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-7308	Lab File ID: PCB1097.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	05/31/2006 2343		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 1259		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-7308/3-A	Analysis Batch: 580-7490	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-7308	Lab File ID: PCB1098.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	06/01/2006 0007		Final Weight/Volume: 10 mL
Date Prepared:	05/31/2006 1259		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1242	111	117	44 - 127	5	27		
PCB-1260	130	135	53 - 130	4	22		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	132	120	32 - 134
DCB Decachlorobiphenyl	113	117	55 - 128

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PPE1227

4
3.1

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :253-922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPE1227-01	**Water**	**Sampled:05/24/06 12:00**		C.O.P ID F0060674
8082 PCB	06/08/06 23:59	05/31/06 12:00		Low Level
8270C Semivolatiles	06/08/06 23:59	05/31/06 12:00		Low Level
8270 SIM PAH	06/08/06 23:59	05/31/06 12:00		Low Level

Containers Supplied:

1L Amber - Unpres. (A) 1L Amber - Unpres. (B) 1L Amber - Unpres. (C) 1L Amber - Unpres. (D)

Released By	Date	Received By	Date
	5/25/06		5/26/06
Released By	Date	Received By	Date

Non-Conformances?
Circle Y or N
(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to items at receipt)
Date: 5/25/06
Time: 14:45
Initials: [illegible]

Logged-in By:
Date: 5/25/06
Initials: LA

Unpacked/Labeled By:
Date: 5/25
Initials: SM

Cooler ID: ____ (___ of ___)

Work Order No. PPE1227
Client: City of Port.
Project: _____

Container Type:
__/__ Cooler
____ Box
____ None/Other _____

COC Seals:
____ Ship. Container ____ Sign By
____ On Bottles ____ Date
__X__ None

Packing Material _____
____ Bubble Bags ____ Styrofoam
____ Foam Packs
__X__ None/Other Other _____

Refrigerant:
____ Gel Ice Pack _____ ____ None
__X__ Loose Ice
____ None/Other _____

Received Via: Bill# _____
____ Fed Ex ____ Client
____ UPS __X__ NCA Courier
____ DHL ____ Mid Valley
____ Senvoy ____ TDP
____ GS ____ Other _____

Cooler Temperature (IR): 1.5* °C Plastic (Glass) (Frozen filters, Tedlars and aqueous Metals exempt)
(circle one)

Temperature Blank? _____°C or NA

Trip Blank? Y or N or NA

Sample Containers:		ID			ID
Intact?	(Y) or N	_____	Metals Preserved?	Y or N or (NA)	_____
Provided by NCA?	(Y) or N	_____	Client QAPP Preserved?	Y or N or (NA)	_____
Correct Type?	(Y) or N	_____	Adequate Volume? (for tests requested)	(Y) or N	_____
#Containers match COC?	(Y) or N	_____	Water VOAs: Headspace?	Y or N or (NA)	_____
IDs/time/date match COC?	(Y) or N	_____	Comments:		
Hold Times in hold?	(Y) or N	_____			

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems _____

Total access set up? Y or N
Has client been contacted regarding non-conformances? Y or N If Y, ____/____ (Date / Time)

PM Initials: _____ Date: _____ Time: _____

(rev 3, 09/12/05)

Curbow, Heather

From: Shackelford, Jennifer [JENNIFERS@BES.CI.PORTLAND.OR.US]
Sent: Friday, May 26, 2006 12:56 PM
To: Curbow, Heather
Subject: City of Portland

Hello Heather,

My name is Jennifer Shackelford and I'm with the Water Pollution Control Lab for the City of Portland, Oregon. Howard Holmes at Test America forwarded me a question that you had regarding project PPE1227 (Test America ID, FO060674 Portland ID). STL analyzed a similar sample in March, STL ID 580-1915-1 (Test America ID P2C0815-01) for PAH, PCB, and SVOC 8270. Please use the same analyte lists and detection limits for this current sample as were used for the previous sample.

If you have further questions, I will be in until 3pm.

Thank you,

Jennifer Shackelford
Production Specialist
Water Pollution Control Lab
503-823-5614

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2651-1

Login Number: 2651

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	1 broken bottle FO 060674 B
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Appendix B
Outfall 19 MS4 Program Monitoring

Part 2: FY 2006 – 2007

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory

6543 N. Burlington Avenue, Room 217, Portland, Oregon 97203 ▪ Sam Adams, Commissioner ▪ Dean Marriott, Director

November 15, 2007

Frank Wildensee
City of Portland, Bureau of Environmental Services
1120 SW 5th Avenue, Room 1000
Portland, OR 97204-1972

LAND USE STORMWATER MONITORING
FISCAL YEAR 2006-07 REPORT
STORM EVENTS

M1 Event 43: November 2-3, 2006
M1 Event 44: January 9, 2007
M1 Event 45: February 14-16, 2007
OF19 Event 4: November 2-3, 2006
OF19 Event 5: November 19, 2006
OF19 Event 6: February 14-16, 2007
S45U Event 1: January 9, 2007
S45U Event 2: February 14-16, 2007
S45U Event 3: March 7, 2007

INTRODUCTION

This report presents the results of the nine discrete storm sampling events conducted at three different mixed land use stations in fiscal year (FY) 2006-07 to comply with the City of Portland's (City) National Pollutant Discharge Elimination System (NPDES) municipal stormwater discharge permit. In response to increased monitoring requirements of the City's reissued MS4 permit, sampling location S45U in the Johnson Creek Watershed was added to the project. For this project, these monitoring events represent M1 Events 43 through 45, OF19 Events 4 through 6 (Industrial Stormwater Events 23 through 25), and S45U Events 1 through 3. Samples were also collected for additional analytes at the OF19 monitoring location at the request of the Portland Harbor Superfund program in order to characterize potential stormwater impacts in the Portland Harbor. The Environmental Investigations Division performed the work for the Environmental Management Division's Regulatory/Policy section.

Land Use Stormwater Monitoring: FY 2006-07

BACKGROUND INFORMATION

In 1991, the City implemented a stormwater monitoring program as required by the municipal NPDES stormwater discharge permit application process. Ten stations throughout the city representing residential, commercial, industrial, state highway corridor, open space, and mixed land uses were selected for stormwater monitoring. In FY 1996-97, the monitoring plan was reduced to four land use stations so limited City resources could be allocated to other stormwater monitoring projects. Three of the four selected stations represented instream conditions, providing an overall measure of water quality in the watersheds. The fourth station, site M1, is an in-pipe monitoring point located in a subbasin pilot project area (City outfall 99 basin), which is the site of several planned stormwater treatment facilities. In FY 1999-00, one of the three instream sites was dropped in order to fund a best management practice (BMP) monitoring project in that watershed. In FY 2002-03, the two remaining instream sites were dropped from the monitoring plan leaving only the in-pipe location for continued monitoring for this project.

OF19 was added to the monitoring program to represent industrial areas and stormwater discharges to the Lower Willamette watershed. OF19 historically has been monitored to identify potential sources of industrial stormwater pollution and to measure the effectiveness of the City's Industrial Stormwater Program. The Industrial Stormwater Program was developed in response to 40 CFR 122.26 "Storm water discharges", which requires certain municipalities to implement a program to control and monitor stormwater runoff associated with industrial activity. OF19 has been monitored for at least three events per year over seven consecutive years starting in FY 1998-99. The list of analyses for samples collected at OF19 has been expanded to meet the objectives of both programs.

S45U was added in FY 2006-07 as a sampling location representative of stormwater discharges to Johnson Creek. S45U was monitored previously for five storm events as part of the Johnson Creek Pesticide Source study conducted in FY 2003-04.

Overviews of the current monitoring locations are shown in Figures 1 and 2A through 2C.

SAMPLING LOCATIONS, FIELD PROCEDURES, AND ANALYTICAL PARAMETERS

Sample collection and field parameter measurements are performed by the BES Field Operations section. The BES Water Pollution Control Laboratory (WPCL) provides primary analytical services. Selected analyses are performed by Test America in Beaverton, Oregon. Low-level organics analyses services are performed by STL (Test America as of January 2007) in Seattle, Washington for the OF19 site.

Sampling Locations

The remaining monitoring site selected from the original ten land use stations is considered to best represent urban stormwater runoff quality from a mixed land use area. Site M1, located at 5241 NE 122nd Ave., is an in-pipe sampling location receiving runoff from 144 acres of residential, commercial, industrial, and open space land uses. The sampling site is located in a 60-inch municipal separate storm sewer pipe accessed by a manhole on the west shoulder of NE 122nd Avenue. A site map is provided in Figure 3A.

OF19 is ranked by the City as one of the "Top Ten" outfalls for potential impacts on water quality and the outfall basin contains a significant number of industrial facilities. Monitoring is conducted in the 475-acre outfall 19 basin located in northwest Portland (Figure 2B). The basin is approximately 20 percent impervious due to significant industrial land use. Stormwater from this basin discharges to the Willamette River through a 42-inch outfall. The sampling manhole is located on the northwest corner of the intersection at NW Front and Kittridge Avenues (Figure 3B). Sampling and flow monitoring are performed in the 42-inch outlet pipe of this manhole.

S45U is located in the Johnson Creek watershed and represents a mix of residential, commercial, and industrial land use. The sampling manhole is location in the intersection of SE Umatilla and SE 45th Avenue (Figure 3C). Stormwater from this basin discharges to Johnson Creek through a 48-inch outfall.

Field Procedures

Storm Criteria

In order to meet the data quality objectives of this project, monitoring is attempted for storms that are predicted to fulfill specified criteria. Currently, these criteria include a 6-hour antecedent dry period and a minimum of 0.20 inches of precipitation in a 12-hour period for the M1 and S45U sampling locations. For the OF19 site, the criteria include a 72-hour antecedent dry period and a minimum 0.20 inches of precipitation over a 3 to 24-hour sample collection period. An antecedent dry period is defined as less than 0.10 inches of precipitation in the specified period preceding the storm event.

Flow Monitoring

All three sites have uniformly shaped pipes, well suited for electronic flow quantification. Flow monitoring data are obtained through the use of a Sigma 950 Flow Meter. The flow sensor in the pipe collects level and velocity data, which are used in conjunction with pipe geometry information to calculate flow using the area-velocity method. During a sampling event, the flow meter calculates and records data at five-minute intervals.

Water Quality Sampling

Grab Samples

Grab samples are collected with a decontaminated stainless steel bailer attached to a telescoping sampling pole. The bailer is rinsed once with water from the sampling stream prior to filling the sample bottles and measuring the field parameters. Oil and grease samples are collected directly into the sample bottles.

Composite Samples

An Isco 6700 Portable Sampler is used for composite sample collection. All three sites are located in storm sewer lines where a sampler and a flow meter are secured in a manhole. At M1 and S45U, reinforced vinyl tubing extends from the sampler onto the pipe floor, where a stainless steel sample head is secured. With the additional low-level organics analyses, Teflon-lined tubing is used at

location OF19 to avoid potential organics contamination. The sampler utilizes a peristaltic pump to draw sample up the tubing and distribute it into composite bottles in the sampler base.

The flow meter is programmed to trigger the sampler every time a specified volume flows past the sensor. In an attempt to divide the storm runoff into 24 volume-proportioned aliquots, the trigger volume is calculated as one twenty-fourth of the expected runoff volume for the event. The expected runoff is calculated using the predicted rain amount for the event, basin size and a basin-specific runoff coefficient. For OF19, the flow meter is programmed to activate the sampler when the water level rises from base flow level to the predetermined trigger level. In order to prevent the sampling program from activating during the minor level increases that often occur before the main storm arrives, a minimum of 0.5 inches is added to the base flow level when calculating trigger level. Eight 1.9-liter decontaminated plastic composite bottles are used in the M1 sampler. Eight 1.9-liter organics decontaminated glass composite bottles are used in the OF19 sampler. For each trigger sent from the flow meter to the sampler, one 600-milliliter aliquot is pumped into a composite bottle. Each bottle receives three aliquots, whereupon the sampler distributor arm advances to the next bottle. Full bottles are removed and replaced with empty bottles as necessary over the course of the event. The number of aliquots collected may vary from the desired 24 as storm event rainfall totals often vary significantly from predictions. At the end of the event, a final composite is created by combining bottles that represent greater than 75 percent of the storm flow as recorded by the meter. At site M1, representative bottles are combined into a churn splitter where analyte-specific sample bottles are then filled from a spigot during churn agitation.

Decontamination Procedures

All equipment that comes in contact with water samples is decontaminated in accordance with Field Operations SOP 7.01a – Decontamination of Sampling Equipment by the following procedure.

1. Wash in non-phosphate detergent (e.g., Alconox Detergent 8 or Liqui-nox).
2. Rinse in tap water.
3. Rinse in 10 percent nitric acid.
4. Rinse with deionized water.
5. Rinse with 10 percent Acetone solution (OF19 only).
6. Rinse with ultrapure water.

Prior to the storm event, both the peristaltic pump tubing and reinforced vinyl tubing at M1 is decontaminated by pumping through the same series of solutions listed above. At the OF19 site, an additional 10 percent Acetone rinse is pumped through Teflon-lined tubing after Step 4.

Analytical Constituents

Grab Samples

Grab samples are monitored in the field for conductivity, pH, and temperature using portable analytical meters. Dissolved oxygen is no longer measured. Grab samples are submitted to the laboratory for analysis of *Escherichia coli* and total oil and grease. Nonpolar oil and grease is measured if total oil and grease is greater than or equal to 10 milligrams per liter (mg/L).

Composite Samples

Composite samples are submitted to the laboratory for analysis of ammonia-nitrogen, nitrate-nitrogen, orthophosphate phosphorus, total dissolved solids, total phosphorus, total solids, total suspended solids, hardness, total metals (chromium, copper, lead, and zinc) and dissolved metals (copper, lead, and zinc). Additional samples were submitted from all three events at OF19 for polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and additional metals (total and dissolved arsenic, silver, and cadmium, and dissolved chromium).

WEATHER AND SAMPLING SUMMARY

The following section summarizes the weather and sampling information for each of the three events. Weather forecasts were obtained through the City-contracted ERF Company, Inc (ERF). Tables 1 through 3 present the complete rain gauge data as recorded by the City's Hydrological Data Retrieval and Alarm System (HYDRA) for the three storm events and the corresponding 72-hour antecedent dry periods for the three sampling locations. While City rain gauges provide the best available estimation of rainfall at monitoring sites they can be located several miles from study areas. Hence, rain gauge data may not accurately depict rainfall conditions at particular sites, especially during events with sporadic, localized rain activity.

Gauge 111 (NE Airport Way) is used for the M1 sample location and is located approximately one and a half miles west of the monitoring site. The previous rain gauge used for M1, Gauge 9 (PDX Business Park), was retired on September 21, 2004. Gauge 121 (Yeon) is used for monitoring site OF19 and is located within two miles of the sampling site. For monitoring conducted at OF19 for the Industrial Stormwater Program, rainfall at OF 19 was formerly estimated as an average of rainfall totals measured at Gauges 121 and 125 (Guilds Lake). Gauge 125 was retired on March 23, 2005. No additional gauges were used for rainfall estimates in the area since Gauge 121 and former Gauge 125 are the only gauges in the vicinity of the sampling site that represent the slight rain shadow caused by the West Hills in the NW industrial district. Gage 64 (2033 SE Harney St) is used for S45U and is located approximately 1.4 miles west of the monitoring location.

The river level gauge at Ankeny Pump Station is used to determine Willamette River levels in order to insure that river water has not backed up into the outfall sampling location. The river level must be below 20 feet above mean sea level to avoid potential commingling of OF19 stormwater with Willamette River water. River level data is checked by the Field Operations team leader prior to sample collection. All times in this report text, figures and tables are listed in 24-hour, Pacific Standard Time.

Events Summary

Summaries of antecedent, storm event, and sample collection time rainfall for the three monitoring locations are presented in Table 4. Additional information regarding each monitoring event is summarized below and includes specific comments for each event and descriptions of any deviations from proposed monitoring.

Sampling equipment including bailers and composite samplers are typically decontaminated, calibrated, and programmed during the 24-hour period prior to a predicted storm event. Sampling preparation may occur up to 72 hours prior to predicted weekend storm events. Final composite samples are prepared by combining all aliquots into a churn splitter in the laboratory and subsequently filling analyte-specific bottles through churn agitation.

Sampling went smoothly for all events and no significant problems were encountered except as described below. Storm durations were generally captured and storms are well-represented by composite samples. As described below, two events sampled were less than the target storm event rainfall totals.

M1 Events Summary

Event 43: No problems encountered.

Event 44: Event 44 was initially attempted on November 19, 2006; however, no velocity data or samples were collected due to a faulty sensor. The sensor was replaced upon discovery.

Event 44 was completed on January 9, 2007. Sampling operations went smoothly for this event with no significant problems encountered. The majority of the storm duration was captured and is well represented by the composite sample. At 0.13 inches of total precipitation, the storm event was less than the desired rainfall total of 0.20 inches and predicted total of 0.25+ inches. However, the event was a good representation of a short (5 hours), light event with a sufficient dry period (54 hours).

Event 45: No problems were encountered other than one missed trigger ("no more liquid" registered on the autosampler).

OF19 Events Summary

Event 4: No problems were encountered other than one missed trigger ("no more liquid" registered on the autosampler) and the sampler was inadvertently programmed to collect 300 rather than 600 ml for each aliquot. Thirty aliquots were collected which was more than sufficient to complete all analyses.

Event 5: No problems were encountered other than some variation in sample bottle volumes. The field team leader suggested that the likely cause was air entrained in stormwater as aliquots were collected by the autosampler. This could be caused either through turbulence or fluctuations in water levels in the storm sewer. The seven sample bottles filled by the autosampler were fairly evenly distributed between ½ full to full. Though sample aliquots apparently were of different volumes, the differences are spread out through the event and the Event 5 composite sample is likely still representative of the bulk of the storm event.

Event 6: No problems encountered.

S45U Events Summary

Event 1: Sampling operations went smoothly for this event with no significant problems encountered. At 0.18 inches of total precipitation, the storm event was slightly less than the desired rainfall total of 0.20 inches and predicted total of 0.25+ inches. However, the rising limb, peak, and falling limb were caught and the composite sample was considered a good representation of a short-duration storm event.

Event 2: No problems encountered.

Event 3: Field parameters were not measured as a field meter was not available at the time grab samples were collected. No other problems were encountered. The storm event rainfall total was greater than 0.20 inches; however, less than 75% of the total event was captured. The rising limb, peak, and falling limb were caught and the composite sample was considered a good representation of a short-duration storm event.

MONITORING AND SAMPLING RESULTS

Hydrographs summarizing flow, rainfall, and sampling information for each storm event are presented in Figures 4A through 6C. The individual sample triggers sent from the flow meters to the samplers, which represent aliquots of the composite samples, are represented by the ▲ symbol on the x-axis of the graph.

Tables 5 through 7 present a summary of all field and laboratory analytical data for the three events. The complete Laboratory Analysis Reports and chain-of-custody records are included in the attachments. Refer to the laboratory reports for information regarding the analytical methods used and the corresponding method reporting limits. Note that in the attached lab reports for the OF19 site, PAHs are reported twice with two different sets of method detection limits. PAHs were reported as part of the full EPA Method 8270 suite; however, in order to achieve lower detection limits for PAHs using the 8270 SIM method, the instrument must be calibrated for a narrower range such that only PAHs are reportable. Subsequently, the analysis must be performed twice in order to report all analytes and achieve desired detection limits for PAHs. Only the PAH-SIM results are shown in Table 4B as more analytes are detected with lower the MDLs for the PAH-SIM method. Several analytes were detected in both analyses and the results met precision goals for field duplicate samples, thus, only one result for each analyte is reported here.

DATA VALIDATION & USABILITY

No problems were encountered with data validation except for the following:

- Several PAHs and phthalates were detected in method blanks for the EPA 8270 PAH-SIM and SVOC analysis at the OF19 monitoring location. All method blank detections were below the MRLs and the concentrations detected in the associated sample. Sample concentrations less than 10x the blank concentration are qualified with "JB" for estimated due to blank contamination. Typically, data is only qualified as estimated due to blank

contamination if sample concentrations are less than 5x the blank concentration. If the analytes are recognized as common laboratory contaminants, such as acetone or phthalates, the "10x rule" is used. 10x is used here for both phthalates and PAHs as these laboratory contaminants tend to be more common as MDLs approach the ng/l range.

- The e. coli result for the OF19 Event 4 sample is qualified with "J" for estimated as the sample was analyzed slightly outside the holding time due to a sample coordination error.
- The M1 BOD result for the sample collected on June 5, 2007 was qualified as estimated with potential high bias due to detects in the method blanks.

Also note that some of the low-level organics data is reported below the MRL but above the MDL and is subsequently qualified with "J" for estimated. Other than as noted above, none of the other low-level organics data were qualified. All data are usable as reported or with associated qualifiers. No data were rejected.

DATA EVALUATION

Long-term trend analysis will be completed at a future date to be determined. The results from this evaluation will be presented in a separate document.

CONCLUSIONS

Grab and composite stormwater samples were collected during three storm events at each of the three sampling locations, except for S45U Event 3 where no field parameters were measured (see above). The current MS4 monitoring plan requires at least two events at each site. Storm criteria were met during all sampling efforts except that the rainfall totals for the first event at S45U and second event at M1 were less than specified, and less than 75% of the storm was captured during the third event at S45U. However, all samples collected were still generally representative of storm events monitored, therefore, sampling objectives for FY 2006-07 were met. All analytical data are considered usable except as noted above.

GENERAL

The Field Operations and Investigations and Monitoring Services sections of BES prepared this summary report. For any questions concerning this report, contact Aaron Wieting at 503-823-5437.

Prepared by:

Aaron B. Wieting, R.G.
Environmental Specialist

c: Linda Scheffler, Portland Harbor Program
Michael Pronold, Industrial Stormwater Program

FIGURES

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Figure 2B: OF19 Vicinity Map
Figure 2C: S45U Vicinity Map
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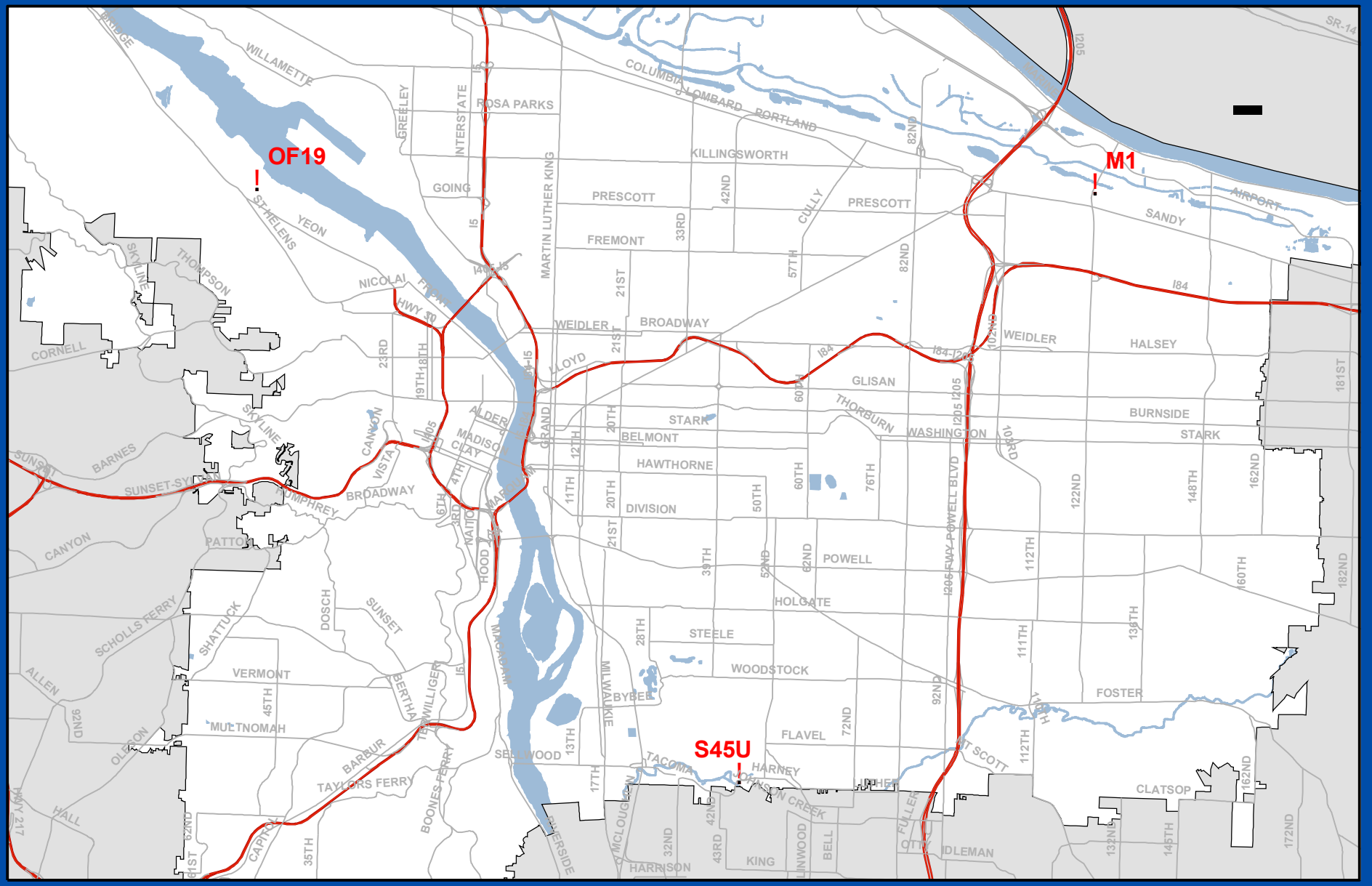
Figure 3B: OF19 Site Map
Figure 3C: S45U Site Map
Figure 4A: M1 Event 43 Hydrograph
Figure 4B: M1 Event 44 Hydrograph
Figure 4C: M1 Event 45 Hydrograph
Figure 5A: OF19 Event 4 Hydrograph
Figure 5B: OF19 Event 5 Hydrograph
Figure 5C: OF19 Event 6 Hydrograph
Figure 6A: S45U Event 1 Hydrograph
Figure 6B: S45U Event 2 Hydrograph
Figure 6C: S45U Event 3 Hydrograph



Monitoring Locations

City Mask

0 1 2 4 Miles

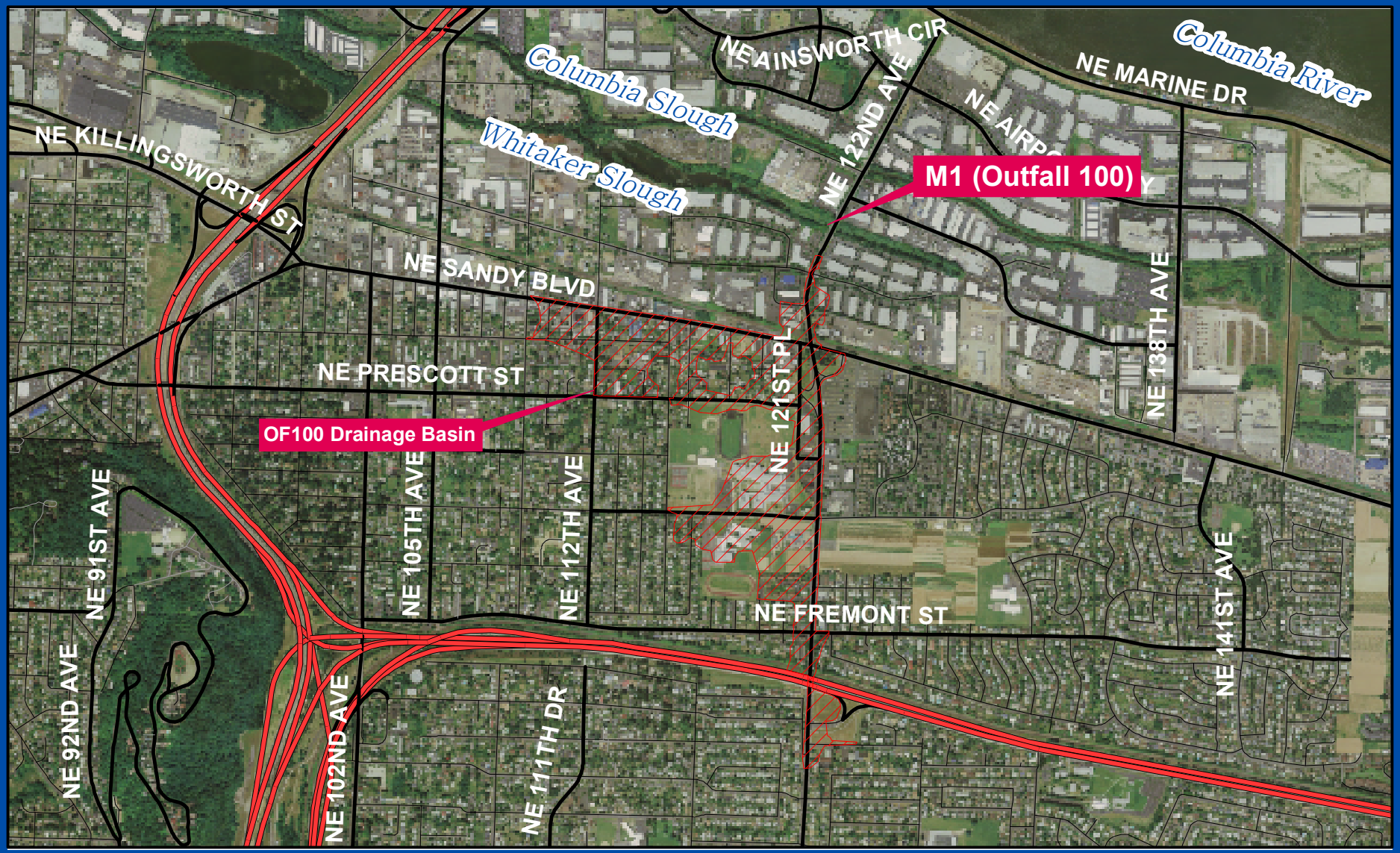
FIGURE 1
Monitoring Location Overview
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by: A. Wieting

Date Created: 9/20/2007



N
W E
S

0 1,000 2,000 4,000 Feet

FIGURE 2A
M1 Site Vicinity Map

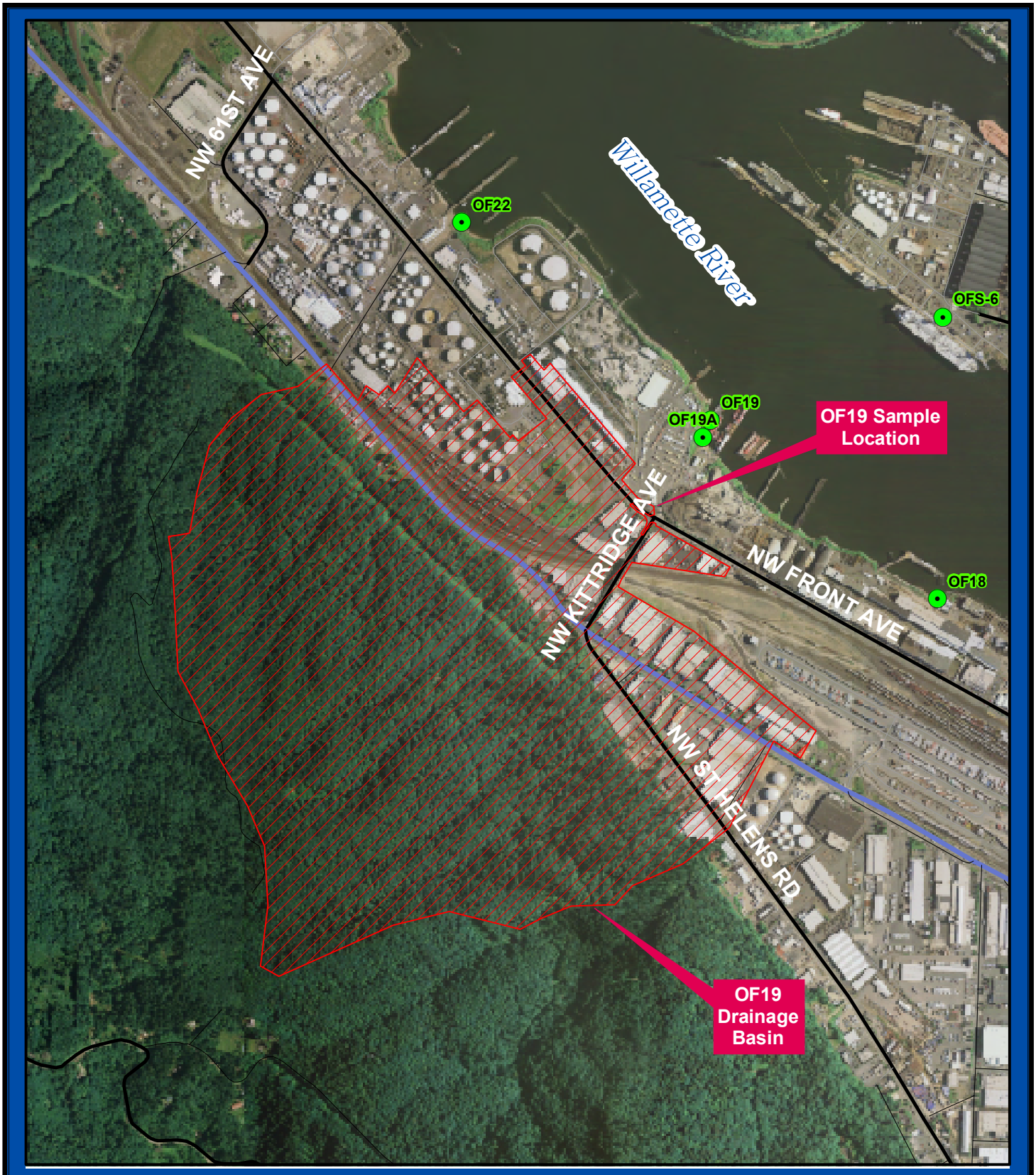
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007



N
W E
S

0 750 1,500 3,000 Feet

FIGURE 2B
OF19 Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9.2 using ArcMap

Created by:	*Date Created:*
A. Wieting	11/3/2008

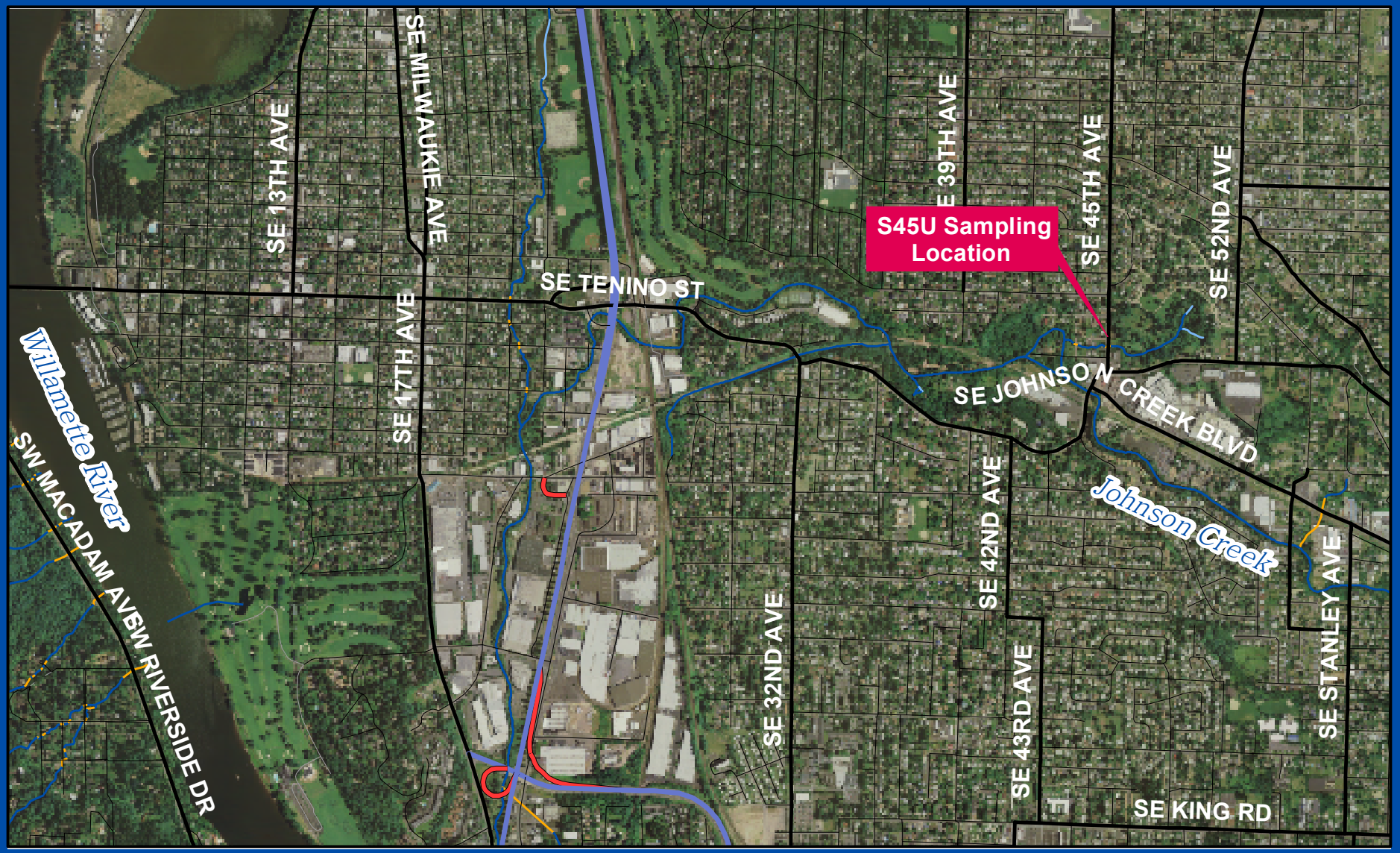


FIGURE 2C
S45U Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007

N
W E
S

0 25 50 100 Feet

FIGURE 3A
M1 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007

N
W E
S

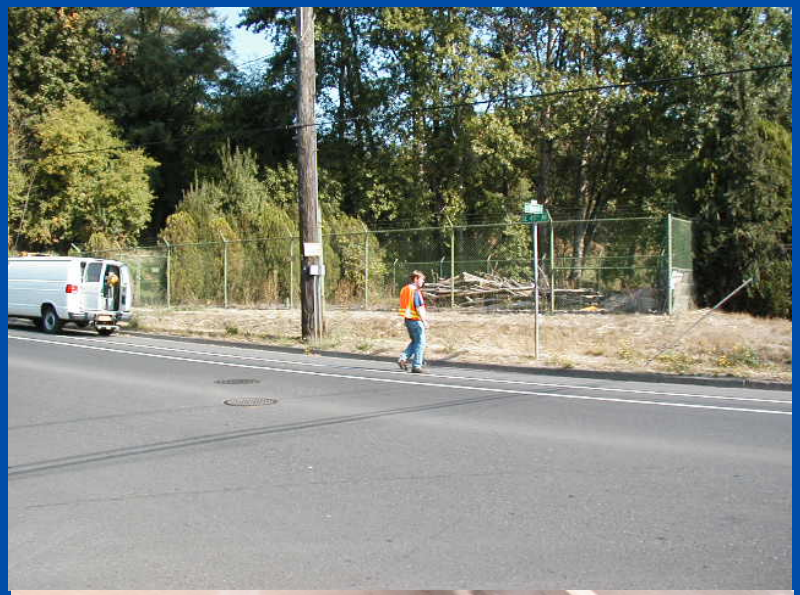
0 75 150 300 Feet

FIGURE 3B
OF19 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007



N
W E
S

0 37.5 75 150 225 300 Feet

FIGURE 3C
S45U Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Service
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
9/20/2007

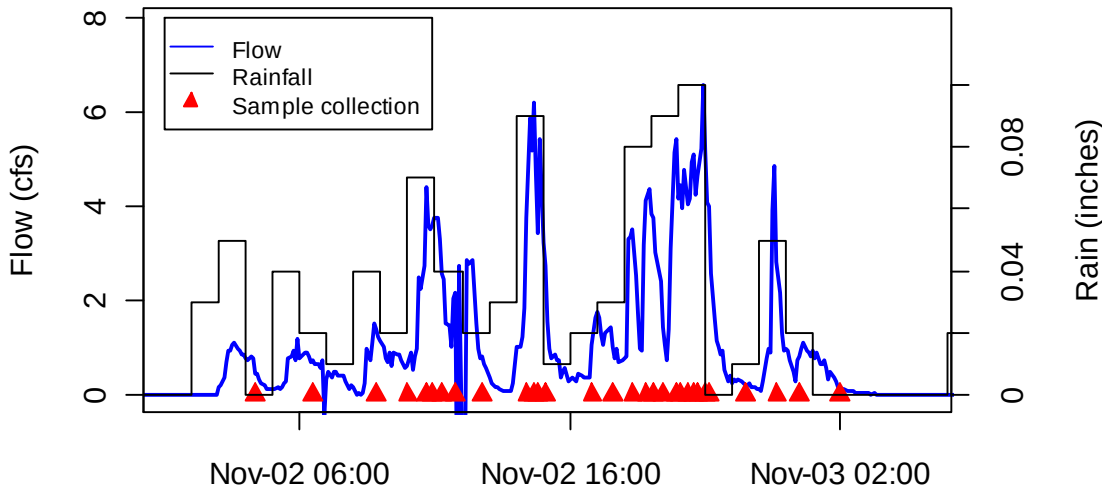


Figure 5A: M1 Event 43 Hydrograph

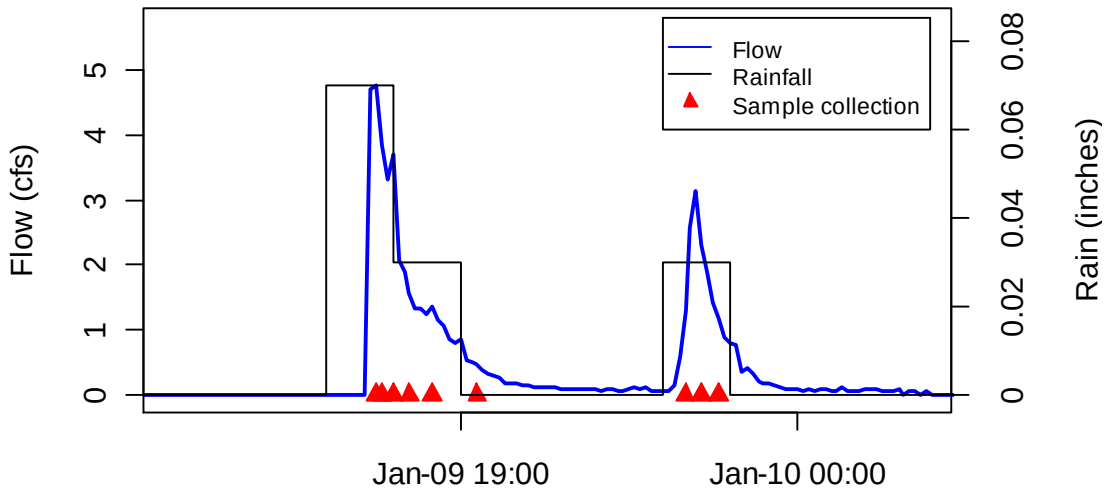


Figure 5B: M1 Event 44 Hydrograph

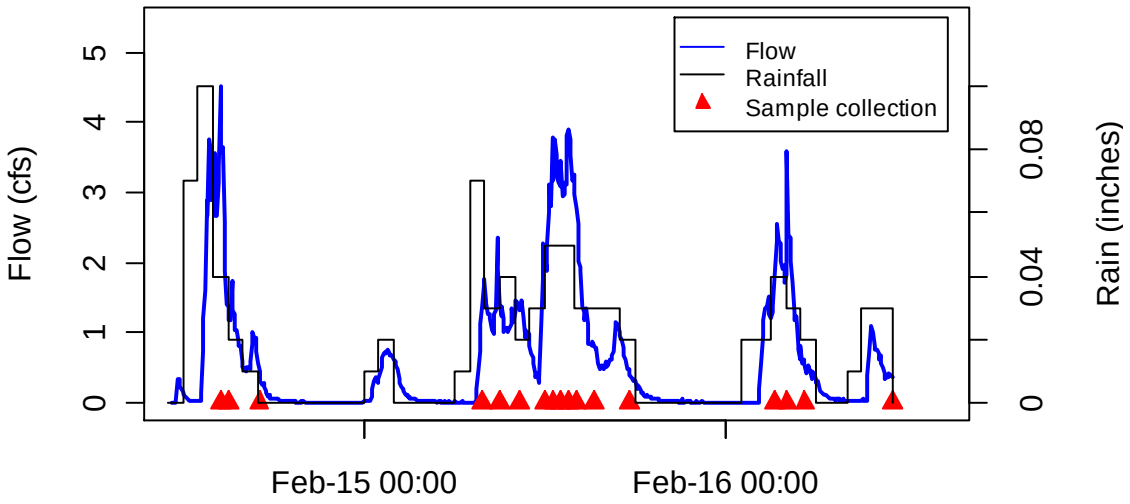


Figure 5C: M1 Event 45 Hydrograph

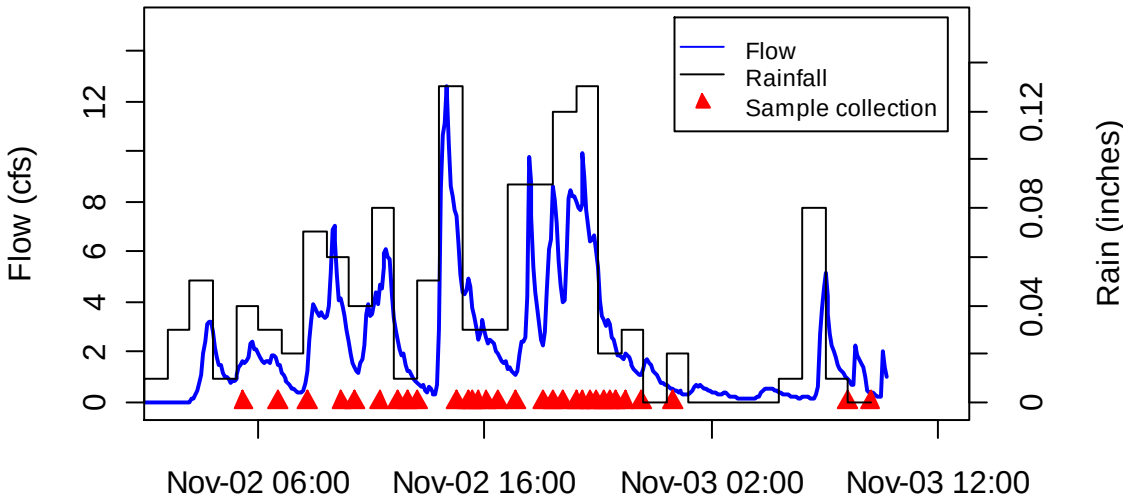


Figure 6A: OF19 Event 4 Hydrograph

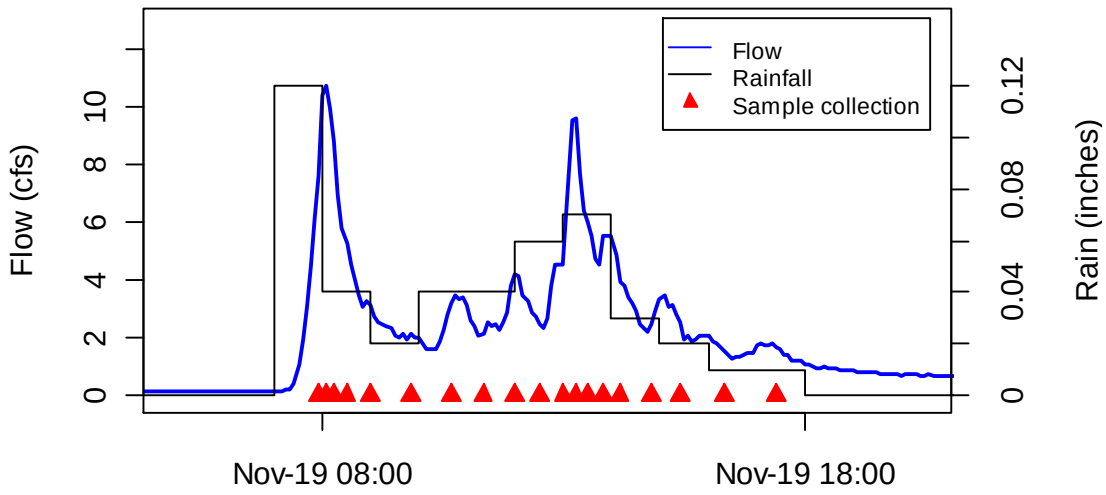


Figure 6B: OF19 Event 5 Hydrograph

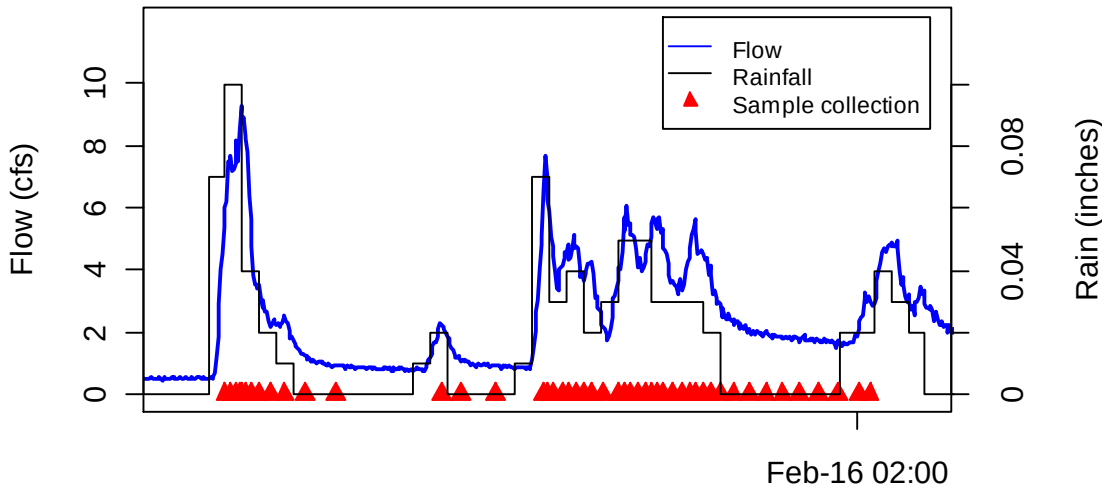


Figure 6C: OF19 Event 6 Hydrograph

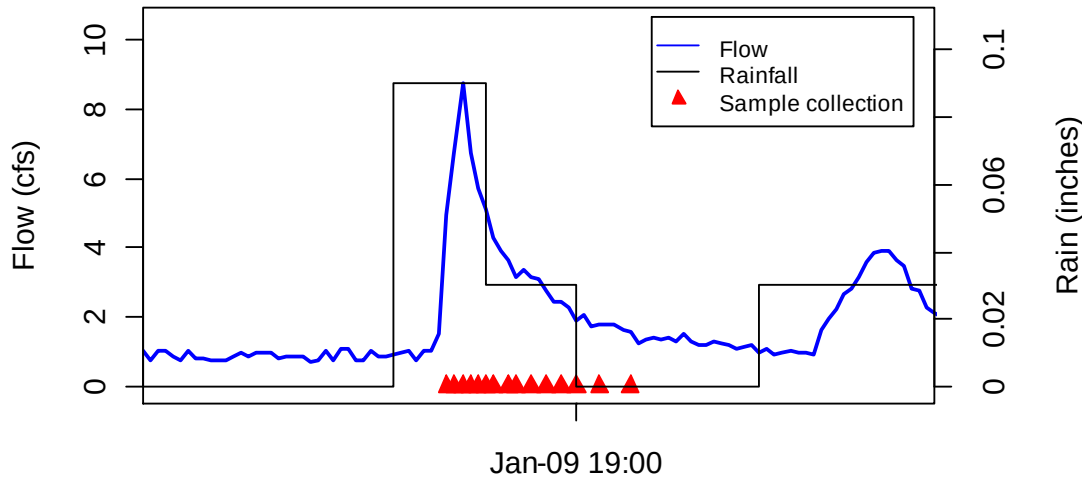


Figure 7A: S45U Event 1 Hydrograph

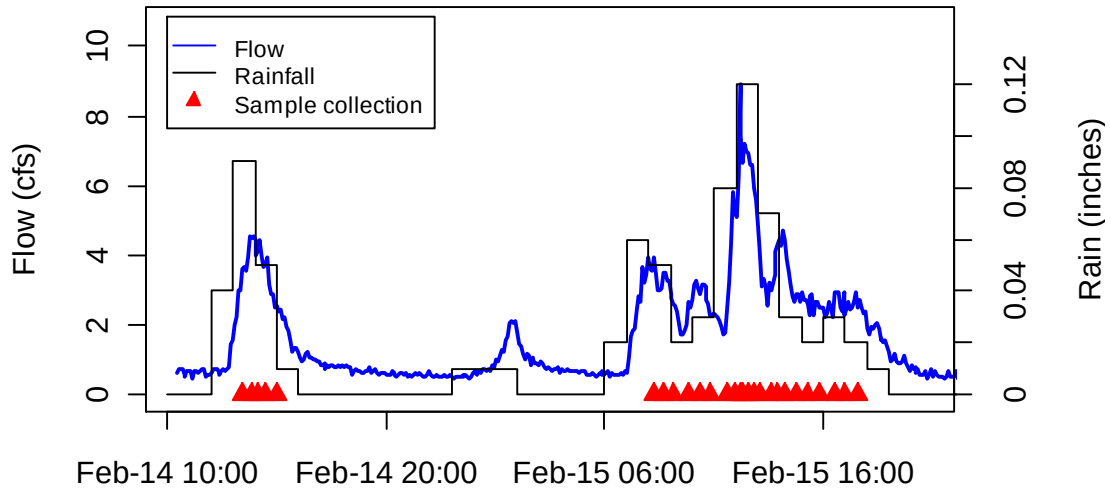


Figure 7B: S45U Event 2 Hydrograph

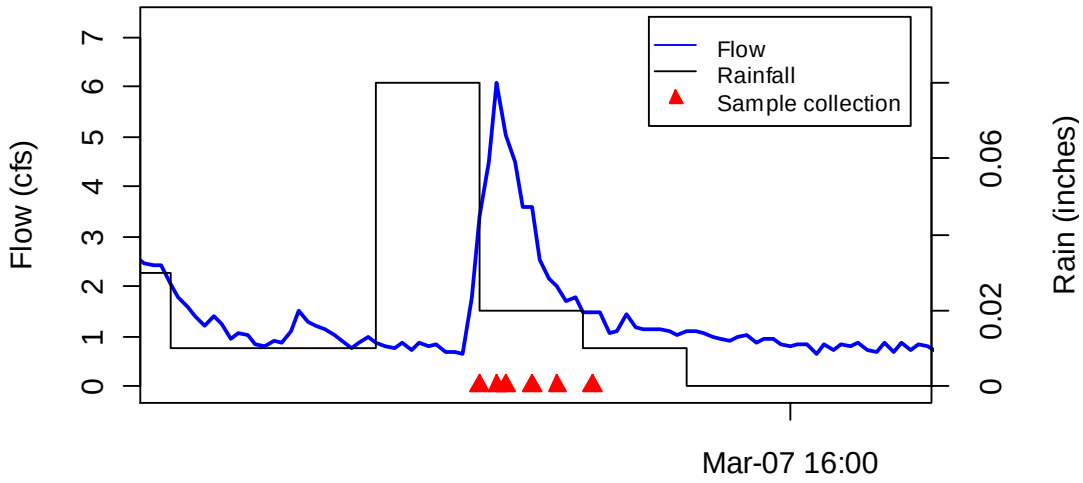


Figure 7C: S45U Event 3 Hydrograph

TABLES

Table 1: M1 Event HYDRA Rain Gauge Data
Table 2: OF19 Event HYDRA Rain Gauge Data
Table 3: S45U Event HYDRA Rain Gauge Data
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Table 7: S45U Event Analytical Summary

Table 1: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location M1
FY 2006 - 07, Events 43 - 45

Daily Rain Report Rain Data Collected by HYDRA - City of Portland Data from gauge 111, NE Airport Way																		Sample Aliquots Collected							
Event 43	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
10/30/2006																									0.00
10/31/2006																									0.00
11/1/2006																									0.00
11/2/2006			0.03	0.05		0.04	0.02	0.01	0.04	0.02	0.07	0.04	0.02	0.03	0.09	0.01	0.02	0.03	0.08	0.09	0.1		0.01	0.05	0.85
11/3/2006	0.02						0.02	0.02	0.04		0.04	0.04		0.03	0.05	0.02	0.03	0.08	0.04	0.01		0.01	0.01		0.46
Event 44																									
1/6/2007	0.08	0.1			0.01																				0.19
1/7/2007	0.01					0.01					0.11	0.09	0.02	0.01		0.01	0.01								0.27
1/8/2007										0.01		0.02		0.01											0.04
1/9/2007																		0.07	0.03				0.03		0.13
Event 45																									
2/11/2007	0.06	0.03	0.03												0.02	0.03		0.01	0.03	0.01			0.01		0.23
2/12/2007			0.01																						0.01
2/13/2007					0.01				0.03																0.04
2/14/2007													0.07	0.1	0.04	0.02	0.01								0.24
2/15/2007	0.01	0.02					0.01	0.07	0.03	0.04	0.02	0.03	0.05	0.05	0.03	0.03	0.03	0.02							0.44
2/16/2007		0.02	0.02	0.04	0.03	0.02			0.01	0.03	0.03	0.02	0.01												0.23

Table 2: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location OF19
FY 2006 - 07, Events 4 - 6

Daily Rain Report Rain Data Collected by HYDRA - City of Portland Data from gauge 121, NW Yeon																		Sample Aliquots Collected							
Event 4	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
10/30/2006																									0.00
10/31/2006																									0.00
11/1/2006																									0.00
11/2/2006		0.01	0.03	0.05	0.01	0.04	0.03	0.02	0.07	0.06	0.04	0.08	0.01	0.05	0.13	0.03	0.03	0.09	0.09	0.12	0.13	0.02	0.03		1.17
11/3/2006	0.02					0.01	0.08	0.01						0.02	0.04	0.03	0.04	0.07	0.02			0.05			0.39
Event 5																									
11/16/2006																									0.00
11/17/2006														0.01											0.01
11/18/2006																									0.00
11/19/2006								0.12	0.04	0.02	0.04	0.04	0.06	0.07	0.03	0.02	0.01	0.01							0.46
Event 6																									
2/11/2007	0.06	0.03	0.03												0.02	0.03		0.01	0.03	0.01			0.01		0.23
2/12/2007			0.01																						0.01
2/13/2007					0.01				0.03																0.04
2/14/2007													0.07	0.1	0.04	0.02	0.01								0.24
2/15/2007	0.01	0.02					0.01	0.07	0.03	0.04	0.02	0.03	0.05	0.05	0.03	0.03	0.03	0.02							0.44

Land Use Stormwater Monitoring: FY 2006-07

Table 3: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location S45U
FY 2006 - 07, Events 1 - 3

Daily Rain Report
Rain Data Collected by HYDRA - City of Portland
Data from gauge 64, 2033 SE Harney St

Sample Aliquots Collected

Event 1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
1/6/2007	0.03	0.14				0.01	0.01		0.01																0.20
1/7/2007					0.01			0.01			0.06	0.11	0.04	0.02	0.01	0.01	0.01								0.28
1/8/2007										0.01	0.02			0.01											0.04
1/9/2007																		0.09	0.03			0.03	0.03		0.18
Event 2																									
2/11/2007	0.05	0.05	0.02							0.01					0.03										0.16
2/12/2007		0.01																							0.01
2/13/2007					0.01		0.01		0.01			0.01													0.04
2/14/2007													0.04	0.09	0.05	0.01								0.01	0.20
2/15/2007	0.01	0.01					0.02	0.06	0.05	0.02	0.03	0.08	0.12	0.07	0.03	0.02	0.03	0.02	0.01						0.58
Event 3																									
3/4/2007																									0.00
3/5/2007																									0.00
3/6/2007																									0.00
3/7/2007					0.01	0.05	0.03		0.01	0.03	0.01	0.01	0.08	0.02	0.01										0.26

TABLE 4

DRY PERIOD AND RAINFALL SUMMARY

NPDES Land Use Stormwater Monitoring, FY 2006-2007

Monitoring Location	Event	Sample Date(s)	Sample Collection Time	Antecedent Dry Period (hours)[a]	Antecedent Rainfall Totals			Predicted Rainfall Total[b]	Actual Rainfall Totals	Storm Intensity	Total Rainfall During Sample Collection	Total Aliquots Collected
					72-Hour	24-Hour	6-Hour					
M1	43	11/2-3/06	04:20 11/2/06 - 02:00 11/3/06	> 72	0	0	0	0.64 - 0.87 + 0.57 - 0.77 +	0.87	moderate, persistent	0.87	30
	44	1/9/2007	17:45 - 22:50	54	0.31	0	0	0.25 +	0.13	light, intermittent	0.13	9
	45	2/14-16/07	14:28 2/14/07 - 11:11 2/16/07	> 72	0.05	0	0	0.23 - 0.36 + 0.83 - 1.06 + 0.18 - 0.26 +	0.61	light, intermittent	0.61	19
	n/a[c]	6/5/2007	7:43	> 72	0.06	0	0	0.08 - 0.17 +	0.27	light, intermittent	--	1 (grab)
	n/a[c]	6/9/2007	11:40	66	0.12	0	0	0.25 - 0.42 +	0.36	light, intermittent	--	1 (grab)
OF19	4	11/2-3/06	05:18 11/2/06 - 08:02 11/3/06	> 72	0.08	0.08	0.08	0.64 - 0.87 + 0.57 - 0.77 +	1.31	light-moderate, persistent	0.86	32 (31 used for composite)
	5	11/19/2006	07:53 - 17:27	> 72	0.02	0.01	0.01	0.72 - 0.86 +	0.49	light, persistent	0.47	19
	6	2/14-16/07	13:01 2/14/07 - 02:45 2/16/07	> 72	0.05	0	0	0.23 - 0.36 + 0.83 - 1.06 + 0.18 - 0.26 +	0.61	light, intermittent	0.50	48
S45U	1	1/9/2007	17:35 - 19:33	29	0.32	0	0	0.25 +	0.18	light	0.12	16
	2	2/14-15/07	13:25 2/14/07 - 17:34 2/15/07	> 72	0.08	0	0	0.23 - 0.36 + 0.83 - 1.06 +	0.78	light-moderate, intermittent	0.70	27
	3	3/7/2007	13:00 - 14:03	6	0.15	0.15	0.09	0.23 - 0.38 +	0.26	light	0.11	6

Notes:

All rainfall totals in inches. All rainfall data from City of Portland HYDRA network except as noted

[a] less than 0.10 inches of rain

[b] provided by Extended Range Forecasting (ERF), Inc. For delayed storms or storms lasting longer than one day, forecasts for each day are listed in chronological order.

[c] grab samples collected for biochemical oxygen demand (BOD) only

Table 5: Analytical Summary
Land Use Stormwater Monitoring Location M1
FY 2006-07, Events 43-45

Sample Type	Parameter	Units	Event 43 11/2/2006	Event 44 1/9/07	Event 45 2/14/2007
Grab	Conductivity (field)	µmhos/cm	30	NS	78
	E. coli	mpn/100 mℓ	5800	NS	2600
	Oil & Grease, Total	mg/ℓ	8.2	NS	< 5
	pH (field)	S.U.	5.4	NS	6.1
	Temperature	Deg. C	6.9	NS	11
Composite	Ammonia-Nitrogen	mg/ℓ	0.26	0.22	0.17
	Nitrate-Nitrogen	mg/ℓ	0.28	0.4	0.2
	Orthophosphate-Phosphorus	mg/ℓ	0.061	< 0.02	< 0.02
	Total Dissolved Solids	mg/ℓ	27	28	35
	Total Phosphorus	mg/ℓ	0.24	0.53	0.55
	Total Solids	mg/ℓ	73	155	159
	Total Suspended Solids	mg/ℓ	71	131	107
	Hardness, Total	mg CaCO3/L	15.5	30.3	27.5
	Chromium, Total	µg/ℓ	4.92	6.49	5.69
	Copper, Total	µg/ℓ	18.8	21.4	21.7
	Lead, Total	µg/ℓ	13.7	20.1	27.3
	Zinc, Total	µg/ℓ	129	498	157
	Copper, Dissolved	µg/ℓ	3.89	3.43	3.72
	Lead, Dissolved	µg/ℓ	0.32	0.21	0.38
	Zinc, Dissolved	µg/ℓ	29.6	35.3	27.9
	BOD*	mg/ℓ	NS	34 J	10

µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
* = collected June 5 and 9, 2007
< value = less than method reporting limit

Table 6A: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2006-07, Events 4 - 6
Conventional Parameters

Sample Type	Parameter	Units	Event 4 11/2/2006		Event 5 11/19/2006		Event 6 2/14/2007	
Grab	Conductivity (field)	µmhos/cm		70		NS		68
	E. coli	mpn/100 mℓ		3300 J		NS		1600
	Oil & Grease, Total	mg/ℓ	<	5		NS	<	5
	pH (field)	S.U.		6.4		NS		6.4
	Temperature	Deg. C		7.7		NS		10.9
Composite	Ammonia-Nitrogen	mg/ℓ		0.17		0.03		0.063
	Nitrate-Nitrogen	mg/ℓ		0.37		0.32		0.88
	Total Kjeldhal Nitrogen	mg/ℓ		1.12		0.47		0.96
	Orthophosphate-Phosphorus Dissolved	mg/ℓ		0.053		0.031		0.026
	Biochemical Oxygen Demand	mg/ℓ		7		6		4
	Chemical Oxygen Demand	mg/ℓ		58		20		42
	Total Dissolved Solids	mg/ℓ		64		44		82
	Total Phosphorus	mg/ℓ		0.28		0.11		0.26
	Total Solids	mg/ℓ		135		57		203
	Total Suspended Solids	mg/ℓ		109		18		111
	Hardness, Total	mg CaCO3/ℓ		31.5		17.7		38.5
	Arsenic, Total	µg/ℓ		1.42		0.52		1.46
	Cadmium, Total	µg/ℓ		0.39		0.17		0.34
	Chromium, Total	µg/ℓ		5.81		1.59		6.45
	Copper, Total	µg/ℓ		22		8.34		19.7
	Lead, Total	µg/ℓ		31.7		5.2		22
	Silver, Total	µg/ℓ	<	0.1	<	0.1	<	0.1
	Zinc, Total	µg/ℓ		237		146		199
	Arsenic, Dissolved	µg/ℓ		0.51		0.32		0.5
	Cadmium, Dissolved	µg/ℓ	<	0.1	<	0.1	<	0.1
	Chromium, Dissolved	µg/ℓ	<	0.4	<	0.4		0.44
	Copper, Dissolved	µg/ℓ		4.01		3.74		3.91
	Lead, Dissolved	µg/ℓ		0.51		0.36		0.74
	Silver, Dissolved	µg/ℓ	<	0.1	<	0.1	<	0.1
	Zinc, Dissolved	µg/ℓ		62.1		111		70.1

µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< value = less than method reporting limit
J = estimated concentration (see text)

Table 6B: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2006-07, Events 4 - 6
Additional Parameters: PCBs and PAHs (EPA 8270-SIM)

Analysis	Parameter	Event 4 11/2/06		Event 5 11/19/2006		Event 6 2/14-16/2007	
PCBs	Aroclor 1016	<	0.083	<	0.008	<	0.0078
	Aroclor 1221	<	0.083	<	0.008	<	0.0078
	Aroclor 1232	<	0.083	<	0.008	<	0.0078
	Aroclor 1242	<	0.083	<	0.008	<	0.0078
	Aroclor 1248	<	0.083	<	0.008	<	0.0078
	Aroclor 1254	<	0.083	<	0.005	<	0.0078
	Aroclor 1260	<	0.083	<	0.005	J	0.029
PAHs	1-Methylnaphthalene	<	0.034	<	0.034	JB	0.013
	2-Methylnaphthalene	J	0.017	J	0.02	JB	0.021
	Acenaphthene	J	0.014	J	0.015	JB	0.015
	Acenaphthylene	J	0.014	J	0.0087	JB	0.0068
	Anthracene	J	0.021	J	0.0098		0.018
	Benzo(a)anthracene	JB	0.076	J	0.037		0.1
	Benzo(a)pyrene	<	0.065	<	0.063		0.11
	Benzo(b)fluoranthene		NR	J	0.037		0.18[b]
	Benzo(ghi)perylene	J	0.071	J	0.052		0.97
	Benzo(k)fluoranthene		NR	J	0.029		0.055[b]
	Benzofluoranthenes[a]	J	0.12		NR		0.22
	Chrysene	J	0.084	J	0.045		0.16
	Dibenzo(a,h)anthracene	J	0.019	J	0.038		0.021
	Fluoranthene	JB	0.18	J	0.061		0.25
	Fluorene	J	0.036	JB	0.044	JB	0.013
	Indeno(1,2,3-cd)pyrene	J	0.061	J	0.049		0.091
	Naphthalene	J	0.041	J	0.02	JB	0.028
	Phenanthrene	J	0.076	J	0.054		0.073
	Pyrene	JB	0.19	J	0.077		0.27

all units in micrograms per liter (µg/ℓ)
NR = not reported
JB = analyte detected in method blank, sample concentration < 10x blank concentration
J = estimated concentration (most are data between MRL and MDL)
< = less than method detection limit
[a] = sum of (b) and (k) benzofluoranthenes
[b] = analytes reported with SVOC analysis results

Table 6C: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2006-07, Events 4 - 6
Additional Parameters: Semi-Volatile Organic Compounds

Parameter	Event 4 11/2/2006		Event 5 11/19/2006		Event 6 2/14-16/2007	
1,2,4-Trichlorobenzene	<	0.11	<	0.11	<	0.0097
1,2-Dichlorobenzene	<	0.12	<	0.12	<	0.011
1,3-Dichlorobenzene	<	0.12	<	0.12	<	0.011
1,4-Dichlorobenzene	<	0.13	<	0.13	<	0.012
2,4,5-Trichlorophenol	<	0.091	<	0.09	<	0.0083
2,4,6-Trichlorophenol	<	0.11	<	0.11	<	0.0097
2,4-Dichlorophenol	<	0.14	<	0.14	J	0.013
2,4-Dimethylphenol	J	0.27	<	0.19	<	0.017
2,4-Dinitrophenol	<	0.62	<	0.61	<	0.056
2,4-Dinitrotoluene	<	0.13	<	0.13	<	0.012
2,6-Dinitrotoluene	<	0.15	<	0.15	<	0.014
2-Chloronaphthalene	<	0.032	<	0.032	<	0.0029
2-Chlorophenol	<	0.24	<	0.23	<	0.021
2-Methylphenol	<	0.41	<	0.4	<	0.037
2-Nitroaniline	<	0.12	<	0.12	<	0.011
2-Nitrophenol	<	0.23	<	0.23	<	0.02
3- & 4-Methylphenol	<	0.18	<	0.18	<	0.017
3,3'-Dichlorobenzidine	<	1.7	<	1.7	<	0.16
3-Nitroaniline	<	0.6	<	0.59	<	0.054
4,6-Dinitro-2-methylphenol	<	0.57	<	0.56	<	0.051
4-Bromophenylphenyl ether	<	0.11	<	0.11	<	0.0097
4-Chloro-3-methylphenol	<	0.15	<	0.15	<	0.014
4-Chloroaniline	<	0.2	<	0.2	<	0.018
4-Chlorophenylphenyl ether	<	0.13	<	0.13	<	0.012
4-Nitroaniline	<	0.19	<	0.19	<	0.017
4-Nitrophenol	<	1.7	<	1.7	<	0.16
Benzoic acid	J	6.7	<	0.22	<	0.2
Benzyl alcohol	<	0.14	<	0.14	<	0.013
Bis(2-chloroethoxy) methane	<	0.1	<	0.1	<	0.0092
Bis(2-chloroethyl) ether	<	0.19	<	0.19	<	0.017
Bis(2-chloroisopropyl) ether	<	0.095	<	0.093	<	0.0085
Bis(2-ethylhexyl) phthalate	J	2.7	JB	2.7		2.2
Butyl benzyl phthalate	J	1.1	JB	1.7		0.61
Carbazole	<	0.097	<	0.095	J	0.033
Dibenzofuran	<	0.11	<	0.1	<	0.0095
Diethyl phthalate	J	0.38	JB	0.38	<	0.009
Dimethyl phthalate	J	1.5		2.2		1.7
Di-n-butyl phthalate	JB	1.2	JB	1.2	J	0.25
Di-n-octyl phthalate	J	1	J	0.48		0.33
Hexachlorobenzene	<	0.088	<	0.087	<	0.008
Hexachlorobutadiene	<	0.17	<	0.17	<	0.016
Hexachlorocyclopentadiene	<	0.13	<	0.13	<	0.012
Hexachloroethane	<	0.14	<	0.14	<	0.013
Isophorone	<	0.12	<	0.12	<	0.011
Nitrobenzene	<	0.081	<	0.079	<	0.0073
N-Nitrosodi-n-propylamine	<	0.22	<	0.21	<	0.019
N-Nitrosodiphenylamine	<	0.14	<	0.14	<	0.013
Pentachlorophenol	<	0.14	J	0.51	J	0.3
Phenol	<	0.08	<	0.078	<	0.0072

all units in micrograms per liter (µg/ℓ)
JB = analyte detected in method blank, sample concentration < 10x blank concentration
J = estimated concentration
< = less than method detection limit

Table 7: Analytical Summary
Land Use Stormwater Monitoring Location S45U
FY 2006-07, Events 1-3

Sample Type	Parameter	Units	Event 1 1/9/2007	Event 2 2/14/07	Event 3 3/7/2007
Grab	Conductivity (field)	µmhos/cm	NS	96	NS
	E. coli	mpn/100 mℓ	NS	390	540
	Oil & Grease, Total	mg/ℓ	NS	< 5	6.9
	pH (field)	S.U.	NS	6.4	NS
	Temperature	Deg. C	NS	11.9	NS
Composite	Ammonia-Nitrogen	mg/ℓ	0.2	0.12	0.28
	Nitrate-Nitrogen	mg/ℓ	1.7	1.8	2.1
	Orthophosphate-Phosphorus	mg/ℓ	0.028	0.031	0.025
	Total Dissolved Solids	mg/ℓ	63	74	83
	Total Phosphorus	mg/ℓ	0.37	0.29	0.53
	Total Solids	mg/ℓ	217	208	347
	Total Suspended Solids	mg/ℓ	156	128	251
	Hardness, Total	mg CaCO3/ℓ	42.7	37.8	51.6
	Chromium, Total	µg/ℓ	11.9	8.26	15.9
	Copper, Total	µg/ℓ	22.9	17.9	31.6
	Lead, Total	µg/ℓ	13.8	13.1	23.8
	Zinc, Total	µg/ℓ	176	145	215
	Copper, Dissolved	µg/ℓ	2.68	2.69	3.53
	Lead, Dissolved	µg/ℓ	< 0.1	0.27	0.12
	Zinc, Dissolved	µg/ℓ	46.7	46	44.3

µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< = less than method reporting limit

ATTACHMENTS

WPCL Laboratory Analytical Reports
Chain-of-Custody Records

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061420**
Sample Collected: 11/2/2006 11:17
Sample Received: 11/03/06
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE GRAB
Sample Point Code: M1G
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AK09935
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJH

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	30	µmhos/cm	1	SM 2510 B	11/02/06
pH (FIELD)	5.4	pH Units	0.1	SM 4500-H B	11/02/06
TEMPERATURE	6.9	Deg. C	0.1	SM 2550 B	11/02/06
MICROBIOLOGY					
E. COLI	5800	MPN/100 ml	10	COLILERT QT	11/03/06
GENERAL					
OIL & GREASE, TOTAL	8.2	mg/L	5	EPA 1664	11/16/06

End of Report for Sample ID: FO061420

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061421** **Sample Collected:** 11/2/2006 08:12 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AK09936
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJH

Comments:
QA/QC: THE RESULT FOR E.COLI IS AN ESTIMATE BECAUSE THE 24-HOUR HOLDING TIME WAS SLIGHTLY EXCEEDED DUE TO PROJECT COORDINATION DELAY.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	70	µmhos/cm	1	SM 2510 B	11/02/06
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	11/02/06
TEMPERATURE	7.7	Deg. C	0.1	SM 2550 B	11/02/06
MICROBIOLOGY					
E. COLI	EST 3300	MPN/100 ml	1	COLILERT QT	11/03/06
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	11/16/06

End of Report for Sample ID: FO061421

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061422** **Sample Collected:** 11/2/2006 04:20 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AK09941
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.26	mg/L	0.02	EPA 350.1	11/06/06
NITRATE-NITROGEN	0.28	mg/L	0.10	EPA 300.0	11/03/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.061	mg/L	0.02	EPA 365.1	11/03/06
TOTAL DISSOLVED SOLIDS @180C	27	mg/L	5	SM 2540 C	11/06/06
TOTAL PHOSPHORUS	0.24	mg/L	0.03	EPA 365.4	11/08/06
TOTAL SOLIDS	73	mg/L	2	SM 2540 B	11/03/06
TOTAL SUSPENDED SOLIDS	71	mg/L	2	SM 2540 D	11/03/06
METALS					
HARDNESS, TOTAL	15.5	mg CaCO3/L	0.5	SM 2340 B CAL	11/04/06
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	3.89	µg/L	0.2	EPA 200.8	11/03/06
LEAD, DISSOLVED	0.32	µg/L	0.1	EPA 200.8	11/03/06
ZINC, DISSOLVED	29.6	µg/L	0.5	EPA 200.8	11/03/06
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	4.92	µg/L	0.4	EPA 200.8	11/07/06
COPPER	18.8	µg/L	0.2	EPA 200.8	11/07/06
LEAD	13.7	µg/L	0.1	EPA 200.8	11/07/06
ZINC	129	µg/L	0.5	EPA 200.8	11/07/06

End of Report for Sample ID: FO061422

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.17	mg/L	0.02	EPA 350.1	11/06/06
BOD5	7	mg/L	2	SM 5210 B	11/03/06
COD	58	mg/L	5	SM 5220 D	11/05/06
NITRATE-NITROGEN	0.37	mg/L	0.10	EPA 300.0	11/03/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.053	mg/L	0.02	EPA 365.1	11/03/06
TOTAL DISSOLVED SOLIDS @180C	64	mg/L	5	SM 2540 C	11/06/06
TOTAL KJELDAHL NITROGEN (TKN)	1.12	mg/L	0.20	PAI-DK03	11/08/06
TOTAL PHOSPHORUS	0.28	mg/L	0.03	EPA 365.4	11/08/06
TOTAL SOLIDS	135	mg/L	2	SM 2540 B	11/03/06
TOTAL SUSPENDED SOLIDS	109	mg/L	2	SM 2540 D	11/03/06
METALS					
HARDNESS, TOTAL	31.5	mg CaCO3/L	0.5	SM 2340 B CAL	11/04/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.51	µg/L	0.1	EPA 200.8	11/03/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/03/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	11/03/06
COPPER, DISSOLVED	4.01	µg/L	0.2	EPA 200.8	11/03/06
LEAD, DISSOLVED	0.51	µg/L	0.1	EPA 200.8	11/03/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/03/06
ZINC, DISSOLVED	62.1	µg/L	0.5	EPA 200.8	11/03/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.42	µg/L	0.1	EPA 200.8	11/07/06
CADMIUM	0.39	µg/L	0.1	EPA 200.8	11/07/06
CHROMIUM	5.81	µg/L	0.4	EPA 200.8	11/07/06
COPPER	22.0	µg/L	0.2	EPA 200.8	11/07/06
LEAD	31.7	µg/L	0.1	EPA 200.8	11/07/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/07/06
ZINC	237	µg/L	0.5	EPA 200.8	11/07/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1221	<0.52	µg/L	0.52	EPA 8082	11/09/06

Report Date: 10/17/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1232	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1242	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1248	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1254	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1260	<0.52	µg/L	0.52	EPA 8082	11/09/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	11/09/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270-SIM	11/09/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzofluoranthenes	<0.22	µg/L	0.22	EPA 8270-SIM	11/09/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Fluoranthene	EST 0.18	µg/L	0.11	EPA 8270-SIM	11/09/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Pyrene	EST 0.19	µg/L	0.11	EPA 8270-SIM	11/09/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,2-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,3-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,4-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1-Methylnaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
2,4,5-Trichlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,4,6-Trichlorophenol	<3.2	µg/L	3.2	EPA 8270C	11/09/06
2,4-Dichlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270C	11/09/06
2,4-Dinitrophenol	<27	µg/L	27	EPA 8270C	11/09/06

Report Date: 10/17/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 3 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,4-Dinitrotoluene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,6-Dinitrotoluene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Chloronaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
2-Chlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270C	11/09/06
2-Methylphenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Nitroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Nitrophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
3- & 4-Methylphenol	<4.3	µg/L	4.3	EPA 8270C	11/09/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270C	11/09/06
3-Nitroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4,6-Dinitro-2-methylphenol	<22	µg/L	22	EPA 8270C	11/09/06
4-Bromophenylphenyl ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chloro-3-methylphenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chloroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chlorophenylphenyl ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Nitroaniline	<3.2	µg/L	3.2	EPA 8270C	11/09/06
4-Nitrophenol	<11	µg/L	11	EPA 8270C	11/09/06
Acenaphthene	<0.54	µg/L	0.54	EPA 8270C	11/09/06
Acenaphthylene	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Anthracene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Benzo(a)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Benzo(g,h,i)perylene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Benzofluoranthenes	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Benzoic acid	<11	µg/L	11	EPA 8270C	11/09/06
Benzyl alcohol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Bis(2-chloroethoxy) methane	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-chloroethyl) ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-chloroisopropyl) ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270C	11/09/06
Carbazole	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Chrysene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Dibenzo(a,h)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/09/06

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dibenzofuran	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Diethyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Dimethyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Di-n-butyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Di-n-octyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Fluoranthene	<0.27	µg/L	0.27	EPA 8270C	11/09/06
Fluorene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Hexachlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Hexachlorobutadiene	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270C	11/09/06
Hexachloroethane	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Indeno(1,2,3-cd)pyrene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Isophorone	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Naphthalene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Nitrobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
N-Nitrosodi-n-propylamine	<2.2	µg/L	2.2	EPA 8270C	11/09/06
N-Nitrosodiphenylamine	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Pentachlorophenol	<3.8	µg/L	3.8	EPA 8270C	11/09/06
Phenanthrene	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Phenol	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Pyrene	<0.32	µg/L	0.32	EPA 8270C	11/09/06

End of Report for Sample ID: FO061423

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO061513** **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.030	mg/L	0.02	EPA 350.1	11/20/06
BOD5	6	mg/L	2	SM 5210 B	11/20/06
COD	20	mg/L	5	SM 5220 D	11/24/06
NITRATE-NITROGEN	0.32	mg/L	0.10	EPA 300.0	11/20/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.031	mg/L	0.02	EPA 365.1	11/21/06
TOTAL DISSOLVED SOLIDS @180C	44	mg/L	5	SM 2540 C	11/21/06
TOTAL KJELDAHL NITROGEN (TKN)	0.47	mg/L	0.20	PAI-DK03	12/04/06
TOTAL PHOSPHORUS	0.11	mg/L	0.03	EPA 365.4	11/30/06
TOTAL SOLIDS	57	mg/L	2	SM 2540 B	11/23/06
TOTAL SUSPENDED SOLIDS	18	mg/L	2	SM 2540 D	11/21/06
METALS					
HARDNESS, TOTAL	17.7	mg CaCO3/L	0.5	SM 2340 B CAL	11/22/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.32	µg/L	0.1	EPA 200.8	11/22/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/22/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	11/22/06
COPPER, DISSOLVED	3.74	µg/L	0.2	EPA 200.8	11/22/06
LEAD, DISSOLVED	0.36	µg/L	0.1	EPA 200.8	11/22/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/22/06
ZINC, DISSOLVED	111	µg/L	0.5	EPA 200.8	11/22/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.52	µg/L	0.1	EPA 200.8	11/21/06
CADMIUM	0.17	µg/L	0.1	EPA 200.8	11/21/06
CHROMIUM	1.59	µg/L	0.4	EPA 200.8	11/21/06
COPPER	8.34	µg/L	0.2	EPA 200.8	11/21/06
LEAD	5.20	µg/L	0.1	EPA 200.8	11/21/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/21/06
ZINC	146	µg/L	0.5	EPA 200.8	11/21/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1232	<0.050	µg/L	0.050	EPA 8082	11/22/06

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LABORATORY ANALYSIS REPORT

Sample ID: FO061513 **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1242	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1248	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1254	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1260	<0.050	µg/L	0.050	EPA 8082	11/22/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	11/22/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270-SIM	11/22/06
Benzo(b)fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(k)fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,2-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,3-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,4-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1-Methylnaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
2,4,5-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2,4,6-Trichlorophenol	<3.2	µg/L	3.2	EPA 8270C	11/22/06
2,4-Dichlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270C	11/22/06
2,4-Dinitrophenol	<26	µg/L	26	EPA 8270C	11/22/06
2,4-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270C	11/22/06

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061513** **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,6-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Chloronaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
2-Chlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270C	11/22/06
2-Methylphenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Nitroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Nitrophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
3- & 4-Methylphenol	<4.2	µg/L	4.2	EPA 8270C	11/22/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270C	11/22/06
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4,6-Dinitro-2-methylphenol	<21	µg/L	21	EPA 8270C	11/22/06
4-Bromophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chloro-3-methylphenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chloroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chlorophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Nitroaniline	<3.2	µg/L	3.2	EPA 8270C	11/22/06
4-Nitrophenol	<11	µg/L	11	EPA 8270C	11/22/06
Acenaphthene	<0.53	µg/L	0.53	EPA 8270C	11/22/06
Acenaphthylene	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Anthracene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Benzo(a)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Benzo(g,h,i)perylene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Benzofluoranthenes	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Benzoic acid	<11	µg/L	11	EPA 8270C	11/22/06
Benzyl alcohol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Bis(2-chloroethoxy) methane	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-chloroethyl) ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-chloroisopropyl) ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270C	11/22/06
Carbazole	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Chrysene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Dibenzo(a,h)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Dibenzofuran	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Diethyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO061513** **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dimethyl phthalate	2.2	µg/L	2.1	EPA 8270C	11/22/06
Di-n-butyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Di-n-octyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Fluoranthene	<0.26	µg/L	0.26	EPA 8270C	11/22/06
Fluorene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Hexachlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Hexachlorobutadiene	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270C	11/22/06
Hexachloroethane	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Indeno(1,2,3-cd)pyrene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Isophorone	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Naphthalene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Nitrobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
N-Nitrosodi-n-propylamine	<2.1	µg/L	2.1	EPA 8270C	11/22/06
N-Nitrosodiphenylamine	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Pentachlorophenol	<3.7	µg/L	3.7	EPA 8270C	11/22/06
Phenanthrene	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Phenol	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Pyrene	<0.32	µg/L	0.32	EPA 8270C	11/22/06

End of Report for Sample ID: FO061513

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070057** **Sample Collected:** 1/9/2007 17:45 **Sample Received:** 01/10/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AL00292
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB/DJH

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED ON 01/09/07 FROM 1745-2250.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.22	mg/L	0.02	EPA 350.1	01/23/07
NITRATE-NITROGEN	0.40	mg/L	0.10	EPA 300.0	01/10/07
O-PHOSPHATE-PHOSPHORUS, DISS	<0.020	mg/L	0.02	EPA 365.1	01/11/07
TOTAL DISSOLVED SOLIDS @180C	28	mg/L	5	SM 2540 C	01/11/07
TOTAL PHOSPHORUS	0.53	mg/L	0.03	EPA 365.4	01/23/07
TOTAL SOLIDS	155	mg/L	2	SM 2540 B	01/11/07
TOTAL SUSPENDED SOLIDS	131	mg/L	2	SM 2540 D	01/12/07
METALS					
HARDNESS, TOTAL	30.3	mg CaCO3/L	0.5	SM 2340 B CAL	01/12/07
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	3.43	µg/L	0.2	EPA 200.8	01/12/07
LEAD, DISSOLVED	0.21	µg/L	0.1	EPA 200.8	01/12/07
ZINC, DISSOLVED	35.3	µg/L	0.5	EPA 200.8	01/12/07
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	6.49	µg/L	0.4	EPA 200.8	01/12/07
COPPER	21.4	µg/L	0.2	EPA 200.8	01/12/07
LEAD	20.1	µg/L	0.1	EPA 200.8	01/12/07
ZINC	498	µg/L	0.5	EPA 200.8	01/12/07

End of Report for Sample ID: FO070057

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070058** **Sample Collected:** 1/9/2007 17:35 **Sample Received:** 01/10/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: SE 45TH AVE AND UMATILLA ST
MANHOLE COMPOSITE
Sample Point Code: S45U
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AL00293
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB/DJH

Comments:
THE SAMPLE IS A COMPOSITE OF SAMPLES COLLECTED ON 01/09/07 FROM 1735-1933.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.20	mg/L	0.02	EPA 350.1	01/23/07
NITRATE-NITROGEN	1.7	mg/L	0.10	EPA 300.0	01/10/07
O-PHOSPHATE-PHOSPHORUS, DISS	0.028	mg/L	0.02	EPA 365.1	01/11/07
TOTAL DISSOLVED SOLIDS @180C	63	mg/L	5	SM 2540 C	01/11/07
TOTAL PHOSPHORUS	0.37	mg/L	0.03	EPA 365.4	01/23/07
TOTAL SOLIDS	217	mg/L	2	SM 2540 B	01/11/07
TOTAL SUSPENDED SOLIDS	156	mg/L	2	SM 2540 D	01/12/07
METALS					
HARDNESS, TOTAL	42.7	mg CaCO3/L	0.5	SM 2340 B CAL	01/12/07
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	2.68	µg/L	0.2	EPA 200.8	01/12/07
LEAD, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	01/12/07
ZINC, DISSOLVED	46.7	µg/L	0.5	EPA 200.8	01/12/07
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	11.9	µg/L	0.4	EPA 200.8	01/12/07
COPPER	22.9	µg/L	0.2	EPA 200.8	01/12/07
LEAD	13.8	µg/L	0.1	EPA 200.8	01/12/07
ZINC	176	µg/L	0.5	EPA 200.8	01/12/07

End of Report for Sample ID: FO070058

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070193** **Sample Collected:** 2/15/2007 09:39 **Sample Received:** 02/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE GRAB
Sample Point Code: M1G
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL01508
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	78	µmhos/cm	1	SM 2510 B	02/15/07
pH (FIELD)	6.1	pH Units	0.1	SM 4500-H B	02/15/07
TEMPERATURE	11.0	Deg. C	0.1	SM 2550 B	02/15/07
MICROBIOLOGY					
E. COLI	2600	MPN/100 ml	10	COLILERT QT	02/15/07
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/06/07

End of Report for Sample ID: FO070193

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070194** **Sample Collected:** 2/15/2007 10:41 **Sample Received:** 02/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: SE 45TH AVE AND UMATILLA ST
MANHOLE GRAB
Sample Point Code: S45U
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL01509
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	96	µmhos/cm	1	SM 2510 B	02/15/07
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	02/15/07
TEMPERATURE	11.9	Deg. C	0.1	SM 2550 B	02/15/07
MICROBIOLOGY					
E. COLI	390	MPN/100 ml	10	COLILERT QT	02/15/07
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/06/07

End of Report for Sample ID: FO070194

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070195** **Sample Collected:** 2/15/2007 11:45 **Sample Received:** 02/15/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL01510
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	68	µmhos/cm	1	SM 2510 B	02/15/07
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	02/15/07
TEMPERATURE	10.9	Deg. C	0.1	SM 2550 B	02/15/07
MICROBIOLOGY					
E. COLI	1600	MPN/100 ml	10	COLILERT QT	02/15/07
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/06/07

End of Report for Sample ID: FO070195

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070209** **Sample Collected:** 2/14/2007 14:28 **Sample Received:** 02/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE COMPOSITE
Sample Point Code: M1C
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AL01609
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.17	mg/L	0.02	EPA 350.1	02/26/07
NITRATE-NITROGEN	0.20	mg/L	0.10	EPA 300.0	02/16/07
O-PHOSPHATE-PHOSPHORUS, DISS	<0.020	mg/L	0.02	EPA 365.1	02/16/07
TOTAL DISSOLVED SOLIDS @180C	35	mg/L	5	SM 2540 C	02/18/07
TOTAL PHOSPHORUS	0.55	mg/L	0.03	EPA 365.4	02/23/07
TOTAL SOLIDS	159	mg/L	2	SM 2540 B	02/17/07
TOTAL SUSPENDED SOLIDS	107	mg/L	2	SM 2540 D	02/16/07
METALS					
HARDNESS, TOTAL	27.5	mg CaCO3/L	0.5	SM 2340 B CAL	02/17/07
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	3.72	µg/L	0.2	EPA 200.8	02/22/07
LEAD, DISSOLVED	0.38	µg/L	0.1	EPA 200.8	02/22/07
ZINC, DISSOLVED	27.9	µg/L	0.5	EPA 200.8	02/22/07
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	5.69	µg/L	0.4	EPA 200.8	02/21/07
COPPER	21.7	µg/L	0.2	EPA 200.8	02/21/07
LEAD	27.3	µg/L	0.1	EPA 200.8	02/21/07
ZINC	157	µg/L	0.5	EPA 200.8	02/21/07

End of Report for Sample ID: FO070209

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070210** **Sample Collected:** 2/14/2007 13:25 **Sample Received:** 02/16/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: SE 45TH AVE AND UMATILLA ST
MANHOLE COMPOSITE
Sample Point Code: S45U
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AL01610
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.12	mg/L	0.02	EPA 350.1	02/26/07
NITRATE-NITROGEN	1.8	mg/L	0.10	EPA 300.0	02/16/07
O-PHOSPHATE-PHOSPHORUS, DISS	0.031	mg/L	0.02	EPA 365.1	02/16/07
TOTAL DISSOLVED SOLIDS @180C	74	mg/L	5	SM 2540 C	02/18/07
TOTAL PHOSPHORUS	0.29	mg/L	0.03	EPA 365.4	02/23/07
TOTAL SOLIDS	208	mg/L	2	SM 2540 B	02/17/07
TOTAL SUSPENDED SOLIDS	128	mg/L	2	SM 2540 D	02/16/07
METALS					
HARDNESS, TOTAL	37.8	mg CaCO3/L	0.5	SM 2340 B CAL	02/17/07
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	2.69	µg/L	0.2	EPA 200.8	02/22/07
LEAD, DISSOLVED	0.27	µg/L	0.1	EPA 200.8	02/22/07
ZINC, DISSOLVED	46.0	µg/L	0.5	EPA 200.8	02/22/07
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	8.26	µg/L	0.4	EPA 200.8	02/21/07
COPPER	17.9	µg/L	0.2	EPA 200.8	02/21/07
LEAD	13.1	µg/L	0.1	EPA 200.8	02/21/07
ZINC	145	µg/L	0.5	EPA 200.8	02/21/07

End of Report for Sample ID: FO070210

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.063	mg/L	0.02	EPA 350.1	02/26/07
BOD5	4	mg/L	2	SM 5210 B	02/17/07
COD	42	mg/L	5	SM 5220 D	02/17/07
NITRATE-NITROGEN	0.88	mg/L	0.10	EPA 300.0	02/16/07
O-PHOSPHATE-PHOSPHORUS, DISS	0.026	mg/L	0.02	EPA 365.1	02/16/07
TOTAL DISSOLVED SOLIDS @180C	82	mg/L	5	SM 2540 C	02/18/07
TOTAL KJELDAHL NITROGEN (TKN)	0.96	mg/L	0.20	PAI-DK03	02/23/07
TOTAL PHOSPHORUS	0.26	mg/L	0.03	EPA 365.4	02/23/07
TOTAL SOLIDS	203	mg/L	2	SM 2540 B	02/17/07
TOTAL SUSPENDED SOLIDS	111	mg/L	2	SM 2540 D	02/16/07
METALS					
HARDNESS, TOTAL	38.5	mg CaCO3/L	0.5	SM 2340 B CAL	02/17/07
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.50	µg/L	0.1	EPA 200.8	02/22/07
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	02/22/07
CHROMIUM, DISSOLVED	0.44	µg/L	0.4	EPA 200.8	02/22/07
COPPER, DISSOLVED	3.91	µg/L	0.2	EPA 200.8	02/22/07
LEAD, DISSOLVED	0.74	µg/L	0.1	EPA 200.8	02/22/07
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	02/22/07
ZINC, DISSOLVED	70.1	µg/L	0.5	EPA 200.8	02/22/07
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.46	µg/L	0.1	EPA 200.8	02/21/07
CADMIUM	0.34	µg/L	0.1	EPA 200.8	02/21/07
CHROMIUM	6.45	µg/L	0.4	EPA 200.8	02/21/07
COPPER	19.7	µg/L	0.2	EPA 200.8	02/21/07
LEAD	22.0	µg/L	0.1	EPA 200.8	02/21/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	02/21/07
ZINC	199	µg/L	0.5	EPA 200.8	02/21/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.049	µg/L	0.049	EPA 8082	02/21/07

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1221	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1232	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1242	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1248	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1254	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1260	<0.049	µg/L	0.049	EPA 8082	02/21/07
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	0.013	µg/L	0.0097	EPA 8270-SIM	02/21/07
2-Methylnaphthalene	0.021	µg/L	0.013	EPA 8270-SIM	02/21/07
Acenaphthene	0.015	µg/L	0.0097	EPA 8270-SIM	02/21/07
Acenaphthylene	<0.0097	µg/L	0.0097	EPA 8270-SIM	02/21/07
Anthracene	0.018	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzo(a)anthracene	0.10	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzo(a)pyrene	0.11	µg/L	0.019	EPA 8270-SIM	02/21/07
Benzo(g,h,i)perylene	0.097	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzofluoranthenes	0.22	µg/L	0.019	EPA 8270-SIM	02/21/07
Chrysene	0.16	µg/L	0.0097	EPA 8270-SIM	02/21/07
Dibenzo(a,h)anthracene	0.021	µg/L	0.0097	EPA 8270-SIM	02/21/07
Fluoranthene	0.25	µg/L	0.0097	EPA 8270-SIM	02/21/07
Fluorene	0.013	µg/L	0.0097	EPA 8270-SIM	02/21/07
Indeno(1,2,3-cd)pyrene	0.091	µg/L	0.0097	EPA 8270-SIM	02/21/07
Naphthalene	0.028	µg/L	0.0097	EPA 8270-SIM	02/21/07
Phenanthrene	0.073	µg/L	0.0097	EPA 8270-SIM	02/21/07
Pyrene	0.27	µg/L	0.0097	EPA 8270-SIM	02/21/07
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,2-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,3-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,4-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1-Methylnaphthalene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
2,4,5-Trichlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2,4,6-Trichlorophenol	<0.29	µg/L	0.29	EPA 8270C	02/21/07
2,4-Dichlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,4-Dimethylphenol	<0.97	µg/L	0.97	EPA 8270C	02/21/07
2,4-Dinitrophenol	<2.4	µg/L	2.4	EPA 8270C	02/21/07
2,4-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2,6-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Chloronaphthalene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
2-Chlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Methylnaphthalene	<0.097	µg/L	0.097	EPA 8270C	02/21/07
2-Methylphenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Nitroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Nitrophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
3- & 4-Methylphenol	<0.39	µg/L	0.39	EPA 8270C	02/21/07
3,3'-Dichlorobenzidine	<0.97	µg/L	0.97	EPA 8270C	02/21/07
3-Nitroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4,6-Dinitro-2-methylphenol	<1.9	µg/L	1.9	EPA 8270C	02/21/07
4-Bromophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chloro-3-methylphenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chloroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chlorophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Nitroaniline	<0.29	µg/L	0.29	EPA 8270C	02/21/07
4-Nitrophenol	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Acenaphthene	<0.049	µg/L	0.049	EPA 8270C	02/21/07
Acenaphthylene	<0.039	µg/L	0.039	EPA 8270C	02/21/07
Anthracene	0.020	µg/L	0.019	EPA 8270C	02/21/07
Benzo(a)anthracene	0.094	µg/L	0.029	EPA 8270C	02/21/07
Benzo(a)pyrene	0.10	µg/L	0.019	EPA 8270C	02/21/07
Benzo(g,h,i)perylene	0.10	µg/L	0.029	EPA 8270C	02/21/07
Benzofluoranthenes	0.27	µg/L	0.039	EPA 8270C	02/21/07
Benzoic acid	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Benzyl alcohol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Benzyl butyl phthalate	0.61	µg/L	0.29	EPA 8270C	02/21/07
Bis(2-chloroethoxy) methane	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-chloroethyl) ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-chloroisopropyl) ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-ethylhexyl) phthalate	2.2	µg/L	1.5	EPA 8270C	02/21/07

Report Date: 10/17/07 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Carbazole	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Chrysene	0.15	µg/L	0.019	EPA 8270C	02/21/07
Dibenzo(a,h)anthracene	0.041	µg/L	0.029	EPA 8270C	02/21/07
Dibenzofuran	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Diethyl phthalate	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Dimethyl phthalate	1.7	µg/L	0.19	EPA 8270C	02/21/07
Di-n-butyl phthalate	0.25	µg/L	0.19	EPA 8270C	02/21/07
Di-n-octyl phthalate	0.33	µg/L	0.19	EPA 8270C	02/21/07
Fluoranthene	0.25	µg/L	0.024	EPA 8270C	02/21/07
Fluorene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
Hexachlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Hexachlorobutadiene	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Hexachloroethane	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Indeno(1,2,3-cd)pyrene	0.099	µg/L	0.029	EPA 8270C	02/21/07
Isophorone	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Naphthalene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Nitrobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
N-Nitrosodi-n-propylamine	<0.19	µg/L	0.19	EPA 8270C	02/21/07
N-Nitrosodiphenylamine	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Pentachlorophenol	<0.34	µg/L	0.34	EPA 8270C	02/21/07
Phenanthrene	0.073	µg/L	0.039	EPA 8270C	02/21/07
Phenol	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Pyrene	0.28	µg/L	0.029	EPA 8270C	02/21/07

End of Report for Sample ID: FO070211

Report Date: 10/17/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070346**
Sample Collected: 3/7/2007 13:20
Sample Received: 03/08/07
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: SE 45TH AVE AND UMATILLA ST
MANHOLE GRAB
Sample Point Code: S45U
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL02242
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Test Parameter	Result	Units	MRL	Method	Analysis Date
MICROBIOLOGY					
E. COLI	540	MPN/100 ml	10	COLILERT QT	03/08/07
GENERAL					
OIL & GREASE, TOTAL	6.9	mg/L	5	EPA 1664	03/15/07

End of Report for Sample ID: FO070346

Report Date: 10/17/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070347** **Sample Collected:** 3/7/2007 13:00 **Sample Received:** 03/08/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: SE 45TH AVE AND UMATILLA ST
MANHOLE COMPOSITE
Sample Point Code: S45U
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL02264
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JXB/ECH

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.28	mg/L	0.02	EPA 350.1	03/12/07
NITRATE-NITROGEN	2.1	mg/L	0.10	EPA 300.0	03/08/07
O-PHOSPHATE-PHOSPHORUS, DISS	0.025	mg/L	0.02	EPA 365.1	03/08/07
TOTAL DISSOLVED SOLIDS @180C	83	mg/L	5	SM 2540 C	03/09/07
TOTAL PHOSPHORUS	0.53	mg/L	0.03	EPA 365.4	03/14/07
TOTAL SOLIDS	347	mg/L	2	SM 2540 B	03/09/07
TOTAL SUSPENDED SOLIDS	251	mg/L	2	SM 2540 D	03/09/07
METALS					
HARDNESS, TOTAL	51.6	mg CaCO3/L	0.5	SM 2340 B CAL	03/12/07
METALS BY ICP-MS (DISSOLVED) - 3					
COPPER, DISSOLVED	3.53	µg/L	0.2	EPA 200.8	03/14/07
LEAD, DISSOLVED	0.12	µg/L	0.1	EPA 200.8	03/14/07
ZINC, DISSOLVED	44.3	µg/L	0.5	EPA 200.8	03/14/07
METALS BY ICP-MS (TOTAL) - 4					
CHROMIUM	15.9	µg/L	0.4	EPA 200.8	03/12/07
COPPER	31.6	µg/L	0.2	EPA 200.8	03/12/07
LEAD	23.8	µg/L	0.1	EPA 200.8	03/12/07
ZINC	215	µg/L	0.5	EPA 200.8	03/12/07

End of Report for Sample ID: FO070347

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070682** **Sample Collected:** 6/5/2007 07:43 **Sample Received:** 06/05/07 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE GRAB
Sample Point Code: M1G
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AL05251
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Comments:
QA/QC: The result for BOD may be a slightly high estimate, based on high readings for the Method Blanks.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
BOD5	EST 34	mg/L	2	SM 5210 B	06/05/07

End of Report for Sample ID: FO070682

Report Date: 10/17/07 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO070728** **Sample Collected:** 6/9/2007 11:40 **Sample Received:** 06/09/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 5241 NE 122ND AVE
MANHOLE GRAB
Sample Point Code: M1G
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL05450
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
BOD5	10	mg/L	2	SM 5210 B	06/12/07

End of Report for Sample ID: FO070728

Report Date: 10/17/07 **Validated By: Signature on File**

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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/2/06

Page: 1 of 2

Collected By: JM, MWH

Project Name:	NPDES STORMWTR MON
File Number:	4010.001
Matrix:	STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	General	General	Micro: E. coli	Micro	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)	Field
1 FO 061420	5241 NE 122ND AVE MANHOLE GRAB	M1G	11/2/06	1117	G	•			•			6.9	30	5.4	
2															
3 FO 061421	4900 NW KITTRIDGE AVE (OF19)	OF19	11/2/06	0812	G	•			•			7.7	70	6.4	
4															
5															
6															
7															
8															
9															
10															

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 0738	Time:	Time:	Time:
Printed Name: MICHAEL HAUSER	Printed Name:	Printed Name:	Printed Name:
Date: 11-3-06	Date:	Date:	Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/3/06
Page: 1 of 1
Collected By: MJH/LAP

Project Name:	NPDES STORMWTR MON
File Number:	4010.001
Matrix:	STORMWTR

M1C TO BE COMPOSITED BY CHURN SPLITTER

~~X~~ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: SVOCs	PAHs	PCBs			SSC (TSS)
FO 061422	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	11/2/06	0420	C	•	•	•	•	•	•					•	•		•	•						•
FO 061423	4900 NW KITTRIDGE AVE (OF19)	OF19	11/2/06	0418	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•			

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1136	Time:	Time:	Time:
Printed Name: MICHAEL HANSER	Printed Name:	Printed Name:	Printed Name:
Date: 11-3-06	Date:	Date:	Date:
Received By: 1.	Received By: 2.	Received By: 3.	Received By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1136	Time:	Time:	Time:
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name:
Date: 11/3/06	Date:	Date:	Date:

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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/20/06

Page: 1 of 1

Collected By: JM, RCB

Project Name:	NPDES STORMWTR MON
File Number:	4010.001
Matrix:	STORMWTR

☑ Sample Time recorded in PST

Aliquots collected 11/19/06 0753 - 11/19/06 1727

Requested Analyses

						General				Metals				Nutrients							Outside				
WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	TS	TDS	TSS	Hardness	Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	SVOCs	PAHs	PCBs		
1	[redacted] MANHOLE COMPOSITE	MTC			C														•	•					
2																									
FO061513	4900 NW KITTRIDGE AVE (OF19)	OF19	11/19/06	0753	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•		
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1151	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 11/20/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1151	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: KRIS DENNIS Date: 11/20/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 1/10/07

Page: 1 of 1

Collected By: TJM, RCB, DJH

Project Name:	NPDES STORMWTR MON
File Number:	4010.001
Matrix:	STORMWTR

☑ Sample Time recorded in PST

M1 aliquot collection time 1/9/07 1745 – 2250

S45U aliquot collection time 1/9/07 1735 – 1933

Requested Analyses

N/A

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: ~~SVOCs~~	~~PAHs~~	~~PCBs~~	SSC
FO 070057	5241 NE 122ND AVE MANHOLE GRAB	M1G	1/9/07	1745	C	•	•	•	•	•	•					•	•		•	•				•
FO 070058	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	1/9/07	1735	C	•	•	•	•	•	•					•	•		•	•				•
[redacted]	(OF19)	[redacted]			C	•	•	•	•					•	•	•	•	•	•	•				

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1451	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLaun Date: 1/10/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1451	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kluck Date: 1/10/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/15/07
Page: 1 of 1
Collected By: JJM, MJS

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 070193	5241 NE 122ND AVE MANHOLE GRAB	M1G	2/15/07	0939	G	•	•		11.0	78	6.1
FO 070194	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	2/15/07	1041	G	•	•		11.9	96	6.4
FO 070195	4900 NW KITTRIDGE AVE (OF19)	OF19	2/15/07	1145	G	•	•		10.9	68	6.4

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McCann Time: 1230	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 2/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Klueh Time: 1230	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Klueh Date: 2/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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City of Portland Chain-of-Custody

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Date: 2/16/07
Page: 1 of 1
Collected By: MJS, JJM

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

M1G composite time 2/14/07 1428 – 2/16/07 1111.
☑ Sample Time recorded in PST
S45U composite time 2/14/07 1325 – 2/15/07 1734
OF19 composite time 2/14/07 1301 – 2/16/07 0245

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: SVOCs	PAHs	PCBs		
FO 070209	5241 NE 122ND AVE MANHOLE GRAB	M1G	2/14/07	1428	C	•	•	•	•	•	•					•	•	·	•	•					
FO 070210	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	2/14/07	1325	C	•	•	•	•	•	•					•	•		•	•					
FO 070211	4900 NW KITTRIDGE AVE (OF19)	OF19	2/14/07	1301	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•		
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1412	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Chain-of-Custody

Bureau of Environmental Services

3/8/07

Page: 1 of 1

Collected By: JXB/ECH

Project Name:	NPDES STORMWTR MON
File Number:	4010.001
Matrix:	STORMWTR

☑ Sample Time recorded in PST

Aliquots collected 3/8/07 1300-1403 and composited in churn splitter where analyte specific subsamples were collected.

Requested Analyses

						General				Metals				Nutrients						Outside				
	VPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	TS	TDS	TSS	Hardness	Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	SVOCs	PAHs	PCBs		
[redacted]																										
	FO 070347	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	3/8/07	1300 1330 1403	C	•	•	•	•	•	•					•	•		•	•					
[redacted]																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1521	Time: 1521	Time:	Time:
Printed Name: Jeremiah Bagwell	Printed Name: Jordan McCann	Printed Name:	Printed Name:
Date: 3/8/07	Date: 3/8/07	Date:	Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature:	Signature:	Signature:	Signature:
Time: 1521	Time: 1521	Time:	Time:
Printed Name: Jordan McCann	Printed Name: Rona Kluch	Printed Name:	Printed Name:
Date: 3/8/07	Date: 3/8/07	Date:	Date:

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Additional Documentation for Outfall 19 MS4 Monitoring, FY 2006 – 2007 (Events 1 – 3):

- **Trigger Volume Calculation Worksheets**
- **Daily Field Reports**
- **Composite Bottle Data Sheets**
- **WPCL and Contracting Laboratory Reports**

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr | Project No. 4010.001
Location OF19, M1 | Date 11/1/06
Subject FY06-07 Event 1 setup | By WM, MJS

1016 Arrive on site to setup for 0.5" anticipated storm event. Uploaded FM which has been logging since previous visit on 10/25 site file: 11011029.FEY Hydrograph looks good, weather has been mostly dry since last visit

Programmed meter w/ trigger volume of 7759 cf. Meter level currently 0.9". MJS entered, manual level 1.1", cleaned sensor - meter responded. Manual/meter in agreement.

Decontaminated sampler w/ following steps:
① Alconox non-phosphate soapy rinse ② Tap water rinse ③ Acetone wash ④ DI water rinse ⑤ 10% Nitric acid wash ⑥ Ultrapure DI water rinse.
Lowered sampler w/ new battery, MJS calibrated sampler at bottom of MH, confirmed kink-free Teflon-lined tubing. New battery installed on meter - started programming. Started sampler.
1128 Left site.

1430 - On site @ M1. Uploaded meter, nothing significant in data - dry weather since visit on 10/25. Decontaminated sampler w/ following steps: ① Alconox non-phosphate soapy rinse ② Tap water rinse ③ ~~Acetone~~ WM wash ④ DI water rinse ⑤ 10% nitric acid wash ⑥ ultrapure DI rinse.
Calibrated sampler programmed flow meter w/ a trigger volume 3689 cf based on 0.5" anticipated rain. New batts. Ready to go.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr
Project No. 4010.001
Location OF19, M1
Date 11/2/06
Subject FY06-07 event 1
By JJM, MJH

0759 Arrive @ OF19 after approx. 0.17" of rain. Sampler is running, filled bottle 1. Meter level is 6.4". Meter is pacing sampler based on 0.5" of rain, therefore sampler program should ~~be~~ have filled at least 3 to 4 bottles. However, this event is the first substantial rainfall of the season and the basins pervious surfaces may be absorbing most of the precipitation.

0812 Collected grab samples, returned sampler to staging platform @ bottom of MH. Programming/trigger volume not adjusted as more rain is forecasted for remainder of the day.

0826 Left site

0850 Arrive @ M1 after approx. 0.19" of rain. Sampler is pacing perfectly - 11,000 cf of flow via totalizer which is consistent w/ trigger volume of 3689cf based on 0.5" of rain. Sampler has collected 1 full bottle after approx. 12,000 cf of flow since yesterday's visit. No grabs collected, no rain during visit. Returned sampler/meter to MH. Will return later as more rain is expected.

1115 Returned to M1 after substantial rain in NE PDX. Rain has subsided to light showers. Sampler has collected 2 1/3 bottles. ~~Will wait for sampler to finish bottle 3.~~ swap

1117 Collected grab samples and field parameters. Meter flow totalizer @ 26 cf (x 1000) - will take more than 40 min @ current flow rate to finish bottle 3. Recorded sampler trigger times, swapped bottles/sampler battery. Re-staged equipment

Attachments

1134 Left site.

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr
Location OF19
Subject FY06-07 Event 1

Project No. 4010.001
Date 11/2/06
By JJM, MJH

1237 Arrive @ OF19. Sampler has filled 3 1/3 bottles. Sampler display reads "errors have occurred". Paused sampler to record trigger times. Sampler aliquot volume is less than 600mL approx. 300mL at each trigger. Full bottle volume is more like 900mL not 1800mL.
Sampler had "No More Liquid" error @ 1035, therefore bottle 7 had two aliquots, volume ≈ 600mL total.
Swapped bottles, left calibration as is - expecting more rain.
Meter totalizer at 83,000 cf and pacing perfectly.
~~1251 Returned equipment, left site.~~
↳ After staging sampler, JJM entered to ensure Teflon-lined tubing is free of obstruction/kinks. Tubing is in good shape, had sampler take a grab sample into a graduated cylinder volume 350mL which is consistent w/ aliquots taken ~~previously~~ this morning. Left calibration w/out altering.
1309 Now, left site.
1328 Arrive @ WPCL, stored samples in cooler.

Next time, double head in sampler programming.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NDPES STORM WATER MON
Location OC19, M1
Subject FIELD NOTES - EVENT 1

Project No. 4010.001
Date 11/3/06
By MJJ

0730 SUBMIT YESTERDAYS GRABS TO THE WPCL LAB

0852 ARRIVE AT M1, PROGRAM STILL RUNNING SAMPLER ON BOTTLE 8. STOP SAMPLER, RECORD ALIQUOT TIMES DOWNLOAD METER. BOTTLES HAVE GOOD VOLUME AMOUNTS IN THEM.
REMOVED BATTERYS FROM METER AND SAMPLER.

0910 GO TO OC19.

0948 ARRIVE AT OC19. SAMPLER WAITING ON BOTTLE 8, SECOND ALIQUOT. REMOVED BOTTLE FROM SAMPLER.
SAMPLER SET TO PDT!
ALL ALIQUOT TIMES ARE IN PDT.
DOWN LOAD METER.
BATTERIES REMOVED FROM METER + SAMPLER.

1047 RETURN TO WPCL, ORGANIZE BOTTLES.

1136 SAMPLES SUBMITTED TO WPCL LAB FOR ANALYSIS.

NOTE: SSC ANALYSIS ON M1C

Attachments

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event Da** 11_2-3_06

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.5	0.0417	380	16552800	689700	0.27	186219	8	3	[illegible]

OF19

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19 Field Sampling Crew JJM, MJH

Date 11/2/06 Time 1245

Grab Sample Date and Time 11/2/06 @ 0812

Enabled 0420

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	900mL TURBIDITY	
2	600mL	one missed @ 1035 "No more liquid"
3	900mL	
4	300mL, one aliquot	
5	900	
6	600	
7	700	
8	200 SLIGHTLY TURBID	1 ALIQUOT

Trigger Data

	Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	1	0516	11/2/06			
	2	0652				
	3	0809				
2	4	0940				
	5	1014				
	6	1035		— No more liquid		
3	7	1124				
	8	1209				
	9	1237				
4	10	1301	11/2/06			
BOTTLE SWAP 5	11	1443				
	12	1516				

	Trigger #	24 Hour Time		Time, Date, Missed Triggers		
6	13	1521				
	14	1542				
	15	1603				
	16	1633				
7	17	1719				
	18	1836				
	19	1908				
8	20	1936				
	21	1959				
	22	2016				
9	23	2044				
	24	2057				

Comments Restarted sampler @ Bottle 5 on 11/2 @ 1245. Aliquot volume is not 600mL, but sampler is collecting consistent volume @ each trigger.

11030946 SEY

SAMPLER SET TO PDT!

DIS 1245
EN 1500
DIS 345
EN 745
DIS 1020
EN 1035

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Page ___ of ___

Station ID # OC 19 Field Sampling Crew MSJ/LAP

Date 11-3-06 Time

Grab Sample Date and Time

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
9	900 SLIGHTLY TURBID	
10	1100	
11	700	
12	300 1 ALIQUOT	NOT SUBMITTED TO LAB
13		
14		
15		
16		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
25	2113				
26	2128				
27	2146				
28	2208				
29	2254				
30	0011				
31	0028				
32	0901				
33					
34					
35					
36					

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					

Comments

= SAMPLES + ALIQUOTS SUBMITTED TO LAB

STORM SAMPLING DEEMED TO BE COMPLETED AFTER ALIQUOT 31.

FO 061423

NOTE: BOTTLE 8 DEEMED TO BE 1 ALIQUOT DUE TO LOW VOLUME SIZE.

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(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 11/2/06
Page: 1 of 2
Collected By: TOM, MWH

Project Name: NPDES STORMWTR MON
File Number: 4010.001 Matrix: STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 061420	5241 NE 122ND AVE MANHOLE GRAB	M1G	11/2/06	1117	G	•	•		6.9	30	5.4
FO 061421	4900 NW KITTRIDGE AVE (OF19)	OF19	11/2/06	0812	G	•	•		7.7	70	6.4

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 0738	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: MICHAEL HAUSER Date: 11-3-06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/3/06
Page: 1 of 1
Collected By: MJH/LAP

Project Name: NPDES STORMWTR MON
File Number: 4010.001 Matrix: STORMWTR

M1C TO BE COMPOSITED BY CHURN SPLITTER

Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: SVOCs	PAHs	PCBs			TSS (TSS)
FO 061422	5241 NE 122ND AVE MANHOLE COMPOSITE	M1C	11/2/06	0420	C	•	•	•	•	•	•					•	•		•	•						•
FO 061423	4900 NW KITTRIDGE AVE (OF19)	OF19	11/2/06	0418	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•			

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1136	Time:	Time:	Time:
Printed Name: MICHAEL HAUSER	Printed Name:	Printed Name:	Printed Name:
Date: 11-3-06	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time: 1136	Time:	Time:	Time:
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name:
Date: 11/3/06	Date:	Date:	Date:

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City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061421**
Sample Collected: 11/2/2006 08:12
Sample Received: 11/03/06
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AK09936
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJH

Comments:
QA/QC: THE RESULT FOR E.COLI IS AN ESTIMATE BECAUSE THE 24-HOUR HOLDING TIME WAS SLIGHTLY EXCEEDED DUE TO PROJECT COORDINATION DELAY.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	70	µmhos/cm	1	SM 2510 B	11/02/06
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	11/02/06
TEMPERATURE	7.7	Deg. C	0.1	SM 2550 B	11/02/06
MICROBIOLOGY					
E. COLI	EST 3300	MPN/100 ml	1	COLILERT QT	11/03/06
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	11/16/06

End of Report for Sample ID: FO061421

Report Date: 08/14/08 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.17	mg/L	0.02	EPA 350.1	11/06/06
BOD5	7	mg/L	2	SM 5210 B	11/03/06
COD	58	mg/L	5	SM 5220 D	11/05/06
NITRATE-NITROGEN	0.37	mg/L	0.10	EPA 300.0	11/03/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.053	mg/L	0.02	EPA 365.1	11/03/06
TOTAL DISSOLVED SOLIDS @180C	64	mg/L	5	SM 2540 C	11/06/06
TOTAL KJELDAHL NITROGEN (TKN)	1.12	mg/L	0.20	PAI-DK03	11/08/06
TOTAL PHOSPHORUS	0.28	mg/L	0.03	EPA 365.4	11/08/06
TOTAL SOLIDS	135	mg/L	2	SM 2540 B	11/03/06
TOTAL SUSPENDED SOLIDS	109	mg/L	2	SM 2540 D	11/03/06
METALS					
HARDNESS, TOTAL	31.5	mg CaCO3/L	0.5	SM 2340 B CALC	11/04/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.51	µg/L	0.1	EPA 200.8	11/03/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/03/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	11/03/06
COPPER, DISSOLVED	4.01	µg/L	0.2	EPA 200.8	11/03/06
LEAD, DISSOLVED	0.51	µg/L	0.1	EPA 200.8	11/03/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/03/06
ZINC, DISSOLVED	62.1	µg/L	0.5	EPA 200.8	11/03/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.42	µg/L	0.1	EPA 200.8	11/07/06
CADMIUM	0.39	µg/L	0.1	EPA 200.8	11/07/06
CHROMIUM	5.81	µg/L	0.4	EPA 200.8	11/07/06
COPPER	22.0	µg/L	0.2	EPA 200.8	11/07/06
LEAD	31.7	µg/L	0.1	EPA 200.8	11/07/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/07/06
ZINC	237	µg/L	0.5	EPA 200.8	11/07/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1221	<0.52	µg/L	0.52	EPA 8082	11/09/06

Report Date: 08/14/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 2 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1232	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1242	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1248	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1254	<0.52	µg/L	0.52	EPA 8082	11/09/06
Aroclor 1260	<0.52	µg/L	0.52	EPA 8082	11/09/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	11/09/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270-SIM	11/09/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Benzofluoranthenes	<0.22	µg/L	0.22	EPA 8270-SIM	11/09/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Fluoranthene	EST 0.18	µg/L	0.11	EPA 8270-SIM	11/09/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/09/06
Pyrene	EST 0.19	µg/L	0.11	EPA 8270-SIM	11/09/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,2-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,3-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1,4-Dichlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
1-Methylnaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
2,4,5-Trichlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,4,6-Trichlorophenol	<3.2	µg/L	3.2	EPA 8270C	11/09/06
2,4-Dichlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270C	11/09/06
2,4-Dinitrophenol	<27	µg/L	27	EPA 8270C	11/09/06

Report Date: 08/14/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,4-Dinitrotoluene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2,6-Dinitrotoluene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Chloronaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
2-Chlorophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270C	11/09/06
2-Methylphenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Nitroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
2-Nitrophenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
3- & 4-Methylphenol	<4.3	µg/L	4.3	EPA 8270C	11/09/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270C	11/09/06
3-Nitroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4,6-Dinitro-2-methylphenol	<22	µg/L	22	EPA 8270C	11/09/06
4-Bromophenylphenyl ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chloro-3-methylphenol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chloroaniline	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Chlorophenylphenyl ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
4-Nitroaniline	<3.2	µg/L	3.2	EPA 8270C	11/09/06
4-Nitrophenol	<11	µg/L	11	EPA 8270C	11/09/06
Acenaphthene	<0.54	µg/L	0.54	EPA 8270C	11/09/06
Acenaphthylene	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Anthracene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Benzo(a)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Benzo(a)pyrene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Benzo(g,h,i)perylene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Benzofluoranthenes	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Benzoic acid	<11	µg/L	11	EPA 8270C	11/09/06
Benzyl alcohol	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Bis(2-chloroethoxy) methane	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-chloroethyl) ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-chloroisopropyl) ether	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270C	11/09/06
Carbazole	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Chrysene	<0.22	µg/L	0.22	EPA 8270C	11/09/06
Dibenzo(a,h)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/09/06

Report Date: 08/14/08 **Validated By: Signature on File**

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6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO061423** **Sample Collected:** 11/2/2006 04:18 **Sample Received:** 11/03/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AK09942
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJH/LAP

Comments:
QA/QC: Results for PAH compounds Fluoranthene and Pyrene may be high estimates; these compounds were detected in the method blank at concentrations more than one tenth the amounts found in the sample. LAB: Reporting limits for PCB Arochlors are higher than requested due to communication error. The MDL for each Aroclor is 0.083 ug/L, and none were detected at the MDL level.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dibenzofuran	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Diethyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Dimethyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Di-n-butyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Di-n-octyl phthalate	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Fluoranthene	<0.27	µg/L	0.27	EPA 8270C	11/09/06
Fluorene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Hexachlorobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Hexachlorobutadiene	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270C	11/09/06
Hexachloroethane	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Indeno(1,2,3-cd)pyrene	<0.32	µg/L	0.32	EPA 8270C	11/09/06
Isophorone	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Naphthalene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Nitrobenzene	<2.2	µg/L	2.2	EPA 8270C	11/09/06
N-Nitrosodi-n-propylamine	<2.2	µg/L	2.2	EPA 8270C	11/09/06
N-Nitrosodiphenylamine	<2.2	µg/L	2.2	EPA 8270C	11/09/06
Pentachlorophenol	<3.8	µg/L	3.8	EPA 8270C	11/09/06
Phenanthrene	<0.43	µg/L	0.43	EPA 8270C	11/09/06
Phenol	<3.2	µg/L	3.2	EPA 8270C	11/09/06
Pyrene	<0.32	µg/L	0.32	EPA 8270C	11/09/06

End of Report for Sample ID: FO061423

Report Date: 08/14/08 **Validated By: Signature on File**

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPK0231

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

PROJECT NAME: NPDES Stormwtr. Mon.
PROJECT NUMBER:
SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* *Turnaround Requests less than standard* **may incur Rush Charges.**

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: semi-vols 8270 - LowLevel	PAH 8270-S/M LowLevel	PCBs LowLevel 8082	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1	FO 061423	11/2/06 0418		X	X	X	W	4	X	
2										
3										
4										
5										
6										
7										
8										
9										
10										

RELEASED BY:		DATE: 11/06/06	RECEIVED BY: Tony Carlson	DATE: 11/6
PRINT NAME: KRIS DENNIS	FIRM: City of Portland	TIME: 1101	PRINT NAME: Tony Carlson	FIRM: Senvoy	TIME: 11:01
RELEASED BY: Tony Carlson		DATE: 11/06	RECEIVED BY:	DATE: 11-6-06
PRINT NAME: Tony Carlson	FIRM: Senvoy	TIME: 11:54	PRINT NAME:	FIRM: TAP	TIME: 11:54

ADDITIONAL REMARKS: X Send out to STL for Low Level SVOCs, PAH + PCBs.

TEMP:

COC REV 05 2006

PAGE 1 OF 1

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project.
Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

Circle Y or N

(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)
Date: 11.6.06
Time: 1154
Initials: JS

Logged-in By:
Date: 11/6
Initials: SM

Unpacked/Labeled By:
Date: 11/6
Initials: SM

Cooler ID: ____ (___ of ___)
Work Order No. PPK0231
Client: City of Pasadena
Project: _____

Container Type:
1 Cooler
___ Box
___ None/Other _____

COC Seals:
___ Ship. Container
___ On Bottles
None

_____ Sign By
_____ Date

Packing Material
Bubble Bags
___ Styrofoam
___ Foam Packs
___ None/Other Other _____

Refrigerant:
Gel Ice Pack _____
___ Loose Ice
___ None/Other _____
___ None

Received Via: Bill# _____
___ Fed Ex
___ UPS
___ DHL
Senvoy
___ GS
___ Client
___ NCA Courier
___ Mid Valley
___ TDP
___ Other_____

Cooler Temperature (*IR*): 5.3 °C Plastic Glass (circle one) (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? _____ °C or NA

Trip Blank? Y or N or NA

Sample Containers:

		ID			ID
ntact?	Y or N	_____	Metals Preserved?	Y or N or NA	_____
Provided by NCA?	Y or N	_____	Client QAPP Preserved?	Y or N or NA	_____
Correct Type?	Y or N	_____	Adequate Volume? (for tests requested)	Y or N	_____
tContainers match COC?	Y or N	_____	Water VOAs: Headspace?	Y or N or NA	_____
Ds/time/date match COC?	Y or N	_____	Comments:		
Hold Times in hold?	Y or N	_____			

PROJECT MANAGEMENT

s the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems _____

otal access set up? Y or N
as client been contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

M Initials: _____ Date: _____ Time: _____

(rev 3. 09/12/05)

ANALYTICAL REPORT

Job Number: 580-4193-1

Job Description: Semivolatiles-city of Portland

For:
TestAmerica Analytical Testing Corp
9405 SW Nimbus Ave
Beaverton, OR 97008

Attention: Howard Holmes

Heather Curbow
Project Manager I
hcurbow@stl-inc.com
11/22/2006

cc: Aaron Wieting

Project Manager: Heather Curbow

STL Seattle is a part of Severn Trent Laboratories, Inc.

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Case Narrative for job: 580-J4193-1

Client: TestAmerica Analytical Testing Corp
Date: 11/22/2006

8270C Semivolatile
The recovery of several analytes exceeded quality control limits in the LCS and LCSD. Minimal outliers are expected in full volatile list analyses. The method blank and surrogate recoveries were within control limits. No further action was taken on this outlier.

8082 PCB
LCS/LCSD Aroclor spike recoveries were high, but the sample was ND for Aroclors.

EXECUTIVE SUMMARY - Detections

Client: TestAmerica Analytical Testing Corp Job Number: 580-4193-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4193-1	**PPK0231-01**					
Naphthalene		0.041	J	0.11	ug/L	8270C
2-Methylnaphthalene		0.017	J	0.14	ug/L	8270C
Acenaphthylene		0.014	J	0.11	ug/L	8270C
Acenaphthene		0.014	J	0.11	ug/L	8270C
Fluorene		0.036	J *	0.11	ug/L	8270C
Phenanthrene		0.076	J B	0.11	ug/L	8270C
Anthracene		0.021	J	0.11	ug/L	8270C
Fluoranthene		0.18	B	0.11	ug/L	8270C
Pyrene		0.19	B	0.11	ug/L	8270C
Benzo[a]anthracene		0.076	J B	0.11	ug/L	8270C
Chrysene		0.084	J	0.11	ug/L	8270C
Benzofluoranthene		0.12	J	0.22	ug/L	8270C
Indeno[1,2,3-cd]pyrene		0.061	J	0.11	ug/L	8270C
Dibenz(a,h)anthracene		0.019	J	0.11	ug/L	8270C
Benzo[g,h,i]perylene		0.071	J	0.11	ug/L	8270C
2,4-Dimethylphenol		0.27	J	11	ug/L	8270C
Benzoic acid		6.7	J *	11	ug/L	8270C
Dimethyl phthalate		1.5	J	2.2	ug/L	8270C
Diethyl phthalate		0.38	J	2.2	ug/L	8270C
Phenanthrene		0.087	J	0.43	ug/L	8270C
Di-n-butyl phthalate		1.2	J B	2.2	ug/L	8270C
Fluoranthene		0.14	J	0.27	ug/L	8270C
Pyrene		0.14	J	0.32	ug/L	8270C
Butyl benzyl phthalate		1.1	J	3.2	ug/L	8270C
Chrysene		0.072	J	0.22	ug/L	8270C
Bis(2-ethylhexyl) phthalate		2.7	J	16	ug/L	8270C
Di-n-octyl phthalate		1.0	J	2.2	ug/L	8270C
Benzofluoranthene		0.12	J	0.43	ug/L	8270C
Benzo[a]pyrene		0.042	J	0.22	ug/L	8270C

SAMPLE SUMMARY

Client: TestAmerica Analytical Testing Corp Job Number: 580-4193-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-4193-1	PPK0231-01	Water	11/02/2006 1618	11/09/2006 1130

Client: TestAmerica Analytical Testing Corp Job Number: 580-4193-1

Client Sample ID: PPK0231-01

Lab Sample ID: 580-4193-1
Client Matrix: Water

Date Sampled: 11/02/2006 1618
Date Received: 11/09/2006 1130

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 11/13/2006 1917
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878

Instrument ID: SEA040
Lab File ID: ak007270.D
Initial Weight/Volume: 930 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND	*	0.080	3.2
Bis(2-chloroethyl)ether	ND		0.19	2.2
2-Chlorophenol	ND		0.24	2.2
1,3-Dichlorobenzene	ND		0.12	2.2
1,4-Dichlorobenzene	ND		0.13	2.2
Benzyl alcohol	ND		0.14	2.2
1,2-Dichlorobenzene	ND		0.12	2.2
2-Methylphenol	ND	*	0.41	2.2
Bis(2-chloroisopropyl) ether	ND		0.095	2.2
3 & 4 Methylphenol	ND		0.18	4.3
N-Nitrosodi-n-propylamine	ND		0.22	2.2
Hexachloroethane	ND		0.14	3.2
Nitrobenzene	ND		0.081	2.2
Isophorone	ND		0.12	2.2
2-Nitrophenol	ND		0.23	2.2
2,4-Dimethylphenol	0.27	J	0.19	11
Benzoic acid	6.7	J *	0.23	11
Bis(2-chloroethoxy)methane	ND		0.10	2.2
2,4-Dichlorophenol	ND		0.14	2.2
1,2,4-Trichlorobenzene	ND		0.11	2.2
Naphthalene	ND		0.015	2.2
4-Chloroaniline	ND		0.20	2.2
Hexachlorobutadiene	ND		0.17	3.2
4-Chloro-3-methylphenol	ND		0.15	2.2
2-Methylnaphthalene	ND		0.059	1.1
Hexachlorocyclopentadiene	ND		0.13	11
2,4,6-Trichlorophenol	ND		0.11	3.2
2,4,5-Trichlorophenol	ND		0.091	2.2
2-Chloronaphthalene	ND		0.032	0.32
2-Nitroaniline	ND		0.12	2.2
Dimethyl phthalate	1.5	J	0.13	2.2
Acenaphthylene	ND		0.028	0.43
2,6-Dinitrotoluene	ND		0.15	2.2
3-Nitroaniline	ND		0.60	2.2
Acenaphthene	ND		0.013	0.54
2,4-Dinitrophenol	ND		0.62	27
4-Nitrophenol	ND		1.7	11
Dibenzofuran	ND		0.11	2.2
2,4-Dinitrotoluene	ND		0.13	2.2
Diethyl phthalate	0.38	J	0.10	2.2
4-Chlorophenyl phenyl ether	ND		0.13	2.2
Fluorene	ND		0.045	0.32
4-Nitroaniline	ND		0.19	3.2

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4193-1

Client Sample ID: **PPK0231-01**

Lab Sample ID: 580-4193-1 | Date Sampled: 11/02/2006 1618
Client Matrix: Water | Date Received: 11/09/2006 1130

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-13110 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-12878 | Lab File ID: ak007270.D
Dilution: 1.0 | Initial Weight/Volume: 930 mL
Date Analyzed: 11/13/2006 1917 | Final Weight/Volume: 10 mL
Date Prepared: 11/09/2006 1337 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.57	22
N-Nitrosodiphenylamine	ND		0.14	2.2
4-Bromophenyl phenyl ether	ND		0.11	2.2
Hexachlorobenzene	ND		0.088	2.2
Pentachlorophenol	ND		0.14	3.8
Phenanthrene	0.087	J	0.026	0.43
Anthracene	ND		0.020	0.22
Di-n-butyl phthalate	1.2	J B	0.095	2.2
Fluoranthene	0.14	J	0.029	0.27
Pyrene	0.14	J	0.022	0.32
Butyl benzyl phthalate	1.1	J	0.26	3.2
3,3'-Dichlorobenzidine	ND		1.7	11
Benzo[a]anthracene	ND		0.035	0.32
Chrysene	0.072	J	0.048	0.22
Bis(2-ethylhexyl) phthalate	2.7	J	0.34	16
Di-n-octyl phthalate	1.0	J	0.19	2.2
Benzofluoranthene	0.12	J	0.059	0.43
Benzo[a]pyrene	0.042	J	0.029	0.22
Indeno[1,2,3-cd]pyrene	ND		0.055	0.32
Dibenz(a,h)anthracene	ND		0.049	0.32
Benzo[g,h,i]perylene	ND		0.065	0.32
Carbazole	ND		0.097	2.2
1-Methylnaphthalene	ND		0.056	0.32

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	39	10 - 120
Phenol-d5	21	10 - 102
Nitrobenzene-d5	102	34 - 146
2-Fluorobiphenyl	94	35 - 143
2,4,6-Tribromophenol	110	29 - 151
Terphenyl-d14	110	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4193-1

Client Sample ID: **PPK0231-01**

Lab Sample ID: 580-4193-1 | Date Sampled: 11/02/2006 1618
Client Matrix: Water | Date Received: 11/09/2006 1130

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-13046 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-12853 | Lab File ID: HP02840.D
Dilution: 1.0 | Initial Weight/Volume: 930 mL
Date Analyzed: 11/13/2006 2241 | Final Weight/Volume: 10 mL
Date Prepared: 11/09/2006 0918 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.041	J	0.0065	0.11
2-Methylnaphthalene	0.017	J	0.0097	0.14
1-Methylnaphthalene	ND		0.034	0.11
Acenaphthylene	0.014	J	0.0043	0.11
Acenaphthene	0.014	J	0.0032	0.11
Fluorene	0.036	J *	0.0086	0.11
Phenanthrene	0.076	J B	0.0032	0.11
Anthracene	0.021	J	0.0086	0.11
Fluoranthene	0.18	B	0.0097	0.11
Pyrene	0.19	B	0.014	0.11
Benzo[a]anthracene	0.076	J B	0.0097	0.11
Chrysene	0.084	J	0.0097	0.11
Benzofluoranthene	0.12	J	0.033	0.22
Benzo[a]pyrene	ND		0.065	0.22
Indeno[1,2,3-cd]pyrene	0.061	J	0.016	0.11
Dibenz(a,h)anthracene	0.019	J	0.013	0.11
Benzo[g,h,i]perylene	0.071	J	0.019	0.11

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	103	34 - 146
2-Fluorobiphenyl	82	35 - 143
Terphenyl-d14	104	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4193-1

Client Sample ID: **PPK0231-01**

Lab Sample ID: 580-4193-1
Client Matrix: Water

Date Sampled: 11/02/2006 1618
Date Received: 11/09/2006 1130

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 11/13/2006 1323
Date Prepared: 11/09/2006 1339

Analysis Batch: 580-13052
Prep Batch: 580-12879

Instrument ID: SEA034
Lab File ID: PCB4783.D
Initial Weight/Volume: 965 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.083	0.52
PCB-1221	ND		0.083	0.52
PCB-1232	ND		0.083	0.52
PCB-1242	ND		0.083	0.52
PCB-1248	ND		0.083	0.52
PCB-1254	ND		0.052	0.52
PCB-1260	ND		0.052	0.52

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	112	60 - 150
DCB Decachlorobiphenyl	59	40 - 135

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Method Blank - Batch: 580-12853

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-12853/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/12/2006 1520
Date Prepared: 11/09/2006 0918

Analysis Batch: 580-13046
Prep Batch: 580-12853
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP02799.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0060	0.10
2-Methylnaphthalene	ND		0.0090	0.13
1-Methylnaphthalene	ND		0.032	0.10
Acenaphthylene	ND		0.0040	0.10
Acenaphthene	ND		0.0030	0.10
Fluorene	ND		0.0080	0.10
Phenanthrene	0.0059	J	0.0030	0.10
Anthracene	ND		0.0080	0.10
Fluoranthene	0.025	J	0.0090	0.10
Pyrene	0.022	J	0.013	0.10
Benzo[a]anthracene	0.023	J	0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzofluoranthene	ND		0.031	0.20
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	86	34 - 146
2-Fluorobiphenyl	84	35 - 143
Terphenyl-d14	110	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12853

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-12853/2-AA	Analysis Batch: 580-13046	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-12853	Lab File ID: HP02800.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/12/2006 1547		Final Weight/Volume: 10 mL
Date Prepared:	11/09/2006 0918		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-12853/3-AA	Analysis Batch: 580-13046	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-12853	Lab File ID: HP02801.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/12/2006 1614		Final Weight/Volume: 10 mL
Date Prepared:	11/09/2006 0918		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	101	99	66 - 127	2	32		
2-Methylnaphthalene	101	98	64 - 125	3	30		
1-Methylnaphthalene	99	97	47 - 148	2	50		
Acenaphthylene	112	106	71 - 126	5	45		
Acenaphthene	110	106	65 - 130	5	27		
Fluorene	131	130	69 - 129	1	29	*	*
Phenanthrene	102	100	62 - 128	2	24		
Anthracene	108	106	73 - 128	1	28		
Fluoranthene	107	105	64 - 124	2	22		
Pyrene	109	107	58 - 140	2	38		
Benzo[a]anthracene	104	104	70 - 126	0	29		
Chrysene	103	104	70 - 126	1	33		
Benzofluoranthene	106	107	59 - 140	1	41		
Benzo[a]pyrene	118	116	72 - 128	1	27		
Indeno[1,2,3-cd]pyrene	112	111	58 - 139	0	34		
Dibenz(a,h)anthracene	114	115	61 - 146	0	42		
Benzo[g,h,i]perylene	125	125	59 - 144	0	32		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	103	106	34 - 146
2-Fluorobiphenyl	90	85	35 - 143
Terphenyl-d14	105	104	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Method Blank - Batch: 580-12878

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-12878/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1804
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007267.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.074	3.0
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	ND		0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.38	2.0
Bis(2-chloroisopropyl) ether	ND		0.088	2.0
3 & 4 Methylphenol	ND		0.17	4.0
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.0
Nitrobenzene	ND		0.075	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	ND		0.21	10
Bis(2-chloroethoxy)methane	ND		0.095	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	ND		0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.0
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.055	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.0
2,4,5-Trichlorophenol	ND		0.085	2.0
2-Chloronaphthalene	ND		0.030	0.30
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	ND		0.12	2.0
Acenaphthylene	ND		0.026	0.40
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.56	2.0
Acenaphthene	ND		0.012	0.50
2,4-Dinitrophenol	ND		0.58	25
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.098	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	ND		0.093	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Method Blank - Batch: 580-12878

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-12878/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1804
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007267.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.042	0.30
4-Nitroaniline	ND		0.18	3.0
4,6-Dinitro-2-methylphenol	ND		0.53	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.082	2.0
Pentachlorophenol	ND		0.13	3.5
Phenanthrene	ND		0.024	0.40
Anthracene	ND		0.019	0.20
Di-n-butyl phthalate	0.82	J	0.088	2.0
Fluoranthene	ND		0.027	0.25
Pyrene	ND		0.020	0.30
Butyl benzyl phthalate	ND		0.24	3.0
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.033	0.30
Chrysene	ND		0.045	0.20
Bis(2-ethylhexyl) phthalate	ND		0.32	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.055	0.40
Benzo[a]pyrene	ND		0.027	0.20
Indeno[1,2,3-cd]pyrene	ND		0.051	0.30
Dibenz(a,h)anthracene	ND		0.046	0.30
Benzo[g,h,i]perylene	ND		0.060	0.30
Carbazole	ND		0.090	2.0
1-Methylnaphthalene	ND		0.052	0.30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	88	10 - 120
Phenol-d5	79	10 - 102
Nitrobenzene-d5	92	34 - 146
2-Fluorobiphenyl	92	35 - 143
2,4,6-Tribromophenol	82	29 - 151
Terphenyl-d14	102	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12878

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-12878/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1829
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007268.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-12878/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1853
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007269.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	99	97	10 - 70	1	51	*	*
Bis(2-chloroethyl)ether	116	116	53 - 128	1	50		
2-Chlorophenol	98	97	52 - 122	1	25		
1,3-Dichlorobenzene	99	101	58 - 129	3	50		
1,4-Dichlorobenzene	102	101	62 - 132	1	32		
Benzyl alcohol	71	72	20 - 100	1	50		
1,2-Dichlorobenzene	101	101	60 - 126	0	50		
2-Methylphenol	146	144	35 - 106	1	50	*	*
Bis(2-chloroisopropyl) ether	90	90	50 - 135	0	50		
3 & 4 Methylphenol	98	97	21 - 102	1	50		
N-Nitrosodi-n-propylamine	88	85	47 - 142	4	48		
Hexachloroethane	111	111	60 - 125	1	50		
Nitrobenzene	99	101	66 - 131	2	50		
Isophorone	98	97	62 - 122	0	50		
2-Nitrophenol	82	82	55 - 131	0	50		
2,4-Dimethylphenol	92	93	47 - 127	1	50	J	J
Benzoic acid	50	45	0 - 35	12	50	*	*
Bis(2-chloroethoxy)methane	96	96	65 - 126	1	50		
2,4-Dichlorophenol	105	104	66 - 122	1	50		
1,2,4-Trichlorobenzene	102	104	59 - 130	2	28		
Naphthalene	98	98	66 - 127	1	32		
4-Chloroaniline	108	110	75 - 171	2	50		
Hexachlorobutadiene	106	108	54 - 135	2	50		
4-Chloro-3-methylphenol	101	102	56 - 121	0	33		
2-Methylnaphthalene	101	102	64 - 125	1	30		
Hexachlorocyclopentadiene	95	87	45 - 126	8	50	J	J
2,4,6-Trichlorophenol	107	106	62 - 127	1	50		
2,4,5-Trichlorophenol	115	110	64 - 124	4	50		
2-Chloronaphthalene	103	101	70 - 125	2	50		
2-Nitroaniline	105	102	65 - 130	3	50		
Dimethyl phthalate	105	103	47 - 147	2	50		
Acenaphthylene	103	102	71 - 126	1	45		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12878

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-12878/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1829
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007268.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-12878/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1853
Date Prepared: 11/09/2006 1337

Analysis Batch: 580-13110
Prep Batch: 580-12878
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007269.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	99	98	66 - 131	1	50		
3-Nitroaniline	159	162	90 - 176	1	50		
Acenaphthene	100	100	65 - 130	0	27		
2,4-Dinitrophenol	83	72	15 - 140	15	50	J	J
4-Nitrophenol	103	98	10 - 135	6	59		J
Dibenzofuran	105	103	71 - 121	2	50		
2,4-Dinitrotoluene	96	92	57 - 128	4	35		
Diethyl phthalate	105	105	54 - 135	0	50		
4-Chlorophenyl phenyl ether	109	106	66 - 127	2	50		
Fluorene	109	107	69 - 129	2	29		
4-Nitroaniline	120	124	58 - 143	3	50		
4,6-Dinitro-2-methylphenol	78	68	36 - 127	15	50	J	J
N-Nitrosodiphenylamine	101	103	90 - 150	2	33		
4-Bromophenyl phenyl ether	97	101	66 - 131	4	50		
Hexachlorobenzene	101	104	67 - 128	3	50		
Pentachlorophenol	93	93	43 - 118	1	67		
Phenanthrene	98	101	62 - 128	3	24		
Anthracene	100	101	73 - 128	1	28		
Di-n-butyl phthalate	99	103	72 - 132	4	50		
Fluoranthene	108	109	64 - 124	1	22		
Pyrene	109	110	58 - 140	0	38		
Butyl benzyl phthalate	105	108	70 - 141	3	50		
3,3'-Dichlorobenzidine	148	152	67 - 157	2	50		
Benzo[a]anthracene	95	98	70 - 126	3	29		
Chrysene	104	107	70 - 126	3	33		
Bis(2-ethylhexyl) phthalate	103	107	69 - 154	3	50	J	J
Di-n-octyl phthalate	102	101	49 - 149	0	50		
Benzofluoranthene	106	108	59 - 140	3	41		
Benzo[a]pyrene	107	111	72 - 128	3	27		
Indeno[1,2,3-cd]pyrene	93	96	58 - 139	3	34		
Dibenz(a,h)anthracene	92	94	61 - 146	2	42		
Benzo[g,h,i]perylene	111	111	59 - 144	0	32		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12878

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-12878/2-AA	Analysis Batch: 580-13110	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-12878	Lab File ID: ak007268.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/13/2006 1829		Final Weight/Volume: 10 mL
Date Prepared:	11/09/2006 1337		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-12878/3-AA	Analysis Batch: 580-13110	Instrument ID: SEA040
Client Matrix:	Water	Prep Batch: 580-12878	Lab File ID: ak007269.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/13/2006 1853		Final Weight/Volume: 10 mL
Date Prepared:	11/09/2006 1337		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole	126	127	90 - 155	1	50		
1-Methylnaphthalene	102	105	47 - 148	3	50		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	94	95	10 - 120
Phenol-d5	92	90	10 - 102
Nitrobenzene-d5	98	99	34 - 146
2-Fluorobiphenyl	99	99	35 - 143
2,4,6-Tribromophenol	105	105	29 - 151
Terphenyl-d14	109	110	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Method Blank - Batch: 580-12879

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-12879/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1212
Date Prepared: 11/09/2006 1339

Analysis Batch: 580-13052
Prep Batch: 580-12879
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB4780.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.080	0.50
PCB-1221	ND		0.080	0.50
PCB-1232	ND		0.080	0.50
PCB-1242	ND		0.080	0.50
PCB-1248	ND		0.080	0.50
PCB-1254	ND		0.050	0.50
PCB-1260	ND		0.050	0.50

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	127	60 - 150
DCB Decachlorobiphenyl	100	40 - 135

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-12879

Method: 8082
Preparation: 3510C

LCS Lab Sample ID: LCS 580-12879/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1235
Date Prepared: 11/09/2006 1339

Analysis Batch: 580-13052
Prep Batch: 580-12879
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB4781.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-12879/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/13/2006 1259
Date Prepared: 11/09/2006 1339

Analysis Batch: 580-13052
Prep Batch: 580-12879
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB4782.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1260	136	132	53 - 130	4	22	*	*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	129	122	60 - 150
DCB Decachlorobiphenyl	106	102	40 - 135

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: TestAmerica Analytical Testing Corp Job Number: 580-4193-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits

Small red/white cooler

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PPK0231

Cooler Temp @ 3.4c 4/93

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :(253) 922-2310
Fax: 253-922-5047

NPDES STORM WATER OF 19

City of portland

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPK0231-01	**Water**	**Sampled:11/02/06 04:18**		
8270SIM-PAH LL H2O	11/20/06 06:00	11/09/06 04:18		Low Level
8270C Semivoa LL H2O	11/20/06 06:00	11/09/06 04:18		Low Level
8082 PCB	11/20/06 06:00	11/09/06 04:18		Low Level

Containers Supplied:
1L Amber - Unpres. (A) 1L Amber - Unpres. (B) 1L Amber - Unpres. (C) 1L Amber - Unpres. (D)

Please have lab add rad to list thanks C.C

Released By	Date	Received By	Date
	11.9.06		1130am 11/9/06
Released By	Date	Received By	Date

Page 1 of 1

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4193-1

Login Number: 4193

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 4

Project NPDES | Project No. 4010.001
Location OF 19 M 1 | Date 11-17-06
Subject FIELD NOTES | By MDJ

11-17-06 0800 ASSEMBLE EQUIPMENT NEEDED TO PREPARE M1 AND OF 19 FOR A STORM SAMPLING EVENT EXPECTED TO ARRIVE SUNDAY. DJH TALKS TO ERF AND HE INFORMS ME TO EXPECT 0.7-0.9" OF RAIN. USE SPREADSHEETS TO CALCULATE TRIGGER VOLUMES FOR 0.75" OF EXPECTED RAIN FALL

0830 HELP JEREMIAH W/ COMPOST SAMPLING AT SUNDERLAND rd.

1115 ARRIVE AT M1. DECON SAMPLE TUBING USING SOAP/TAP/NITIC/DI/NANOPURE SOLUTIONS. NO CHANGES MADE TO ISCO SAMPLER PROGRAMMING
LEVEL SENSOR IS MALFUNCTIONING SWAP" OUT. PROGRAM METER FOR TRIGGER VOLUME OF 5547 CF.
INSTALL 8 BOTTLES IN SAMPLER W/ LIDS OFF, LABELED M1-1 THRU M1-8. START PROGRAM. "Log3, Bottle1"
NEW BATTERIES ON EVERYTHING. METER AND SAMPLER RUNNING. UPON DEPARTURE.

1:15 DEPART M1 FOR WPCL.

2:30 ARRIVE AT OF 19 W/ MJS.
Lift sampler and meter to surface.
DECON SAMPLE TUBING W/ SOAP-TAP-NITRIC-DI-ACETON-NANOPURE SOLUTIONS.
SAMPLER LOOKS GOOD. INSTALL GLASS BOTTLES LABELED THRU 8

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES STORM MON
Project No. 4010.001
Location
Date 11-17-06
Subject FIELD NOTES
By MJP

METER LOOKS OK. MATT ENTERS MH. CHECK LEVEL. METER MATCHES NICELY.
ENTER TRIGGER VALUE OF 6466. LEVEL IS AT 2.3". SET THE LEVEL ENABLE VALUE TO BE GREATER THAN 4.0".
MATT CHECKS THE SAMPLER ALIQUOT SIZE WHILE SAMPLER IS AT BOTTOM OF MH. LOOKS GOOD.
MATT RIGS SAMPLE TUBING TO AVOID ANY KINKING.
EVERYTHING LOOKING GOOD. SAMPLER PROGRAM STARTED.

1530 OPS SITE BACK TO LAB.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES stormwtr Mon | Project No. 4010.001
Location M1 - NE 122nd Ave | Date 11/20/06
Subject Event 2 Capture. | By TJM, RCB

0950 M1 Arrived on site to check status of Event 2. Hydra rain gage indicates " of rain fell since setup on 11/17. Sampler display reads "Program Disabled." Program report:-

1311 11/17 Started
1314 11/17 Disabled
1317 11/17 Enabled
1319 11/17 Disabled
0735 11/19 Enabled (Sunday)
2154 11/19 Disabled — no aliquots collected!? Uploaded FM, no velocity data logged; velocity flat line throughout hydrograph. Level data are excellent, sensor is bad. Entered MH to replace sensor

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 4 of 4

Project NPDES Stormwtr Mon
Location OF 19 - NW Kittridge & Front
Subject Event 2

Project No. 4010.001
Date 11/20/06
By JJM, RCB

OF19 1122

Arrive @ OF19 after approx. 0.47" rain. Sampler appears to have been paced successfully, however bottle volume varies; seven bottles have sample, w/ variation in volume. Uploaded meter sampler report shows that all aliquots were successfully collected. Volume discrepancy most likely due to sampler pulling aliquots entrained w/ air.

~~1145~~ Left site

1151 Submitted samples to lab.

Attachments

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event D:** 11_19-20_06

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.75	0.0625	380	16552800	1034550	0.15	155183	8	3	6466

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19 Field Sampling Crew JJM/RCB

Date 11/20/06 Time 1115 PST

Grab Sample Date and Time No Grabs

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	1/2 full; slightly turbid, but mostly clear	
2	3/4 full; " " " " "	
3	2/3 full;	
4	1/2 full	
5	Full;	
6	2/3 full	
~~7~~	1 aliquot, 1/3 full;	
8		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	0753	11/19/06			
2	0805				
3	0816				
4	0832				
5	0901				
6	0948				
7	1041				
8	1118				
9	1159				
10	1231				
11	1301				
12	1315				

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
13	1330				
14	1351				
15	1412				
16	1448				
17	1524				
18	1618				
19	1727				
20	~~1727~~				
21					
22					
23					
24					

Comments Sampling report shows no missed aliquots, though bottle volumes vary. FO 061513

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/20/06

Page: 1 of 1

Collected By: JM, RcB

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☑ Sample Time recorded in PST

Aliquots collected 11/19/06 0753 – 11/19/06 1727

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: SVOCs	PAHs	PCBs		
	[redacted] NE 122ND AVE MANHOLE COMPOSITE	MTC			C														•	•					
FO061513	4900 NW KITTRIDGE AVE (OF19)	OF19	11/19/06	0753	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•		

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1151	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 11/20/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1151	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: KRIS DENNIS Date: 11/20/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: FO061513 **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.030	mg/L	0.02	EPA 350.1	11/20/06
BOD5	6	mg/L	2	SM 5210 B	11/20/06
COD	20	mg/L	5	SM 5220 D	11/24/06
NITRATE-NITROGEN	0.32	mg/L	0.10	EPA 300.0	11/20/06
O-PHOSPHATE-PHOSPHORUS, DISS	0.031	mg/L	0.02	EPA 365.1	11/21/06
TOTAL DISSOLVED SOLIDS @180C	44	mg/L	5	SM 2540 C	11/21/06
TOTAL KJELDAHL NITROGEN (TKN)	0.47	mg/L	0.20	EPA 351.2	12/04/06
TOTAL PHOSPHORUS	0.11	mg/L	0.03	EPA 365.4	11/30/06
TOTAL SOLIDS	57	mg/L	2	SM 2540 B	11/23/06
TOTAL SUSPENDED SOLIDS	18	mg/L	2	SM 2540 D	11/21/06
METALS					
HARDNESS, TOTAL	17.7	mg CaCO3/L	0.5	SM 2340 B CAL	11/22/06
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.32	µg/L	0.1	EPA 200.8	11/22/06
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/22/06
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	11/22/06
COPPER, DISSOLVED	3.74	µg/L	0.2	EPA 200.8	11/22/06
LEAD, DISSOLVED	0.36	µg/L	0.1	EPA 200.8	11/22/06
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/22/06
ZINC, DISSOLVED	111	µg/L	0.5	EPA 200.8	11/22/06
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.52	µg/L	0.1	EPA 200.8	11/21/06
CADMIUM	0.17	µg/L	0.1	EPA 200.8	11/21/06
CHROMIUM	1.59	µg/L	0.4	EPA 200.8	11/21/06
COPPER	8.34	µg/L	0.2	EPA 200.8	11/21/06
LEAD	5.20	µg/L	0.1	EPA 200.8	11/21/06
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/21/06
ZINC	146	µg/L	0.5	EPA 200.8	11/21/06
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1221	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1232	<0.050	µg/L	0.050	EPA 8082	11/22/06

Report Date: 12/20/06 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: FO061513 **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1242	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1248	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1254	<0.050	µg/L	0.050	EPA 8082	11/22/06
Aroclor 1260	<0.050	µg/L	0.050	EPA 8082	11/22/06
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
2-Methylnaphthalene	<0.14	µg/L	0.14	EPA 8270-SIM	11/22/06
Acenaphthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Acenaphthylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(a)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270-SIM	11/22/06
Benzo(b)fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(g,h,i)perylene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Benzo(k)fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Chrysene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Dibenzo(a,h)anthracene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Fluoranthene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Fluorene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Indeno(1,2,3-cd)pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Naphthalene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Phenanthrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
Pyrene	<0.11	µg/L	0.11	EPA 8270-SIM	11/22/06
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,2-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,3-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1,4-Dichlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
1-Methylnaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
2,4,5-Trichlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2,4,6-Trichlorophenol	<3.2	µg/L	3.2	EPA 8270C	11/22/06
2,4-Dichlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2,4-Dimethylphenol	<11	µg/L	11	EPA 8270C	11/22/06
2,4-Dinitrophenol	<26	µg/L	26	EPA 8270C	11/22/06
2,4-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270C	11/22/06

Report Date: 12/20/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO061513** **Sample Collected:** 11/19/2006 07:53 **Sample Received:** 11/20/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,6-Dinitrotoluene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Chloronaphthalene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
2-Chlorophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270C	11/22/06
2-Methylphenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Nitroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
2-Nitrophenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
3- & 4-Methylphenol	<4.2	µg/L	4.2	EPA 8270C	11/22/06
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270C	11/22/06
3-Nitroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4,6-Dinitro-2-methylphenol	<21	µg/L	21	EPA 8270C	11/22/06
4-Bromophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chloro-3-methylphenol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chloroaniline	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Chlorophenylphenyl ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
4-Nitroaniline	<3.2	µg/L	3.2	EPA 8270C	11/22/06
4-Nitrophenol	<11	µg/L	11	EPA 8270C	11/22/06
Acenaphthene	<0.53	µg/L	0.53	EPA 8270C	11/22/06
Acenaphthylene	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Anthracene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Benzo(a)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Benzo(a)pyrene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Benzo(g,h,i)perylene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Benzofluoranthenes	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Benzoic acid	<11	µg/L	11	EPA 8270C	11/22/06
Benzyl alcohol	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Benzyl butyl phthalate	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Bis(2-chloroethoxy) methane	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-chloroethyl) ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-chloroisopropyl) ether	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Bis(2-ethylhexyl) phthalate	<16	µg/L	16	EPA 8270C	11/22/06
Carbazole	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Chrysene	<0.21	µg/L	0.21	EPA 8270C	11/22/06
Dibenzo(a,h)anthracene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Dibenzofuran	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Diethyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06

Report Date: 12/20/06 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

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Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AK10506
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dimethyl phthalate	2.2	µg/L	2.1	EPA 8270C	11/22/06
Di-n-butyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Di-n-octyl phthalate	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Fluoranthene	<0.26	µg/L	0.26	EPA 8270C	11/22/06
Fluorene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Hexachlorobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Hexachlorobutadiene	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Hexachlorocyclopentadiene	<11	µg/L	11	EPA 8270C	11/22/06
Hexachloroethane	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Indeno(1,2,3-cd)pyrene	<0.32	µg/L	0.32	EPA 8270C	11/22/06
Isophorone	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Naphthalene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Nitrobenzene	<2.1	µg/L	2.1	EPA 8270C	11/22/06
N-Nitrosodi-n-propylamine	<2.1	µg/L	2.1	EPA 8270C	11/22/06
N-Nitrosodiphenylamine	<2.1	µg/L	2.1	EPA 8270C	11/22/06
Pentachlorophenol	<3.7	µg/L	3.7	EPA 8270C	11/22/06
Phenanthrene	<0.42	µg/L	0.42	EPA 8270C	11/22/06
Phenol	<3.2	µg/L	3.2	EPA 8270C	11/22/06
Pyrene	<0.32	µg/L	0.32	EPA 8270C	11/22/06

End of Report for Sample ID: FO061513

Report Date: 12/20/06 **Validated By: Signature on File**

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPK0896

CLIENT: CITY OF PORTLAND
INVOICE TO: CHARLES LYTLE
REPORT TO: JENNIFER SHACKELFORD
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 36238
PROJECT NAME: NPDES STORMWATER MON
PROJECT NUMBER:
SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [X] STD | 7 | 5 | 4 | 3 | 2 | 1 | < 1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | < 1
OTHER Specify:
* *Turnaround Requests less than standard* **may incur Rush Charges.**

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: SEMI-VOA EPA 8270 LOW LEVEL	PAH EPA 8270M LOW LEVEL	PCB EPA 8082 LOW LEVEL	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1	FO 061513	11/19/06 0753		X	X	X	W	4	(*)	
2										
3										
4										
5										
6										
7										
8										
9										
10										

RELEASED BY: [signature] DATE: 11/20/06
PRINT NAME: K. LEIS-DENNIS FIRM: COP TIME: 14:55
RECEIVED BY: [signature] DATE: 11/20/06
PRINT NAME: BOB F FIRM: TAP TIME: 1455
RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE: lab
PRINT NAME: FIRM: TIME: 17:00

ADDITIONAL REMARKS: (*) SEND OUT TO STL FOR LOW LEVEL SVOC, PAH, PCB

TEMP: 0.5

COC REV 05 2006

PAGE 1 OF 1

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project.
Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

TAT: _____

Non-Conformances?
Circle Y or N
(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)
Date: 11/20/06
Time: 14:55
Initials: JH

Logged-in By:
Date: 11120
Initials: ___

Unpacked/Labeled By:
Date 11120
Initials: CS

Cooler ID: ____ (___ of ___)

Work Order No. DPK0896
Client: C of Portland
Project: NPDES Stormwater MON

Container Type:
1 Cooler
___ Box
___ None/Other _____

COC Seals:
___ Ship. Container ___ Sign By
___ On Bottles ___ Date
✓ None

Packing Material
___ Bubble Bags ___ Styrofoam
___ Foam Packs
___ None/Other Other (2) baggies

Refrigerant:
___ Gel Ice Pack _____ ___ None
X Loose Ice
___ None/Other _____

Received Via: Bill#
___ Fed Ex ___ Client
___ UPS X NCA Courier
___ DHL ___ Mid Valley
___ Senvoy ___ TDP
___ GS ___ Other _____

Cooler Temperature (IR): 5.5 °C Plastic Glass (circle one) (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? _____ °C or NA

Trip Blank? Y or N or NA

Sample Containers:		ID			ID
Intact?	Y or N		Metals Preserved?	Y or N or NA	
Provided by NCA?	Y or N		Client QAPP Preserved?	Y or N or NA	
Correct Type?	Y or N		Adequate Volume? (for tests requested)	Y or N	
#Containers match COC?	Y or N		Water VOAs: Headspace?	Y or N or NA	
IDs/time/date match COC?	Y or N		Comments:		
Hold Times in hold?	Y or N				

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments, Problems _____

Total access set up? Y or N
Has client been contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

PM Initials: _____ Date: _____ Time: _____

(rev 3, 09/12/05)

ANALYTICAL REPORT

Job Number: 580-4322-1

Job Description: Semivolatiles-city of Portland

For:
TestAmerica Analytical Testing Corp
9405 SW Nimbus Ave
Beaverton, OR 97008

Attention: Howard Holmes

Terri L Torres
Project Manager II
ttorres@stl-inc.com
12/06/2006

cc: Aaron Wieting

Project Manager: Heather Curbow

STL Seattle is a part of Severn Trent Laboratories, Inc.

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Case Narrative for job: 580-J4322-1

Client: TestAmerica Analytical Testing Corp
Date: 12/07/2006

Method: 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography
Analytical Batch: 580-13511
Affected Sample: LCSD 580-13417/3-AA

The recoveries of PCB-1016 and PCB-1260 exceeded quality control limits in the LCSD. The associated LCS was within control limits. The recovery of this compound in the LCSD was high and the analyte was not detected in the associated sample. No further action was taken on this outlier.

EXECUTIVE SUMMARY - Detections

Client: TestAmerica Analytical Testing Corp Job Number: 580-4322-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
580-4322-1	**PPK0896-01**					
Naphthalene		0.020	J	0.11	ug/L	8270C
2-Methylnaphthalene		0.020	J	0.14	ug/L	8270C
Acenaphthylene		0.0087	J	0.11	ug/L	8270C
Acenaphthene		0.015	J	0.11	ug/L	8270C
Fluorene		0.044	J B	0.11	ug/L	8270C
Phenanthrene		0.054	J B	0.11	ug/L	8270C
Anthracene		0.0098	J	0.11	ug/L	8270C
Fluoranthene		0.061	J	0.11	ug/L	8270C
Pyrene		0.077	J	0.11	ug/L	8270C
Benzo[a]anthracene		0.037	J	0.11	ug/L	8270C
Chrysene		0.045	J	0.11	ug/L	8270C
Indeno[1,2,3-cd]pyrene		0.049	J	0.11	ug/L	8270C
Dibenz(a,h)anthracene		0.038	J	0.11	ug/L	8270C
Benzo[g,h,i]perylene		0.052	J	0.11	ug/L	8270C
Benzo[b]fluoranthene		0.037	J	0.11	ug/L	8270C
Benzo[k]fluoranthene		0.029	J	0.11	ug/L	8270C
Dimethyl phthalate		2.2		2.1	ug/L	8270C
Diethyl phthalate		0.38	J	2.1	ug/L	8270C
Pentachlorophenol		0.51	J	3.7	ug/L	8270C
Phenanthrene		0.063	J	0.42	ug/L	8270C
Anthracene		0.12	J	0.21	ug/L	8270C
Di-n-butyl phthalate		1.2	J B	2.1	ug/L	8270C
Fluoranthene		0.089	J	0.26	ug/L	8270C
Pyrene		0.12	J	0.32	ug/L	8270C
Butyl benzyl phthalate		1.7	J B	3.2	ug/L	8270C
Bis(2-ethylhexyl) phthalate		2.7	J B	16	ug/L	8270C
Di-n-octyl phthalate		0.48	J	2.1	ug/L	8270C

SAMPLE SUMMARY

Client: TestAmerica Analytical Testing Corp Job Number: 580-4322-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-4322-1	PPK0896-01	Water	11/19/2006 0753	11/22/2006 1030

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4322-1

Client Sample ID: **PPK0896-01**

Lab Sample ID: 580-4322-1 | Date Sampled: 11/19/2006 0753
Client Matrix: Water | Date Received: 11/22/2006 1030

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-13564 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-13481 | Lab File ID: ak007397.D
Dilution: 1.0 | Initial Weight/Volume: 945 mL
Date Analyzed: 11/29/2006 2000 | Final Weight/Volume: 10 mL
Date Prepared: 11/22/2006 1600 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.078	3.2
Bis(2-chloroethyl)ether	ND		0.19	2.1
2-Chlorophenol	ND		0.23	2.1
1,3-Dichlorobenzene	ND		0.12	2.1
1,4-Dichlorobenzene	ND		0.13	2.1
Benzyl alcohol	ND		0.14	2.1
1,2-Dichlorobenzene	ND		0.12	2.1
2-Methylphenol	ND		0.40	2.1
Bis(2-chloroisopropyl) ether	ND		0.093	2.1
3 & 4 Methylphenol	ND		0.18	4.2
N-Nitrosodi-n-propylamine	ND		0.21	2.1
Hexachloroethane	ND		0.14	3.2
Nitrobenzene	ND		0.079	2.1
Isophorone	ND		0.12	2.1
2-Nitrophenol	ND		0.22	2.1
2,4-Dimethylphenol	ND		0.19	11
Benzoic acid	ND		0.22	11
Bis(2-chloroethoxy)methane	ND		0.10	2.1
2,4-Dichlorophenol	ND		0.14	2.1
1,2,4-Trichlorobenzene	ND		0.11	2.1
Naphthalene	ND		0.015	2.1
4-Chloroaniline	ND		0.20	2.1
Hexachlorobutadiene	ND		0.17	3.2
4-Chloro-3-methylphenol	ND		0.15	2.1
2-Methylnaphthalene	ND		0.058	1.1
Hexachlorocyclopentadiene	ND		0.13	11
2,4,6-Trichlorophenol	ND		0.11	3.2
2,4,5-Trichlorophenol	ND		0.090	2.1
2-Chloronaphthalene	ND		0.032	0.32
2-Nitroaniline	ND		0.12	2.1
Dimethyl phthalate	2.2		0.13	2.1
Acenaphthylene	ND		0.028	0.42
2,6-Dinitrotoluene	ND		0.15	2.1
3-Nitroaniline	ND		0.59	2.1
Acenaphthene	ND		0.013	0.53
2,4-Dinitrophenol	ND		0.61	26
4-Nitrophenol	ND		1.7	11
Dibenzofuran	ND		0.10	2.1
2,4-Dinitrotoluene	ND		0.13	2.1
Diethyl phthalate	0.38	J	0.098	2.1
4-Chlorophenyl phenyl ether	ND		0.13	2.1
Fluorene	ND		0.044	0.32
4-Nitroaniline	ND		0.19	3.2

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4322-1

Client Sample ID: **PPK0896-01**

Lab Sample ID: 580-4322-1 | Date Sampled: 11/19/2006 0753
Client Matrix: Water | Date Received: 11/22/2006 1030

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-13564 | Instrument ID: SEA040
Preparation: 3510C | Prep Batch: 580-13481 | Lab File ID: ak007397.D
Dilution: 1.0 | Initial Weight/Volume: 945 mL
Date Analyzed: 11/29/2006 2000 | Final Weight/Volume: 10 mL
Date Prepared: 11/22/2006 1600 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.56	21
N-Nitrosodiphenylamine	ND		0.14	2.1
4-Bromophenyl phenyl ether	ND		0.11	2.1
Hexachlorobenzene	ND		0.087	2.1
Pentachlorophenol	0.51	J	0.14	3.7
Phenanthrene	0.063	J	0.025	0.42
Anthracene	0.12	J	0.020	0.21
Di-n-butyl phthalate	1.2	J B	0.093	2.1
Fluoranthene	0.089	J	0.029	0.26
Pyrene	0.12	J	0.021	0.32
Butyl benzyl phthalate	1.7	J B	0.25	3.2
3,3'-Dichlorobenzidine	ND		1.7	11
Benzo[a]anthracene	ND		0.035	0.32
Chrysene	ND		0.048	0.21
Bis(2-ethylhexyl) phthalate	2.7	J B	0.34	16
Di-n-octyl phthalate	0.48	J	0.19	2.1
Benzofluoranthene	ND		0.058	0.42
Benzo[a]pyrene	ND		0.029	0.21
Indeno[1,2,3-cd]pyrene	ND		0.054	0.32
Dibenz(a,h)anthracene	ND		0.049	0.32
Benzo[g,h,i]perylene	ND		0.063	0.32
Carbazole	ND		0.095	2.1
1-Methylnaphthalene	ND		0.055	0.32

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	36	10 - 120
Phenol-d5	21	10 - 102
Nitrobenzene-d5	89	34 - 146
2-Fluorobiphenyl	92	35 - 143
2,4,6-Tribromophenol	84	29 - 151
Terphenyl-d14	101	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4322-1

Client Sample ID: **PPK0896-01**

Lab Sample ID: 580-4322-1 | Date Sampled: 11/19/2006 0753
Client Matrix: Water | Date Received: 11/22/2006 1030

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-13542 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-13415 | Lab File ID: HP02999.D
Dilution: 1.0 | Initial Weight/Volume: 945 mL
Date Analyzed: 11/30/2006 0033 | Final Weight/Volume: 10 mL
Date Prepared: 11/22/2006 1600 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.020	J	0.0063	0.11
2-Methylnaphthalene	0.020	J	0.0095	0.14
1-Methylnaphthalene	ND		0.034	0.11
Acenaphthylene	0.0087	J	0.0042	0.11
Acenaphthene	0.015	J	0.0032	0.11
Fluorene	0.044	J B	0.0085	0.11
Phenanthrene	0.054	J B	0.0032	0.11
Anthracene	0.0098	J	0.0085	0.11
Fluoranthene	0.061	J	0.0095	0.11
Pyrene	0.077	J	0.014	0.11
Benzo[a]anthracene	0.037	J	0.0095	0.11
Chrysene	0.045	J	0.0095	0.11
Benzo[a]pyrene	ND		0.063	0.21
Indeno[1,2,3-cd]pyrene	0.049	J	0.016	0.11
Dibenz(a,h)anthracene	0.038	J	0.013	0.11
Benzo[g,h,i]perylene	0.052	J	0.019	0.11
Benzo[b]fluoranthene	0.037	J	0.024	0.11
Benzo[k]fluoranthene	0.029	J	0.012	0.11

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	98	34 - 146
2-Fluorobiphenyl	55	35 - 143
Terphenyl-d14	76	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-4322-1

Client Sample ID: PPK0896-01

Lab Sample ID: 580-4322-1 | Date Sampled: 11/19/2006 0753
Client Matrix: Water | Date Received: 11/22/2006 1030

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-13511 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-13417 | Lab File ID: PCB4853.D
Dilution: 1.0 | Initial Weight/Volume: 997 mL
Date Analyzed: 11/29/2006 1232 | Final Weight/Volume: 1 mL
Date Prepared: 11/22/2006 1701 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND	*	0.0080	0.050
PCB-1221	ND		0.0080	0.050
PCB-1232	ND		0.0080	0.050
PCB-1242	ND		0.0080	0.050
PCB-1248	ND		0.0080	0.050
PCB-1254	ND		0.0050	0.050
PCB-1260	ND	*	0.0050	0.050

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	60 - 150
DCB Decachlorobiphenyl	80	40 - 135

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Method Blank - Batch: 580-13415

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-13415/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 2314
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13542
Prep Batch: 580-13415
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP02996.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0060	0.10
2-Methylnaphthalene	ND		0.0090	0.13
1-Methylnaphthalene	ND		0.032	0.10
Acenaphthylene	ND		0.0040	0.10
Acenaphthene	ND		0.0030	0.10
Fluorene	0.0092	J	0.0080	0.10
Phenanthrene	0.0042	J	0.0030	0.10
Anthracene	ND		0.0080	0.10
Fluoranthene	ND		0.0090	0.10
Pyrene	ND		0.013	0.10
Benzo[a]anthracene	ND		0.0090	0.10
Chrysene	ND		0.0090	0.10
Benzo[a]pyrene	ND		0.060	0.20
Indeno[1,2,3-cd]pyrene	ND		0.015	0.10
Dibenz(a,h)anthracene	ND		0.012	0.10
Benzo[g,h,i]perylene	ND		0.018	0.10
Benzo[b]fluoranthene	ND		0.023	0.10
Benzo[k]fluoranthene	ND		0.011	0.10

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	104	34 - 146
2-Fluorobiphenyl	68	35 - 143
Terphenyl-d14	79	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-13415

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-13415/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 2341
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13542
Prep Batch: 580-13415
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP02997.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-13415/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/30/2006 0007
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13542
Prep Batch: 580-13415
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP02998.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	96	96	66 - 127	0	32		
2-Methylnaphthalene	94	95	64 - 125	1	30		
1-Methylnaphthalene	94	95	47 - 148	1	50		
Acenaphthylene	104	107	71 - 126	3	45		
Acenaphthene	95	97	65 - 130	2	27		
Fluorene	107	112	69 - 129	5	29		
Phenanthrene	94	94	62 - 128	1	24		
Anthracene	95	99	73 - 128	4	28		
Fluoranthene	89	95	64 - 124	6	22		
Pyrene	85	92	58 - 140	8	38		
Benzo[a]anthracene	112	112	70 - 126	1	29		
Chrysene	92	92	70 - 126	0	33		
Benzo[a]pyrene	110	112	72 - 128	2	27		
Indeno[1,2,3-cd]pyrene	128	129	58 - 139	1	34		
Dibenz(a,h)anthracene	130	132	61 - 146	2	42		
Benzo[g,h,i]perylene	109	110	59 - 144	1	32		
Benzo[b]fluoranthene	118	106	64 - 140	10	41		
Benzo[k]fluoranthene	103	99	62 - 142	4	41		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	108	108	34 - 146
2-Fluorobiphenyl	58	56	35 - 143
Terphenyl-d14	73	78	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Method Blank - Batch: 580-13481

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-13481/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1825
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007393.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.074	3.0
Bis(2-chloroethyl)ether	ND		0.18	2.0
2-Chlorophenol	ND		0.22	2.0
1,3-Dichlorobenzene	ND		0.11	2.0
1,4-Dichlorobenzene	ND		0.12	2.0
Benzyl alcohol	ND		0.13	2.0
1,2-Dichlorobenzene	ND		0.11	2.0
2-Methylphenol	ND		0.38	2.0
Bis(2-chloroisopropyl) ether	ND		0.088	2.0
3 & 4 Methylphenol	ND		0.17	4.0
N-Nitrosodi-n-propylamine	ND		0.20	2.0
Hexachloroethane	ND		0.13	3.0
Nitrobenzene	ND		0.075	2.0
Isophorone	ND		0.11	2.0
2-Nitrophenol	ND		0.21	2.0
2,4-Dimethylphenol	ND		0.18	10
Benzoic acid	ND		0.21	10
Bis(2-chloroethoxy)methane	ND		0.095	2.0
2,4-Dichlorophenol	ND		0.13	2.0
1,2,4-Trichlorobenzene	ND		0.10	2.0
Naphthalene	ND		0.014	2.0
4-Chloroaniline	ND		0.19	2.0
Hexachlorobutadiene	ND		0.16	3.0
4-Chloro-3-methylphenol	ND		0.14	2.0
2-Methylnaphthalene	ND		0.055	1.0
Hexachlorocyclopentadiene	ND		0.12	10
2,4,6-Trichlorophenol	ND		0.10	3.0
2,4,5-Trichlorophenol	ND		0.085	2.0
2-Chloronaphthalene	ND		0.030	0.30
2-Nitroaniline	ND		0.11	2.0
Dimethyl phthalate	ND		0.12	2.0
Acenaphthylene	ND		0.026	0.40
2,6-Dinitrotoluene	ND		0.14	2.0
3-Nitroaniline	ND		0.56	2.0
Acenaphthene	ND		0.012	0.50
2,4-Dinitrophenol	ND		0.58	25
4-Nitrophenol	ND		1.6	10
Dibenzofuran	ND		0.098	2.0
2,4-Dinitrotoluene	ND		0.12	2.0
Diethyl phthalate	ND		0.093	2.0
4-Chlorophenyl phenyl ether	ND		0.12	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Method Blank - Batch: 580-13481

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-13481/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1825
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007393.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.042	0.30
4-Nitroaniline	ND		0.18	3.0
4,6-Dinitro-2-methylphenol	ND		0.53	20
N-Nitrosodiphenylamine	ND		0.13	2.0
4-Bromophenyl phenyl ether	ND		0.10	2.0
Hexachlorobenzene	ND		0.082	2.0
Pentachlorophenol	ND		0.13	3.5
Phenanthrene	ND		0.024	0.40
Anthracene	ND		0.019	0.20
Di-n-butyl phthalate	0.92	J	0.088	2.0
Fluoranthene	ND		0.027	0.25
Pyrene	ND		0.020	0.30
Butyl benzyl phthalate	1.0	J	0.24	3.0
3,3'-Dichlorobenzidine	ND		1.6	10
Benzo[a]anthracene	ND		0.033	0.30
Chrysene	ND		0.045	0.20
Bis(2-ethylhexyl) phthalate	1.2	J	0.32	15
Di-n-octyl phthalate	ND		0.18	2.0
Benzofluoranthene	ND		0.055	0.40
Benzo[a]pyrene	ND		0.027	0.20
Indeno[1,2,3-cd]pyrene	ND		0.051	0.30
Dibenz(a,h)anthracene	ND		0.046	0.30
Benzo[g,h,i]perylene	ND		0.060	0.30
Carbazole	ND		0.090	2.0
1-Methylnaphthalene	ND		0.052	0.30

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	62	10 - 120
Phenol-d5	34	10 - 102
Nitrobenzene-d5	98	34 - 146
2-Fluorobiphenyl	106	35 - 143
2,4,6-Tribromophenol	69	29 - 151
Terphenyl-d14	109	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-13481

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-13481/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1849
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007394.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-13481/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1913
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007395.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	28	32	10 - 70	15	51	J	
Bis(2-chloroethyl)ether	104	100	53 - 128	4	50		
2-Chlorophenol	94	92	52 - 122	3	25		
1,3-Dichlorobenzene	104	99	58 - 129	5	50		
1,4-Dichlorobenzene	100	98	62 - 132	2	32		
Benzyl alcohol	54	58	20 - 100	7	50		
1,2-Dichlorobenzene	102	100	60 - 126	2	50		
2-Methylphenol	73	77	35 - 106	6	50		
Bis(2-chloroisopropyl) ether	112	108	50 - 135	4	50		
3 & 4 Methylphenol	62	70	21 - 102	11	50		
N-Nitrosodi-n-propylamine	96	89	47 - 142	7	48		
Hexachloroethane	102	97	60 - 125	5	50		
Nitrobenzene	102	104	66 - 131	2	50		
Isophorone	92	94	62 - 122	1	50		
2-Nitrophenol	75	82	55 - 131	9	50		
2,4-Dimethylphenol	73	79	47 - 127	8	50	J	J
Benzoic acid	8	7	0 - 35	10	50	J	J
Bis(2-chloroethoxy)methane	102	101	65 - 126	1	50		
2,4-Dichlorophenol	95	96	66 - 122	1	50		
1,2,4-Trichlorobenzene	103	100	59 - 130	3	28		
Naphthalene	103	103	66 - 127	0	32		
4-Chloroaniline	89	96	75 - 171	8	50		
Hexachlorobutadiene	95	92	54 - 135	3	50		
4-Chloro-3-methylphenol	75	79	56 - 121	6	33		
2-Methylnaphthalene	103	101	64 - 125	2	30		
Hexachlorocyclopentadiene	87	93	45 - 126	6	50	J	J
2,4,6-Trichlorophenol	88	93	62 - 127	5	50		
2,4,5-Trichlorophenol	90	92	64 - 124	2	50		
2-Chloronaphthalene	102	105	70 - 125	3	50		
2-Nitroaniline	80	86	65 - 130	8	50		
Dimethyl phthalate	103	104	47 - 147	1	50		
Acenaphthylene	105	105	71 - 126	0	45		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-13481

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-13481/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1849
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007394.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-13481/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1913
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007395.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	93	99	66 - 131	6	50		
3-Nitroaniline	94	108	90 - 176	14	50		
Acenaphthene	106	107	65 - 130	1	27		
2,4-Dinitrophenol	80	86	15 - 140	7	50	J	J
4-Nitrophenol	27	31	10 - 135	16	59	J	J
Dibenzofuran	100	104	71 - 121	3	50		
2,4-Dinitrotoluene	81	89	57 - 128	10	35		
Diethyl phthalate	106	104	54 - 135	2	50		
4-Chlorophenyl phenyl ether	100	100	66 - 127	1	50		
Fluorene	101	105	69 - 129	4	29		
4-Nitroaniline	108	122	58 - 143	12	50		
4,6-Dinitro-2-methylphenol	72	79	36 - 127	9	50	J	J
N-Nitrosodiphenylamine	114	109	90 - 150	5	33		
4-Bromophenyl phenyl ether	105	101	66 - 131	4	50		
Hexachlorobenzene	102	98	67 - 128	4	50		
Pentachlorophenol	69	70	43 - 118	2	67		
Phenanthrene	104	100	62 - 128	4	24		
Anthracene	102	101	73 - 128	1	28		
Di-n-butyl phthalate	101	95	72 - 132	6	50		
Fluoranthene	108	108	64 - 124	1	22		
Pyrene	106	108	58 - 140	2	38		
Butyl benzyl phthalate	91	88	70 - 141	3	50		
3,3'-Dichlorobenzidine	73	82	67 - 157	12	50		
Benzo[a]anthracene	108	106	70 - 126	2	29		
Chrysene	108	107	70 - 126	1	33		
Bis(2-ethylhexyl) phthalate	103	92	69 - 154	12	50	J	J
Di-n-octyl phthalate	105	96	49 - 149	9	50		
Benzofluoranthene	114	109	59 - 140	5	41		
Benzo[a]pyrene	97	94	72 - 128	3	27		
Indeno[1,2,3-cd]pyrene	93	98	58 - 139	6	34		
Dibenz(a,h)anthracene	95	94	61 - 146	1	42		
Benzo[g,h,i]perylene	108	110	59 - 144	2	32		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-13481

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-13481/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1849
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007394.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-13481/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1913
Date Prepared: 11/22/2006 1600

Analysis Batch: 580-13564
Prep Batch: 580-13481
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak007395.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Carbazole	130	141	90 - 155	9	50		
1-Methylnaphthalene	102	100	47 - 148	1	50		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	48	53	10 - 120
Phenol-d5	26	30	10 - 102
Nitrobenzene-d5	103	103	34 - 146
2-Fluorobiphenyl	102	102	35 - 143
2,4,6-Tribromophenol	92	89	29 - 151
Terphenyl-d14	101	102	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Method Blank - Batch: 580-13417

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-13417/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 11/29/2006 1121
Date Prepared: 11/22/2006 1701

Analysis Batch: 580-13511
Prep Batch: 580-13417
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB4850.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0080	0.050
PCB-1221	ND		0.0080	0.050
PCB-1232	ND		0.0080	0.050
PCB-1242	ND		0.0080	0.050
PCB-1248	ND		0.0080	0.050
PCB-1254	ND		0.0050	0.050
PCB-1260	ND		0.0050	0.050

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	108	60 - 150
DCB Decachlorobiphenyl	86	40 - 135

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-13417

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-13417/2-AA	Analysis Batch: 580-13511	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-13417	Lab File ID: PCB4851.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/29/2006 1144		Final Weight/Volume: 1 mL
Date Prepared:	11/22/2006 1701		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-13417/3-AA	Analysis Batch: 580-13511	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-13417	Lab File ID: PCB4852.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	11/29/2006 1208		Final Weight/Volume: 1 mL
Date Prepared:	11/22/2006 1701		Injection Volume:
			Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	116	146	44 - 127	8	27		*
PCB-1260	125	137	53 - 130	8	22		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	102	110	60 - 150
DCB Decachlorobiphenyl	103	96	40 - 135

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: TestAmerica Analytical Testing Corp Job Number: 580-4322-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	*	LCS or LCSD exceeds the control limits

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PPK0896

Temp 3.2 yellow

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :(253) 922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPK0896-01	**Water**	**Sampled:11/19/06 07:53**		
8082 PCB	12/05/06 23:59	11/26/06 07:53		Low Level
8270 SIM PAH	12/05/06 23:59	11/26/06 07:53		add Benzo(e)pyrene & Benzo(j)fluoranthene Low Level
8270C Semivolatiles	12/05/06 23:59	11/26/06 07:53		Low Level

Containers Supplied:

1L Amber - Unpres. (A) 1L Amber - Unpres. (B) 1L Amber - Unpres. (C) 1L Amber - Unpres. (D)

Released By	Date	Received By	Date
[signature]	11/21/06	[signature]	11/22/06 1030am
Released By	Date	Received By	Date

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TestAmerica Analytical Testing Corp

Job Number: 580-4322-1

Login Number: 4322

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 3

Project NPDES Stormwater WQ: FM
Location NW, NE, SE Portland
Subject

Project No. 4010.001
Date 2/14/2007
By TJM, MJS

BF 19 0936 Arrive to setup for anticipated 0.5" storm event. Meter currently running for Stormwater System FM project. Halted meter, programmed w/ trigge/pacing volume of 6897 cf w/ low level setpoint enable at 3.5" (baseflow currently 2.9"). Decon'd tubing w/ non-phosphate soapy, tap, organics wash (acetone 5%), tap, nitric acid wash (10%), DI water, ultrapure DI. Calibrated aliquot volume. Initiated program, left site.

S450 1005 Arrive to setup for anticipated 0.8" storm event. Meter/sampler appear to have worked perfectly during last attempt which was discarded due to insufficient storm volume. Programmed meter w/ pacing volume of 5335 cf. Baseflow currently 3.0", programmed low level setpoint enable at 3.5". Decon'd sampler tubing w/ soapy, tap, nitric, DI, ultrapure DI. Initiated program, left site.

MI 1108 Arrive to setup for anticipated 0.8" storm event, w/ pacing volume of 5917 cf. Baseflow is currently 0.4" as expected, so low level setpoint enable of 1.0" will suffice. Decon'd tubing w/ soapy, tap, nitric, DI water, ultrapure DI water. Initiated sampler and meter, left site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 2 of 3

Project NPDES Stormwtr Mon
Location NE
Subject

Project No.
Date 2/15/2007
By JJM, MJS

0933 Arrive @ MI after minimal rainfall since previous visit. Rain is currently moderate w/ ample curb runoff. Sampler has collected 6 aliquots (2 full bottles). Recorded aliquot times. First aliquot was "No Liquid Detected". Meter appears to be pacing sampler accurately.
0939 Collected Grab samples FO 070193
Swapped composite bottles, restarted sampler on bottle 3.
0958 Left site

1037 Arrive @ SA5U. Steady rain currently, ample and turbid curb runoff. Sampler has filled 3 + 1/3 bottles. Recorded aliquot times and swapped in 4 decond bottles.
1041 Collected Grab samples. FO 070194
Restaveted sampler on bottle 5.
1050 Left site

1130 Arrive @ OF19. heavy rain currently. Sampler program complete. Recorded aliquot times, all bottles @ 1800ml w/ last aliquot collected @ 1110. Swapped in decond bottles and restarted sampler program.
1145 Collected grab samples. FO 070195
1155 Left site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 3 of 3

Project NPDES Stormwater Mon. Project No. 4010.001

Location _____ Date 2/16/07

Subject Event pickup By MJS

1010 - on site @ 545V. Uploaded data file 02161019.FEP - Data file looks great.
1028 - stopped sampler program & retrieved sampling report. Removed 6 bottles from sampler - program is currently disabled - shut down sampler & pulled battery
1100 - On site @ MH, uploaded flow data & file 02161109.FEY, Program is currently disabled w/ 4 full bottles. Stopped program

1209 - on site @ OF19
Uploaded data file. File name: 02161212.FEY

Attachments

OF19

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.011 **Storm Event Da** 1/10/2007

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.8	0.0667	380	16552800	1103520	0.15	165528	8	3	6897

OF19

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19 Field Sampling Crew TTM, MJS

Date 7/15/07 Time 1130

Grab Sample Date and Time 7/15/07 @ 1145

FO 070195

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	* 1800 mL	
2	* 1800 mL	
3	* 1800 mL	
4	* 1800 mL	
5	* 1800 mL	
6	* 1800 mL	
7	* 1800 mL	
8	* 1800 mL	

Trigger Data

Trigger #	24 Hour Time	Time, Date, Missed Triggers			
(1) 1	1301	7/14/07			
2	1318				
3	1353				
(2) 4	1348				
5	1401				
6	1415				
(3) 7	1431				
8	1500				
9	1542				
(4) 10	1632				
11	1739				
12	1930				

Trigger #	24 Hour Time	Time, Date, Missed Triggers			
13	0139	7/15/07			
14	0251				
15	0449				
16	0738				
17	0754				
18	0816				
19	0846				
20	0911				
21	0935				
22	1003				
23	1031				
24	1110				

Comments * All bottles 1-8 slightly greater than 1800mL; used all 16 bottles in sample

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

OF19

Station ID # OF19
Date 2/16/07
Grab Sample Date and Time

Field Sampling Crew MTJ/REB
Time 1220

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
9	full	3 triggers
10	↓	↓
11		
12		
13		
14		
15		
16		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
25	1158	2/15			
26	1224	2/15			
27	1245	↓			
28	1308				
29	1336				
30	1400				
31	1421				
32	1442				
33	1510				
34	1543				
35	1613				
36	1635	↓			

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
37	1659	↓			
38	1726				
39	1802				
40	1847				
41	1939				
42	2038				
43	2138				
44	2242				
45	2347	↓			
46	0055	2/16			
47	0203	↓			
48	0245	↓			

Comments: No missed triggers. All bottles full.

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 2/15/07
Page: 1 of 1
Collected By: JJM, MJS

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

[1] Measure OGNP if OGTOT > 10 ppm

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease [1]	Micro: E. coli	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)
FO 070193	5241 NE 122ND AVE MANHOLE GRAB	M1G	2/15/07	0939	G	•	•		11.0	78	6.1
FO 070194	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	2/15/07	1041	G	•	•		11.9	96	6.4
FO 070195	4900 NW KITTRIDGE AVE (OF19)	OF19	2/15/07	1145	G	•	•		10.9	68	6.4

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McCann Time: 1230	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 2/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Kluch Time: 1230	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kluch Date: 2/15/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/16/07
Page: 1 of 1
Collected By: MJS, JJM

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

MIG composite time 2/14/07 1428 – 2/16/07 1111.
☑ Sample Time recorded in PST
S45U composite time 2/14/07 1325 – 2/15/07 1734
OF19 composite time 2/14/07 1301 – 2/16/07 0245

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Cr, Cu, Pb, Zn)	Dissolved Metals (Cu, Pb, Zn)	Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: BOD	COD	Ammonia-nitrogen	Nitrate-nitrogen	Total Kjedhal Nitrogen	Orthophosphate phosphorus	Total Phosphorus	Outside: SVOCs	PAHs	PCBs		
FO 070209	5241 NE 122ND AVE MANHOLE GRAB	M1G	2/14/07	1428	C	•	•	•	•	•	•					•	•	·	•	•					
FO 070210	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	2/14/07	1325	C	•	•	•	•	•	•					•	•		•	•					
FO 070211	4900 NW KITTRIDGE AVE (OF19)	OF19	2/14/07	1301	C	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•		
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1412	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 2/16/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC (pdx Harbor).xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070195** **Sample Collected:** 2/15/2007 11:45 **Sample Received:** 02/15/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL01510
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	68	µmhos/cm	1	SM 2510 B	02/15/07
pH (FIELD)	6.4	pH Units	0.1	SM 4500-H B	02/15/07
TEMPERATURE	10.9	Deg. C	0.1	SM 2550 B	02/15/07
MICROBIOLOGY					
E. COLI	1600	MPN/100 ml	10	COLILERT QT	02/15/07
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/06/07

End of Report for Sample ID: FO070195

Report Date: 03/14/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.063	mg/L	0.02	EPA 350.1	02/26/07
BOD5	4	mg/L	2	SM 5210 B	02/17/07
COD	42	mg/L	5	SM 5220 D	02/17/07
NITRATE-NITROGEN	0.88	mg/L	0.10	EPA 300.0	02/16/07
O-PHOSPHATE-PHOSPHORUS, DISS	0.026	mg/L	0.02	EPA 365.1	02/16/07
TOTAL DISSOLVED SOLIDS @180C	82	mg/L	5	SM 2540 C	02/18/07
TOTAL KJELDAHL NITROGEN (TKN)	0.96	mg/L	0.20	EPA 351.2	02/23/07
TOTAL PHOSPHORUS	0.26	mg/L	0.03	EPA 365.4	02/23/07
TOTAL SOLIDS	203	mg/L	2	SM 2540 B	02/17/07
TOTAL SUSPENDED SOLIDS	111	mg/L	2	SM 2540 D	02/16/07
METALS					
HARDNESS, TOTAL	38.5	mg CaCO3/L	0.5	SM 2340 B CAL	02/17/07
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.50	µg/L	0.1	EPA 200.8	02/22/07
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	02/22/07
CHROMIUM, DISSOLVED	0.44	µg/L	0.4	EPA 200.8	02/22/07
COPPER, DISSOLVED	3.91	µg/L	0.2	EPA 200.8	02/22/07
LEAD, DISSOLVED	0.74	µg/L	0.1	EPA 200.8	02/22/07
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	02/22/07
ZINC, DISSOLVED	70.1	µg/L	0.5	EPA 200.8	02/22/07
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.46	µg/L	0.1	EPA 200.8	02/21/07
CADMIUM	0.34	µg/L	0.1	EPA 200.8	02/21/07
CHROMIUM	6.45	µg/L	0.4	EPA 200.8	02/21/07
COPPER	19.7	µg/L	0.2	EPA 200.8	02/21/07
LEAD	22.0	µg/L	0.1	EPA 200.8	02/21/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	02/21/07
ZINC	199	µg/L	0.5	EPA 200.8	02/21/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<0.049	µg/L	0.049	EPA 8082	02/21/07

Report Date: 03/14/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1221	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1232	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1242	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1248	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1254	<0.049	µg/L	0.049	EPA 8082	02/21/07
Aroclor 1260	<0.049	µg/L	0.049	EPA 8082	02/21/07
POLYNUCLEAR AROMATIC HYDROCARBONS - STL					
1-Methylnaphthalene	0.013	µg/L	0.0097	EPA 8270-SIM	02/21/07
2-Methylnaphthalene	0.021	µg/L	0.013	EPA 8270-SIM	02/21/07
Acenaphthene	0.015	µg/L	0.0097	EPA 8270-SIM	02/21/07
Acenaphthylene	<0.0097	µg/L	0.0097	EPA 8270-SIM	02/21/07
Anthracene	0.018	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzo(a)anthracene	0.10	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzo(a)pyrene	0.11	µg/L	0.019	EPA 8270-SIM	02/21/07
Benzo(g,h,i)perylene	0.097	µg/L	0.0097	EPA 8270-SIM	02/21/07
Benzofluoranthenes	0.22	µg/L	0.019	EPA 8270-SIM	02/21/07
Chrysene	0.16	µg/L	0.0097	EPA 8270-SIM	02/21/07
Dibenzo(a,h)anthracene	0.021	µg/L	0.0097	EPA 8270-SIM	02/21/07
Fluoranthene	0.25	µg/L	0.0097	EPA 8270-SIM	02/21/07
Fluorene	0.013	µg/L	0.0097	EPA 8270-SIM	02/21/07
Indeno(1,2,3-cd)pyrene	0.091	µg/L	0.0097	EPA 8270-SIM	02/21/07
Naphthalene	0.028	µg/L	0.0097	EPA 8270-SIM	02/21/07
Phenanthrene	0.073	µg/L	0.0097	EPA 8270-SIM	02/21/07
Pyrene	0.27	µg/L	0.0097	EPA 8270-SIM	02/21/07
SEMI-VOLATILE ORGANICS - STL					
1,2,4-Trichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,2-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,3-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1,4-Dichlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
1-Methylnaphthalene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
2,4,5-Trichlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2,4,6-Trichlorophenol	<0.29	µg/L	0.29	EPA 8270C	02/21/07
2,4-Dichlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07

Report Date: 03/14/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2,4-Dimethylphenol	<0.97	µg/L	0.97	EPA 8270C	02/21/07
2,4-Dinitrophenol	<2.4	µg/L	2.4	EPA 8270C	02/21/07
2,4-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2,6-Dinitrotoluene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Chloronaphthalene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
2-Chlorophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Methylnaphthalene	<0.097	µg/L	0.097	EPA 8270C	02/21/07
2-Methylphenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Nitroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
2-Nitrophenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
3- & 4-Methylphenol	<0.39	µg/L	0.39	EPA 8270C	02/21/07
3,3'-Dichlorobenzidine	<0.97	µg/L	0.97	EPA 8270C	02/21/07
3-Nitroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4,6-Dinitro-2-methylphenol	<1.9	µg/L	1.9	EPA 8270C	02/21/07
4-Bromophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chloro-3-methylphenol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chloroaniline	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Chlorophenylphenyl ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
4-Nitroaniline	<0.29	µg/L	0.29	EPA 8270C	02/21/07
4-Nitrophenol	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Acenaphthene	<0.049	µg/L	0.049	EPA 8270C	02/21/07
Acenaphthylene	<0.039	µg/L	0.039	EPA 8270C	02/21/07
Anthracene	0.020	µg/L	0.019	EPA 8270C	02/21/07
Benzo(a)anthracene	0.094	µg/L	0.029	EPA 8270C	02/21/07
Benzo(a)pyrene	0.10	µg/L	0.019	EPA 8270C	02/21/07
Benzo(g,h,i)perylene	0.10	µg/L	0.029	EPA 8270C	02/21/07
Benzofluoranthenes	0.27	µg/L	0.039	EPA 8270C	02/21/07
Benzoic acid	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Benzyl alcohol	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Benzyl butyl phthalate	0.61	µg/L	0.29	EPA 8270C	02/21/07
Bis(2-chloroethoxy) methane	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-chloroethyl) ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-chloroisopropyl) ether	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Bis(2-ethylhexyl) phthalate	2.2	µg/L	1.5	EPA 8270C	02/21/07

Report Date: 03/14/07 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO070211** **Sample Collected:** 2/14/2007 13:01 **Sample Received:** 02/16/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL01611
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/JJM

Comments:
QA/QC: Three semivolatile compounds on the full-scan list exhibited slightly low recoveries in the LCS and LCS duplicate. One of the two surrogate compounds for PCB analysis recovered low in the sample, but a second surrogate (Decachlorobiphenyl) had acceptable recovery. All other QC parameters had acceptable results. Results are reported down to method reporting limits. Lower traces of some organic parameters were detected, notably Pentachlorophenol and PCB Aroclor 1260. These estimated values are listed on the original report from STL, Inc.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Carbazole	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Chrysene	0.15	µg/L	0.019	EPA 8270C	02/21/07
Dibenzo(a,h)anthracene	0.041	µg/L	0.029	EPA 8270C	02/21/07
Dibenzofuran	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Diethyl phthalate	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Dimethyl phthalate	1.7	µg/L	0.19	EPA 8270C	02/21/07
Di-n-butyl phthalate	0.25	µg/L	0.19	EPA 8270C	02/21/07
Di-n-octyl phthalate	0.33	µg/L	0.19	EPA 8270C	02/21/07
Fluoranthene	0.25	µg/L	0.024	EPA 8270C	02/21/07
Fluorene	<0.029	µg/L	0.029	EPA 8270C	02/21/07
Hexachlorobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Hexachlorobutadiene	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270C	02/21/07
Hexachloroethane	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Indeno(1,2,3-cd)pyrene	0.099	µg/L	0.029	EPA 8270C	02/21/07
Isophorone	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Naphthalene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Nitrobenzene	<0.19	µg/L	0.19	EPA 8270C	02/21/07
N-Nitrosodi-n-propylamine	<0.19	µg/L	0.19	EPA 8270C	02/21/07
N-Nitrosodiphenylamine	<0.19	µg/L	0.19	EPA 8270C	02/21/07
Pentachlorophenol	<0.34	µg/L	0.34	EPA 8270C	02/21/07
Phenanthrene	0.073	µg/L	0.039	EPA 8270C	02/21/07
Phenol	<0.29	µg/L	0.29	EPA 8270C	02/21/07
Pyrene	0.28	µg/L	0.029	EPA 8270C	02/21/07

End of Report for Sample ID: FO070211

Report Date: 03/14/07 **Validated By: Signature on File**

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 X
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PQB0015

CLIENT: City of Portland
INVOICE TO: Charles Lytle
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PROJECT NAME: NPDES Stormwater
PROJECT NUMBER: Mon
SAMPLED BY:

PRESERVATIVE: LOW LEVEL

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Semi-vols EPA 8270	PAH 8270 SIM	PCB EPA 8082	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
1 FO 070211	2/14 - 2/16/07	X	X	X	W	4	*	
2								
3								
4								
5								
6								
7								
8								
9								
10								

RELEASED BY: Rona Kluck — DATE: 2/16/07
PRINT NAME: Rona Kluck — FIRM: City of Portland — TIME: 15:05
RECEIVED BY: Bob — DATE: 2/16/07
PRINT NAME: Bob — FIRM: TAP — TIME: 15:05
RELEASED BY: — DATE:
PRINT NAME: — FIRM: — TIME:
RECEIVED BY: — DATE: lab
PRINT NAME: — FIRM: — TIME: 16:05

ADDITIONAL REMARKS: * Send out to STL for LOW LEVEL Semi-vols, PAH & PCBs.
TEMP: 0.2, 6.0, 4.1, 3.8
COC REV 05/2006
PAGE 1 OF 1

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project.
Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)
Date: 2/14/07
Time: 15:05
Initials: MF

Logged-in By:
Date: 2/14/07
Initials: SM

Unpacked/Labeled By:
Date: 02/14/07
Initials: RSM

Cooler ID: ____ (____ of ____)

Work Order No. PQB0115
Client: C of Pom.
Project: NPDES

Container Type:
4 Cooler
____ Box
____ None/Other ____

COC Seals:
____ Ship. Container ____ Sign By
____ On Bottles ____ Date
X None

Packing Material
____ Bubble Bags ____ Styrofoam
____ Foam Packs
X None/Other Other ____

Refrigerant:
____ Gel Ice Pack ____ ____ None
Y Loose Ice
____ None/Other ____

0.2, 6.0, 9.1, 3.8

Received Via: Bill# ____
____ Fed Ex ____ Client
____ UPS X NCA Courier
____ DHL ____ Mid Valley
____ Senvoy ____ TDP
____ GS ____ Other ____

Cooler Temperature (*IR*): ____°C Plastic (Glass) (Frozen filters, Tedlars and aqueous Metals exempt)
(circle one)

Temperature Blank? ____°C or (NA)

Trip Blank? Y or N or (NA)

Sample Containers:		ID			ID
Intact?	Y or N		Metals Preserved?	Y or N or (NA)	
Provided by NCA?	Y or N		Client QAPP Preserved?	Y or N or (NA)	
Correct Type?	Y or N		Adequate Volume? (for tests requested)	(Y) or N	
#Containers match COC?	Y or N		Water VOAs: Headspace?	Y or N or (NA)	
IDs/time/date match COC?	Y or N		Comments:		
Hold Times in hold?	Y or N				

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems ____

Total access set up? Y or N
Has client beer contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

PM Initials: ____ Date: ____ Time: ____

(rev 3, 09/12/05)

ANALYTICAL REPORT

Job Number: 580-5008-1

Job Description: Oaks Bottom Drainage

For:
TestAmerica Analytical Testing Corp
9405 SW Nimbus Ave.
Beaverton, OR 97008

Attention: Howard Holmes

Heather Curbow
Project Manager I
hcurbow@stl-inc.com
03/09/2007
Revision: 1

cc: Duane Linnertz

Project Manager: Heather Curbow

STL Seattle is a part of Severn Trent Laboratories, Inc.

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender immediately at 253-922-2310 and destroy this report immediately.

Severn Trent Laboratories, Inc.
STL Seattle 5755 8th Street East, Tacoma, WA 98424
Tel (253) 922-2310 Fax (253) 922-5047 www.stl-inc.com

Case Narrative for job: 580-J5008-1

Client: TestAmerica Analytical Testing Corp
Date: 03/09/2007

Method: 8270C
The recovery of Diethyl phthalate and 3,3'-Dichlorobenzidine exceeded quality control limits in the LCS and LCSD. Minimal outliers are expected in full semivolatile list analyses. The method blank and surrogate recoveries were within control limits. No further action was taken on these outliers.

The recovery of N-Nitrosodiphenylamine exceeded quality control limits in the LCS. The associated LCSD was within control limits. No further action was taken on this outlier.

METHOD SUMMARY

Client: TestAmerica Analytical Testing Corp Job Number: 580-5008-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	STL SEA	SW846 8270C	
Separatory Funnel Liquid-Liquid Extraction (Low	STL SEA		SW846 3510C
Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)	STL SEA	SW846 8270C	
Separatory Funnel Liquid-Liquid Extraction (Low	STL SEA		SW846 3510C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	STL SEA	SW846 8082	
Separatory Funnel Liquid-Liquid Extraction	STL SEA		SW846 3510C

LAB REFERENCES:

STL SEA = STL Seattle

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: TestAmerica Analytical Testing Corp Job Number: 580-5008-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-5008-1	PQB0615-01	Water	02/16/2007 1600	02/20/2007 1030

Client: TestAmerica Analytical Testing Corp | Job Number: 580-5008-1

Client Sample ID: **PQB0615-01**

Lab Sample ID: 580-5008-1 | Date Sampled: 02/16/2007 1600
Client Matrix: Water | Date Received: 02/20/2007 1030

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-16186 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-15932 | Lab File ID: HP03795.D
Dilution: 1.0 | Initial Weight/Volume: 1030 mL
Date Analyzed: 02/27/2007 1502 | Final Weight/Volume: 1 mL
Date Prepared: 02/21/2007 0834 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.0072	0.29
Bis(2-chloroethyl)ether	ND		0.017	0.19
2-Chlorophenol	ND		0.021	0.19
1,3-Dichlorobenzene	ND		0.011	0.19
1,4-Dichlorobenzene	ND		0.012	0.19
Benzyl alcohol	ND		0.013	0.19
1,2-Dichlorobenzene	ND		0.011	0.19
2-Methylphenol	ND		0.037	0.19
Bis(2-chloroisopropyl) ether	ND		0.0085	0.19
3 & 4 Methylphenol	ND		0.017	0.39
N-Nitrosodi-n-propylamine	ND		0.019	0.19
Hexachloroethane	ND		0.013	0.29
Nitrobenzene	ND		0.0073	0.19
Isophorone	ND		0.011	0.19
2-Nitrophenol	ND		0.020	0.19
2,4-Dimethylphenol	ND		0.017	0.97
Benzoic acid	ND		0.020	0.97
Bis(2-chloroethoxy)methane	ND		0.0092	0.19
2,4-Dichlorophenol	0.013	J	0.013	0.19
1,2,4-Trichlorobenzene	ND		0.0097	0.19
Naphthalene	0.026	J	0.0014	0.19
4-Chloroaniline	ND		0.018	0.19
Hexachlorobutadiene	ND		0.016	0.29
4-Chloro-3-methylphenol	ND		0.014	0.19
2-Methylnaphthalene	0.027	J	0.0053	0.097
Hexachlorocyclopentadiene	ND		0.012	0.97
2,4,6-Trichlorophenol	ND		0.0097	0.29
2,4,5-Trichlorophenol	ND		0.0083	0.19
2-Chloronaphthalene	ND		0.0029	0.029
2-Nitroaniline	ND		0.011	0.19
Dimethyl phthalate	1.7		0.012	0.19
Acenaphthylene	0.0094	J	0.0025	0.039
2,6-Dinitrotoluene	ND		0.014	0.19
3-Nitroaniline	ND		0.054	0.19
Acenaphthene	0.013	J	0.0012	0.049
2,4-Dinitrophenol	ND		0.056	2.4
4-Nitrophenol	ND		0.16	0.97
Dibenzofuran	ND		0.0095	0.19
2,4-Dinitrotoluene	ND		0.012	0.19
Diethyl phthalate	ND	*	0.0090	0.19
4-Chlorophenyl phenyl ether	ND		0.012	0.19
Fluorene	0.017	J	0.0041	0.029
4-Nitroaniline	ND		0.017	0.29

Client: TestAmerica Analytical Testing Corp | Job Number: 580-5008-1

Client Sample ID: PQB0615-01

Lab Sample ID: 580-5008-1 | Date Sampled: 02/16/2007 1600
Client Matrix: Water | Date Received: 02/20/2007 1030

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C | Analysis Batch: 580-16186 | Instrument ID: SEA023
Preparation: 3510C | Prep Batch: 580-15932 | Lab File ID: HP03795.D
Dilution: 1.0 | Initial Weight/Volume: 1030 mL
Date Analyzed: 02/27/2007 1502 | Final Weight/Volume: 1 mL
Date Prepared: 02/21/2007 0834 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.051	1.9
N-Nitrosodiphenylamine	ND	*	0.013	0.19
4-Bromophenyl phenyl ether	ND		0.0097	0.19
Hexachlorobenzene	ND		0.0080	0.19
Pentachlorophenol	0.30	J	0.013	0.34
Phenanthrene	0.073		0.0023	0.039
Anthracene	0.020		0.0018	0.019
Di-n-butyl phthalate	0.25	B	0.0085	0.19
Fluoranthene	0.25		0.0026	0.024
Pyrene	0.28		0.0019	0.029
Butyl benzyl phthalate	0.61		0.023	0.29
3,3'-Dichlorobenzidine	ND	*	0.16	0.97
Benzo[a]anthracene	0.094		0.0032	0.029
Chrysene	0.15		0.0044	0.019
Bis(2-ethylhexyl) phthalate	2.2		0.031	1.5
Di-n-octyl phthalate	0.33		0.017	0.19
Benzo[a]pyrene	0.10		0.0026	0.019
Indeno[1,2,3-cd]pyrene	0.099		0.0050	0.029
Dibenz(a,h)anthracene	0.041		0.0045	0.029
Benzo[g,h,i]perylene	0.10		0.0058	0.029
Carbazole	0.033	J	0.0087	0.19
1-Methylnaphthalene	0.016	J	0.0050	0.029
Benzo[b]fluoranthene	0.18		0.0045	0.039
Benzo[k]fluoranthene	0.055		0.0053	0.029

Surrogate	%Rec	Acceptance Limits
2-Fluorophenol	38	10 - 120
Phenol-d5	23	10 - 102
Nitrobenzene-d5	95	34 - 146
2-Fluorobiphenyl	72	35 - 143
2,4,6-Tribromophenol	97	29 - 151
Terphenyl-d14	95	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-5008-1

Client Sample ID: PQB0615-01

Lab Sample ID: 580-5008-1 | Date Sampled: 02/16/2007 1600
Client Matrix: Water | Date Received: 02/20/2007 1030

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-15980 | Instrument ID: SEA002
Preparation: 3510C | Prep Batch: 580-15932 | Lab File ID: AT07439.D
Dilution: 1.0 | Initial Weight/Volume: 1030 mL
Date Analyzed: 02/21/2007 1515 | Final Weight/Volume: 1 mL
Date Prepared: 02/21/2007 0834 | Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.028	B	0.00058	0.0097
2-Methylnaphthalene	0.021	B	0.00087	0.013
1-Methylnaphthalene	0.013	B	0.0031	0.0097
Acenaphthylene	0.0068	J B	0.00039	0.0097
Acenaphthene	0.015	B	0.00029	0.0097
Fluorene	0.013	B	0.00078	0.0097
Phenanthrene	0.073	B	0.00029	0.0097
Anthracene	0.018		0.00078	0.0097
Fluoranthene	0.25		0.00087	0.0097
Pyrene	0.27		0.0013	0.0097
Benzo[a]anthracene	0.10	B	0.00087	0.0097
Chrysene	0.16	B	0.00087	0.0097
Benzofluoranthene	0.22		0.0030	0.019
Benzo[a]pyrene	0.11		0.0058	0.019
Indeno[1,2,3-cd]pyrene	0.091		0.0015	0.0097
Dibenz(a,h)anthracene	0.021		0.0012	0.0097
Benzo[g,h,i]perylene	0.097		0.0017	0.0097

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	80	34 - 146
2-Fluorobiphenyl	64	35 - 143
Terphenyl-d14	77	35 - 166

Client: TestAmerica Analytical Testing Corp | Job Number: 580-5008-1

Client Sample ID: PQB0615-01

Lab Sample ID: 580-5008-1 | Date Sampled: 02/16/2007 1600
Client Matrix: Water | Date Received: 02/20/2007 1030

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 | Analysis Batch: 580-16021 | Instrument ID: SEA034
Preparation: 3510C | Prep Batch: 580-15933 | Lab File ID: PCB6436.D
Dilution: 1.0 | Initial Weight/Volume: 1030 mL
Date Analyzed: 02/22/2007 1347 | Final Weight/Volume: 1 mL
Date Prepared: 02/21/2007 0838 | Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.0078	0.049
PCB-1221	ND		0.0078	0.049
PCB-1232	ND		0.0078	0.049
PCB-1242	ND		0.0078	0.049
PCB-1248	ND		0.0078	0.049
PCB-1254	ND		0.0049	0.049
PCB-1260	0.029	J	0.0049	0.049

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	48	I X	60 - 150
DCB Decachlorobiphenyl	54		40 - 135

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Method Blank - Batch: 580-15932

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-15932/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/21/2007 1351
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-15980
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA002
Lab File ID: AT07436.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	0.0061	J	0.00060	0.010
2-Methylnaphthalene	0.0047	J	0.00090	0.013
1-Methylnaphthalene	0.0038	J	0.0032	0.010
Acenaphthylene	0.00083	J	0.00040	0.010
Acenaphthene	0.0017	J	0.00030	0.010
Fluorene	0.0014	J	0.00080	0.010
Phenanthrene	0.0020	J	0.00030	0.010
Anthracene	ND		0.00080	0.010
Fluoranthene	ND		0.00090	0.010
Pyrene	ND		0.0013	0.010
Benzo[a]anthracene	0.0010	J	0.00090	0.010
Chrysene	0.0010	J	0.00090	0.010
Benzofluoranthene	ND		0.0031	0.020
Benzo[a]pyrene	ND		0.0060	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0015	0.010
Dibenz(a,h)anthracene	ND		0.0012	0.010
Benzo[g,h,i]perylene	ND		0.0018	0.010

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	72	34 - 146
2-Fluorobiphenyl	67	35 - 143
Terphenyl-d14	81	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Method Blank - Batch: 580-15932

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-15932/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1340
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03792.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		0.0074	0.30
Bis(2-chloroethyl)ether	ND		0.018	0.20
2-Chlorophenol	ND		0.022	0.20
1,3-Dichlorobenzene	ND		0.011	0.20
1,4-Dichlorobenzene	ND		0.012	0.20
Benzyl alcohol	ND		0.013	0.20
1,2-Dichlorobenzene	ND		0.011	0.20
2-Methylphenol	ND		0.038	0.20
Bis(2-chloroisopropyl) ether	ND		0.0088	0.20
3 & 4 Methylphenol	ND		0.017	0.40
N-Nitrosodi-n-propylamine	ND		0.020	0.20
Hexachloroethane	ND		0.013	0.30
Nitrobenzene	ND		0.0075	0.20
Isophorone	ND		0.011	0.20
2-Nitrophenol	ND		0.021	0.20
2,4-Dimethylphenol	ND		0.018	1.0
Benzoic acid	ND		0.021	1.0
Bis(2-chloroethoxy)methane	ND		0.0095	0.20
2,4-Dichlorophenol	ND		0.013	0.20
1,2,4-Trichlorobenzene	ND		0.010	0.20
Naphthalene	ND		0.0014	0.20
4-Chloroaniline	ND		0.019	0.20
Hexachlorobutadiene	ND		0.016	0.30
4-Chloro-3-methylphenol	ND		0.014	0.20
2-Methylnaphthalene	ND		0.0055	0.10
Hexachlorocyclopentadiene	ND		0.012	1.0
2,4,6-Trichlorophenol	ND		0.010	0.30
2,4,5-Trichlorophenol	ND		0.0085	0.20
2-Chloronaphthalene	ND		0.0030	0.030
2-Nitroaniline	ND		0.011	0.20
Dimethyl phthalate	ND		0.012	0.20
Acenaphthylene	ND		0.0026	0.040
2,6-Dinitrotoluene	ND		0.014	0.20
3-Nitroaniline	ND		0.056	0.20
Acenaphthene	ND		0.0012	0.050
2,4-Dinitrophenol	ND		0.058	2.5
4-Nitrophenol	ND		0.16	1.0
Dibenzofuran	ND		0.0098	0.20
2,4-Dinitrotoluene	ND		0.012	0.20
Diethyl phthalate	ND		0.0093	0.20
4-Chlorophenyl phenyl ether	ND		0.012	0.20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Method Blank - Batch: 580-15932

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-15932/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1340
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03792.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Fluorene	ND		0.0042	0.030
4-Nitroaniline	ND		0.018	0.30
4,6-Dinitro-2-methylphenol	ND		0.053	2.0
N-Nitrosodiphenylamine	ND		0.013	0.20
4-Bromophenyl phenyl ether	ND		0.010	0.20
Hexachlorobenzene	ND		0.0082	0.20
Pentachlorophenol	ND		0.013	0.35
Phenanthrene	ND		0.0024	0.040
Anthracene	ND		0.0019	0.020
Di-n-butyl phthalate	0.023	J	0.0088	0.20
Fluoranthene	ND		0.0027	0.025
Pyrene	ND		0.0020	0.030
Butyl benzyl phthalate	ND		0.024	0.30
3,3'-Dichlorobenzidine	ND		0.16	1.0
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND		0.0045	0.020
Bis(2-ethylhexyl) phthalate	ND		0.032	1.5
Di-n-octyl phthalate	ND		0.018	0.20
Benzo[a]pyrene	ND		0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	ND		0.0060	0.030
Carbazole	ND		0.0090	0.20
1-Methylnaphthalene	ND		0.0052	0.030
Benzo[b]fluoranthene	ND		0.0046	0.040
Benzo[k]fluoranthene	ND		0.0055	0.030

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	38	10 - 120
Phenol-d5	22	10 - 102
Nitrobenzene-d5	86	34 - 146
2-Fluorobiphenyl	75	35 - 143
2,4,6-Tribromophenol	69	29 - 151
Terphenyl-d14	85	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15932

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-15932/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/21/2007 1419
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-15980
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA002
Lab File ID: AT07437.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-15932/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/21/2007 1447
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-15980
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA002
Lab File ID: AT07438.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	78	82	66 - 127	6	32		
2-Methylnaphthalene	76	80	64 - 125	6	30		
1-Methylnaphthalene	82	87	47 - 148	6	50		
Acenaphthylene	84	90	71 - 126	7	45		
Acenaphthene	87	93	65 - 130	6	27		
Fluorene	91	99	69 - 129	8	29		
Phenanthrene	89	95	62 - 128	7	24		
Anthracene	98	107	73 - 128	8	28		
Fluoranthene	93	100	64 - 124	7	22		
Pyrene	91	98	58 - 140	8	38		
Benzo[a]anthracene	99	107	70 - 126	8	29		
Chrysene	95	101	70 - 126	6	33		
Benzofluoranthene	99	107	59 - 140	8	41		
Benzo[a]pyrene	105	113	72 - 128	8	27		
Indeno[1,2,3-cd]pyrene	95	99	58 - 139	4	34		
Dibenz(a,h)anthracene	96	100	61 - 146	4	42		
Benzo[g,h,i]perylene	93	97	59 - 144	4	32		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	79	80	34 - 146
2-Fluorobiphenyl	70	71	35 - 143
Terphenyl-d14	76	77	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15932

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-15932/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1408
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03793.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-15932/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1435
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03794.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenol	21	24	10 - 70	13	51	J	J
Bis(2-chloroethyl)ether	83	84	53 - 128	1	50		
2-Chlorophenol	75	76	52 - 122	0	25		
1,3-Dichlorobenzene	59	62	58 - 129	5	50		
1,4-Dichlorobenzene	63	66	62 - 132	5	32		
Benzyl alcohol	54	55	20 - 100	1	50		
1,2-Dichlorobenzene	63	68	60 - 126	8	50		
2-Methylphenol	62	63	35 - 106	1	50		
Bis(2-chloroisopropyl) ether	87	89	50 - 135	2	50		
3 & 4 Methylphenol	54	55	21 - 102	2	50		
N-Nitrosodi-n-propylamine	85	90	47 - 142	5	48		
Hexachloroethane	62	63	60 - 125	3	50		
Nitrobenzene	85	88	66 - 131	3	50		
Isophorone	88	90	62 - 122	2	50		
2-Nitrophenol	77	80	55 - 131	3	50		
2,4-Dimethylphenol	79	83	47 - 127	5	50	J	J
Benzoic acid	11	10	0 - 35	3	50	J	J
Bis(2-chloroethoxy)methane	84	87	65 - 126	4	50		
2,4-Dichlorophenol	80	82	66 - 122	3	50		
1,2,4-Trichlorobenzene	68	68	59 - 130	0	28		
Naphthalene	72	73	66 - 127	2	32		
4-Chloroaniline	78	78	75 - 171	1	50		
Hexachlorobutadiene	63	65	54 - 135	2	50		
4-Chloro-3-methylphenol	77	77	56 - 121	0	33		
2-Methylnaphthalene	72	75	64 - 125	4	30		
Hexachlorocyclopentadiene	51	54	45 - 126	4	50	J	J
2,4,6-Trichlorophenol	83	82	62 - 127	1	50		
2,4,5-Trichlorophenol	75	78	64 - 124	4	50		
2-Chloronaphthalene	77	78	70 - 125	2	50		
2-Nitroaniline	85	87	65 - 130	1	50		
Dimethyl phthalate	88	92	47 - 147	4	50		
Acenaphthylene	81	83	71 - 126	2	45		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15932

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 580-15932/2-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1408
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03793.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-15932/3-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/27/2007 1435
Date Prepared: 02/21/2007 0834

Analysis Batch: 580-16186
Prep Batch: 580-15932
Units: ug/L

Instrument ID: SEA023
Lab File ID: HP03794.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
2,6-Dinitrotoluene	85	87	66 - 131	3	50		
3-Nitroaniline	93	96	90 - 176	3	50		
Acenaphthene	83	82	65 - 130	0	27		
2,4-Dinitrophenol	71	71	15 - 140	1	50	J	J
4-Nitrophenol	34	34	10 - 135	2	59	J	J
Dibenzofuran	82	84	71 - 121	2	50		
2,4-Dinitrotoluene	79	83	57 - 128	5	35		
Diethyl phthalate	47	50	54 - 135	5	50	*	*
4-Chlorophenyl phenyl ether	85	85	66 - 127	1	50		
Fluorene	88	90	69 - 129	2	29		
4-Nitroaniline	99	99	58 - 143	0	50		
4,6-Dinitro-2-methylphenol	88	86	36 - 127	2	50	J	J
N-Nitrosodiphenylamine	87	90	90 - 150	4	33	*	
4-Bromophenyl phenyl ether	87	92	66 - 131	5	50		
Hexachlorobenzene	87	88	67 - 128	1	50		
Pentachlorophenol	78	80	43 - 118	3	67		
Phenanthrene	86	88	62 - 128	2	24		
Anthracene	89	92	73 - 128	3	28		
Di-n-butyl phthalate	95	96	72 - 132	1	50		
Fluoranthene	91	93	64 - 124	2	22		
Pyrene	91	92	58 - 140	1	38		
Butyl benzyl phthalate	96	97	70 - 141	1	50		
3,3'-Dichlorobenzidine	63	64	67 - 157	1	50	J *	J *
Benzo[a]anthracene	91	90	70 - 126	1	29		
Chrysene	88	90	70 - 126	2	33		
Bis(2-ethylhexyl) phthalate	81	81	69 - 154	0	50	J	J
Di-n-octyl phthalate	95	93	49 - 149	2	50		
Benzo[a]pyrene	96	98	72 - 128	2	27		
Indeno[1,2,3-cd]pyrene	105	105	58 - 139	0	34		
Dibenz(a,h)anthracene	94	94	61 - 146	0	42		
Benzo[g,h,i]perylene	95	96	59 - 144	1	32		
Carbazole	108	110	90 - 155	2	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15932

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-15932/2-AA	Analysis Batch: 580-16186	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-15932	Lab File ID: HP03793.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	02/27/2007 1408		Final Weight/Volume: 1 mL
Date Prepared:	02/21/2007 0834		Injection Volume:

LCSD Lab Sample ID:	LCSD 580-15932/3-AA	Analysis Batch: 580-16186	Instrument ID: SEA023
Client Matrix:	Water	Prep Batch: 580-15932	Lab File ID: HP03794.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	02/27/2007 1435		Final Weight/Volume: 1 mL
Date Prepared:	02/21/2007 0834		Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1-Methylnaphthalene	74	76	47 - 148	1	50		
Benzo[b]fluoranthene	99	96	64 - 140	3	41		
Benzo[k]fluoranthene	88	93	62 - 142	6	41		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorophenol	39	39	10 - 120
Phenol-d5	22	22	10 - 102
Nitrobenzene-d5	86	84	34 - 146
2-Fluorobiphenyl	75	74	35 - 143
2,4,6-Tribromophenol	84	83	29 - 151
Terphenyl-d14	85	85	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Method Blank - Batch: 580-15933

Method: 8082
Preparation: 3510C

Lab Sample ID: MB 580-15933/1-AA
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/22/2007 1236
Date Prepared: 02/21/2007 0838

Analysis Batch: 580-16021
Prep Batch: 580-15933
Units: ug/L

Instrument ID: SEA034
Lab File ID: PCB6433.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0080	0.050
PCB-1221	ND		0.0080	0.050
PCB-1232	ND		0.0080	0.050
PCB-1242	ND		0.0080	0.050
PCB-1248	ND		0.0080	0.050
PCB-1254	ND		0.0050	0.050
PCB-1260	ND		0.0050	0.050

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	82	60 - 150
DCB Decachlorobiphenyl	96	40 - 135

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-15933

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 580-15933/2-AA	Analysis Batch: 580-16021	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-15933	Lab File ID: PCB6434.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	02/22/2007 1300		Final Weight/Volume: 1 mL
Date Prepared:	02/21/2007 0838		Injection Volume:
			Column ID: PRIMARY

LCSD Lab Sample ID:	LCSD 580-15933/3-AA	Analysis Batch: 580-16021	Instrument ID: SEA034
Client Matrix:	Water	Prep Batch: 580-15933	Lab File ID: PCB6435.D
Dilution:	1.0	Units: ug/L	Initial Weight/Volume: 1000 mL
Date Analyzed:	02/22/2007 1324		Final Weight/Volume: 1 mL
Date Prepared:	02/21/2007 0838		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	92	104	44 - 127	12	27		
PCB-1260	114	119	53 - 130	5	22		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	77	84	60 - 150
DCB Decachlorobiphenyl	86	98	40 - 135

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: TestAmerica Analytical Testing Corp Job Number: 580-5008-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	I	Indicates the presence of an interference, recovery is not calculated.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate exceeds the control limits

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQB0615

5008

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :(253) 922-2310
Fax: 253-922-5047
Project Location:

Analysis	Due	Expires	Comments
Sample ID: PQB0615-01	**Water**	**Sampled: 02/16/07 12:00**	**Sample comp 02/14-02/16**
8082 PCB	03/01/07 23:59	02/23/07 12:00	Low Level for City of Portland
8270C Semivoa LL H2O	03/01/07 23:59	02/23/07 12:00	Low Level for City of Portland
8270SIM-PAH LL H2O	03/01/07 23:59	02/23/07 12:00	Low Level for City of Portland

Containers Supplied:

1L Amber - Unpres. (A) 1L Amber - Unpres. (B) 1L Amber - Unpres. (C) 1L Amber - Unpres. (D)

Released By	Date	Received By	Date
Camille Holladay	2/19/07	4.7c	2/20/07
Released By	Date	Received By	Date

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TestAmerica Analytical Testing Corp

Job Number: 580-5008-1

Login Number: 5008

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Appendix B
Outfall 19 MS4 Program Monitoring

Part 3: FY 2007 – 2008

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

Water Pollution Control Laboratory

6543 N. Burlington Avenue, Room 217, Portland, Oregon 97203 ▪ Sam Adams, Commissioner ▪ Dean Marriott, Director

November 3, 2008

Frank Wildensee
City of Portland, Bureau of Environmental Services
1120 SW 5th Avenue, Room 1000
Portland, OR 97204-1972

LAND USE STORMWATER MONITORING
FISCAL YEAR 2007-08 REPORT
STORM EVENTS

M1 Event 46: November 26, 2007
M1 Event 47: January 8, 2008
M1 Event 48: March 25-26, 2008
OF19 Event 7: November 26, 2007
OF19 Event 8: March 7-8, 2008
OF19 Event 9: March 25-26, 2008
S45U Event 4: November 26, 2007
S45U Event 5: January 8, 2008
S45U Event 6: March 25-26, 2008

INTRODUCTION

This report presents the results of the nine discrete storm sampling events conducted at three different mixed land use stations in fiscal year (FY) 2007-08 to comply with the City of Portland's (City) National Pollutant Discharge Elimination System (NPDES) municipal stormwater discharge (MS4) permit. For this project, these monitoring events represent M1 Events 46 through 48, OF19 Events 7 through 9, and S45U Events 4 through 6. Samples were also collected for additional analyses to support other City Programs and objectives:

OF19: Portland Harbor Superfund Program
M1: Columbia Slough Sediment Program (first two events only)
S45U: evaluate TMDL and 303(d) list parameters for Johnson Creek

The Environmental Investigations Division performed the work for the Environmental Management Division's Regulatory/Policy section.

BACKGROUND INFORMATION

In 1991, the City implemented a stormwater monitoring program as required by the municipal NPDES stormwater discharge permit application process. Ten stations throughout the city representing residential, commercial, industrial, state highway corridor, open space, and mixed land uses were selected for stormwater monitoring. In FY 1996-97, the monitoring plan was reduced to four land use stations so limited City resources could be allocated to other stormwater monitoring projects. Three of the four selected stations represented instream conditions, providing an overall measure of water quality in the watersheds. The fourth station, site M1, is an in-pipe monitoring point located in a subbasin pilot project area (City outfall 100 basin), which is the site of several planned stormwater treatment facilities. In FY 1999-00, one of the three instream sites was dropped in order to fund a best management practice (BMP) monitoring project in that watershed. In FY 2002-03, the two remaining instream sites were dropped from the monitoring plan leaving only the in-pipe location for continued monitoring for this project.

City of Portland stormwater outfall (OF19) was added to the monitoring program to represent industrial areas and stormwater discharges to the Lower Willamette watershed. OF19 historically has been monitored to identify potential sources of industrial stormwater pollution and to measure the effectiveness of the City's Industrial Stormwater Program. The Industrial Stormwater Program was developed in response to 40 CFR 122.26 "Storm water discharges", which requires certain municipalities to implement a program to control and monitor stormwater runoff associated with industrial activity. OF19 has been monitored for at least three events per year since FY 1998-99. The list of analyses for samples collected at OF19 has been expanded to meet the objectives of both programs.

S45U was added in FY 2006-07 as a sampling location representative of stormwater discharges to Johnson Creek. S45U was monitored previously for five storm events as part of the Johnson Creek Pesticide Source study conducted in FY 2003-04. Overviews of the current monitoring locations are shown in Figures 1 and 2A through 2C.

SAMPLING LOCATIONS, FIELD PROCEDURES, AND ANALYTICAL PARAMETERS

Sample collection and field parameter measurements are performed by the BES Field Operations section. The BES Water Pollution Control Laboratory (WPCL) provides primary analytical services. Selected analyses are performed by Test America in Beaverton, Oregon, Columbia Analytical Services (CAS) in Kelso, Washington, and Pace Analytical Services in Minneapolis, Minnesota.

Sampling Locations

The remaining monitoring site selected from the original ten land use stations is considered to best represent urban stormwater runoff quality from a mixed land use area. Site M1 (OF100), located at 5241 NE 122nd Ave., is an in-pipe sampling location receiving runoff from 144 acres of residential, commercial, industrial, and open space land uses. The sampling site is located in a 60-inch municipal separate storm sewer pipe accessed by a manhole on the west shoulder of NE 122nd Avenue. A site map is provided in Figure 3A.

OF19 is ranked by the City as one of the "Top Ten" outfalls for potential impacts on water quality and the outfall basin contains a significant number of industrial facilities. Monitoring is conducted in the 475-acre outfall 19 basin located in northwest Portland (Figure 2B). The basin is approximately 20 percent impervious due to significant industrial land use. Stormwater from this basin discharges to the Willamette River through a 42-inch outfall. The sampling manhole is located on the northwest corner of the intersection at NW Front and Kittridge Avenues (Figure 3B). Sampling and flow monitoring are performed in the 42-inch outlet pipe of this manhole.

S45U is located in the Johnson Creek watershed and represents a mix of residential, commercial, and industrial land use. The sampling manhole is located in the intersection of SE Umatilla and SE 45th Avenue, just upstream of City of Portland outfall JCF (Figure 3C). Stormwater from this basin discharges to Johnson Creek through a 48-inch outfall.

Field Procedures

Storm Criteria

In order to meet the data quality objectives of this project, monitoring is attempted for storms that are predicted to fulfill specified criteria. Currently, these criteria include a 6-hour antecedent dry period and a minimum of 0.20 inches of precipitation in a 12-hour period for the M1 and S45U sampling locations. For the OF19 site, the criteria include a 72-hour antecedent dry period and a minimum 0.20 inches of precipitation over a 3 to 24-hour sample collection period. An antecedent dry period is defined as less than 0.10 inches of precipitation in the specified period preceding the storm event.

Flow Monitoring

All three sites have uniformly shaped pipes, well suited for electronic flow quantification. Flow monitoring data are obtained through the use of a Sigma 950 Flow Meter. The flow sensor in the pipe collects level and velocity data, which are used in conjunction with pipe geometry information to calculate flow using the area-velocity method. During a sampling event, the flow meter calculates and records data at five-minute intervals.

Water Quality Sampling

Grab Samples
Grab samples are collected with a decontaminated stainless steel bailer attached to a telescoping sampling pole. The bailer is rinsed once with water from the sampling stream prior to filling the sample bottles and measuring the field parameters. Oil and grease samples are collected directly into the sample bottles.

Composite Samples
An Isco 6700 Portable Sampler is used for composite sample collection. All three sites are located in storm sewer lines where a sampler and a flow meter are secured in a manhole. Teflon-lined tubing extends from the sampler onto the pipe floor, where a stainless steel sample head is secured. For samples where low-level organics analyses are not required, reinforced vinyl tubing is used. The sampler utilizes a peristaltic pump to draw sample up the tubing and distribute it into composite bottles in the sampler base.

The flow meter is programmed to trigger the sampler every time a specified volume flows past the sensor. In an attempt to divide the storm runoff into 24 volume-proportioned aliquots, the trigger volume is calculated as one twenty-fourth of the expected runoff volume for the event. The expected runoff is calculated using the predicted rain amount for the event, basin size and a basin-specific runoff coefficient. For OF19 and S45U, the flow meters are programmed to activate the sampler when the water level rises from base flow level to the predetermined trigger level. In order to prevent the sampling program from activating during the minor level increases that often occur before the main storm arrives, a minimum of 0.5 inches is added to the base flow level when calculating trigger level. Eight 1.9-liter organics decontaminated glass composite bottles are used in the samplers. Decontaminated plastic composite bottles are used when low-level organics analyses are not required. For each trigger sent from the flow meter to the sampler, one 600-milliliter aliquot is pumped into a composite bottle. Each bottle receives three aliquots, whereupon the sampler distributor arm advances to the next bottle. Full bottles are removed and replaced with empty bottles as necessary over the course of the event. The number of aliquots collected may vary from the desired 24 as storm event rainfall totals often vary significantly from predictions. At the end of the event, a final composite is created by combining bottles that represent greater than 75 percent of the storm flow as recorded by the meter. Representative bottles are combined into a Teflon-lined churn splitter where analyte-specific sample bottles are then filled from a spigot during churn agitation.

Decontamination Procedures

All equipment that comes in contact with water samples is decontaminated in accordance with Field Operations SOP 7.01a – Decontamination of Sampling Equipment by the following procedure.

1. Wash in non-phosphate detergent (e.g., Alconox Detergent 8 or Liqui-nox).
2. Rinse in tap water.
3. Rinse in 10 percent nitric acid.
4. Rinse with deionized water.
5. Rinse with 10 percent Acetone solution.
6. Rinse with ultrapure water.

Prior to the storm event, both the peristaltic pump tubing and reinforced vinyl tubing at M1 is decontaminated by pumping through the same series of solutions listed above. Step 5 is skipped when low-level organics analyses are not required.

Analytical Constituents

Grab Samples

Grab samples are monitored in the field for conductivity, pH, and temperature using portable analytical meters. Dissolved oxygen is no longer measured. Grab samples are submitted to the laboratory for analysis of *Escherichia coli* and total oil and grease. Nonpolar oil and grease is measured if total oil and grease is greater than or equal to 10 milligrams per liter (mg/L).

Composite Samples

Composite samples are submitted to the laboratory for analysis of ammonia-nitrogen, nitrate-nitrogen, orthophosphate phosphorus, total dissolved solids, total phosphorus, total solids, total suspended solids, hardness, total metals (chromium, copper, lead, and zinc) and dissolved metals (copper, lead, and zinc). Additional samples from each site were submitted for selected analyses and analytes as follows:

M1: PAHs, organochlorine pesticides, and PCB Aroclors (Events 46 and 47 only)
OF19: PAHs, SVOCs, PCB Congeners, and arsenic, silver, cadmium, and chromium
S45U: PAHs, organochlorine pesticides, and PCB Aroclors

WEATHER AND SAMPLING SUMMARY

The following section summarizes the weather and sampling information for each of the three events. Weather forecasts were obtained through the City-contracted ERF Company, Inc (ERF). Tables 1 through 3 present the complete rain gauge data as recorded by the City's Hydrological Data Retrieval and Alarm System (HYDRA) for the three storm events and the corresponding 72-hour antecedent dry periods for the three sampling locations. Rainfall data from HYDRA is reported as hourly totals. While City rain gauges provide the best available estimation of rainfall at monitoring sites they can be located several miles from study areas. Hence, rain gauge data may not accurately depict rainfall conditions at particular sites, especially during events with sporadic, localized rain activity.

Gauge 111 (NE Airport Way) is used for the M1 sample location and is located approximately one and a half miles west of the monitoring site. The previous rain gauge used for M1, Gauge 9 (PDX Business Park), was retired on September 21, 2004. Gauge 121 (Yeon) is used for monitoring site OF19 and is located within two miles of the sampling site. For monitoring conducted at OF19 for the Industrial Stormwater Program, rainfall at OF 19 was formerly estimated as an average of rainfall totals measured at Gauges 121 and 125 (Guilds Lake). Gauge 125 was retired on March 23, 2005. No additional gauges were used for rainfall estimates in the area since Gauge 121 and former Gauge 125 are the only gauges in the vicinity of the sampling site that represent the slight rain shadow caused by the West Hills in the NW industrial district. Gage 64 (2033 SE Harney St) is used for S45U and is located approximately 1.4 miles west of the monitoring location.

The river level gauge at Ankeny Pump Station is used to determine Willamette River levels in order to insure that river water has not backed up into the outfall sampling location. The river level must be below 20 feet above mean sea level to avoid potential commingling of OF19 stormwater with Willamette River water. River level data during sampling are shown in Figure 4 (note that there are five plots since two of the grab samples were collected separately from composite samples). River levels are measured approximately once per minute. All times in this report text, figures and tables are listed in 24-hour, Pacific Standard Time.

Events Summary

Summaries of antecedent, storm event, and sample collection time rainfall for the three monitoring locations are presented in Table 4. Additional information regarding each monitoring event is

summarized below and includes specific comments for each event and descriptions of any deviations from proposed monitoring.

Sampling equipment including bailers and composite samplers are typically decontaminated, calibrated, and programmed during the 24 hour period prior to a predicted storm event. Sampling preparation may occur up to 72 hours prior to predicted weekend storm events. Final composite samples are prepared by combining all aliquots into a churn splitter in the laboratory and subsequently filling analyte-specific bottles through churn agitation. A Teflon churn splitter was used for all composite samples that are submitted for low-level organics analyses.

Sampling went smoothly for all events and no significant problems were encountered except as described below. Storm durations were generally captured and storms are well-represented by composite samples.

M1 Events Summary

Events 46 through 48: No problems encountered.

OF19 Events Summary

Event 7: The storm event duration of 2 hours, 39 minutes was slightly less than the desired minimum duration of 3 hours specified for Industrial Stormwater Program monitoring. However, the rising limb, peak, and falling limb were caught and the rainfall total of 0.32 inches exceeded the minimum of 0.20 inches. Subsequently, the composite sample was considered a good representation of a short-duration storm event with a distinct peak. No other problems were encountered.

Event 8: No problems encountered.

Event 9: Antecedent rainfall exceeded 0.10" in 72 hours, though accumulation was less than 0.10" in the 55 hours prior to sampling. Therefore, storm criteria for MS4 permit sampling were met; though, Industrial Stormwater storm criteria were not. However, FY 2007-08 is an off-year for Industrial Stormwater.

During sampling events, the river level must be below 20 feet in elevation to prevent commingling of river water with stormwater at the OF19 sampling location. The river level was below 10 feet in elevation during all sampling activities including both grab and composite sampling. River elevation plots during sampling efforts are shown in Figure 4.

S45U Events Summary

Event 4: No problems encountered.

Event 5: No problems were encountered other than eight missed triggers at the beginning of the storm due to delayed program enable and six missed triggers at the end due to all autosampler bottles being full. A total of 57 aliquots were collected by the autosampler, and the rainfall total during sample collection was greater than 75% of the storm, therefore, the sample still met the sampling criteria.

Event 6: No problems encountered.

MONITORING AND SAMPLING RESULTS

Hydrographs summarizing flow, rainfall, and sampling information for each storm event are presented in Figures 5A through 7C. The individual sample triggers sent from the flow meters to the samplers, which represent aliquots of the composite samples, are represented by the ▲ symbol on the x-axis of the graph. The grab sample collection times are also included on the graphs.

Tables 5A through 7B present a summary of all field and laboratory analytical data for the three events. Since the PCB Congener data is not currently entered into LabWorks or Janus, the Pace laboratory reports are included as an attachment to this report. The complete Laboratory Analysis Reports and chain-of-custody records are kept on file at WPCL. Refer to the laboratory reports for information regarding the analytical methods used for all analyses and the corresponding method reporting limits. Note that in Table 6B, PAHs are reported twice for the OF19 site with two different sets of method detection limits. PAHs were reported as part of the full EPA Method 8270 suite; however, in order to achieve lower detection limits for PAHs using the 8270 SIM method, the instrument must be calibrated for a narrower range such that only PAHs are reportable. PAH data usability issues are discussed below.

DATA VALIDATION & USABILITY

No problems were encountered with data quality except for the following:

Sample Date	Sample Location	Issue	Analysis	Analyte	Actions Taken, Comments
11/26/07	OF19, M1, S45U	method blank contamination	pesticides	4,4'-DDT beta-BHC	Analytes not detected in associated samples, no action taken
11/26/07	OF19	method blank contamination	SVOCs	di-n-butyl phthalate (1.1 ug/l)	OF19 Event 7, sample concentration 0.52 ug/l, qualified with "UB" to indicate blank concentration exceeded sample concentration
11/26/07	OF19	split sample precision failure	SVOCs/ PAHs	bis (2-ethyl-hexyl) phthalate (SVOCs 3.2 ug/l, PAHs 173 ug/l)	split samples sent to different labs to achieve lower MDLs for selected analytes—gross precision failures likely due to laboratory contamination based on issues documented for analyses performed for UIC Program. Both results qualified as estimated, high result qualified as "JH" for high bias.
1/8/08	M1, S45U	method blank contamination	SVOCs	bis (2-ethyl-hexyl) phthalate (0.819 ug/l)	M1 Event 47 and S45U Event 5 sample concentration 2.71 and 1.19 ug/l, qualified with "JB" to indicate sample concentrations less than 10x blank concentration

Sample Date	Sample Location	Issue	Analysis	Analyte	Actions Taken, Comments
3/7/08	OF19	method blank contamination	PAHs	pyrene (0.0286 ug/l)	OF19 Event 8, sample concentration 0.126 ug/l, qualified with "JB" to indicate sample concentration less than 10x blank concentration
3/7/08	OF19	split sample precision failure	SVOCs/ PAHs	bis (2-ethyl-hexyl) phthalate (SVOCs 7.3 ug/l, PAHs 2.12 ug/l), butyl benzyl phthalate (SVOCs 7.0 ug/l, PAHs < 1.0 ug/l)	split samples sent to different labs to achieve lower MDLs for selected analytes—gross precision failures likely due to laboratory contamination based on issues documented for analyses performed for UIC Program. Both results qualified as estimated, high results qualified as "JH" for high bias.
3/25/08	OF19	method blank contamination	SVOCs	di-n-butyl phthalate (0.23 ug/l)	OF19 Event 9, sample concentration 0.32 ug/l, qualified with "JB" to indicate sample concentration less than 10x blank concentration

In addition, matrix effects resulted in slightly elevated detection and reporting limits for low-level organochlorine pesticide analyses. Other than as noted above, none of the other low-level organics data were qualified. For the second OF19 event, the sample submitted to Pace Analytical Services for PCB Congener analysis was "lost" by the laboratory. WPCL typically saves leftover composite sample, therefore, additional sample was submitted to Pace for analysis. The current hold time for PCB Congener analysis (EPA Method 1668) is one year.

All data are usable as reported or with associated qualifiers. No data were rejected though phthalate data should be used with caution.

CONCLUSIONS

Grab and composite stormwater samples were collected during three storm events at each of the three sampling locations. The current MS4 monitoring plan requires at least two events at each site. Storm criteria were met during all sampling efforts except that the first event at OF19 was of slightly shorter duration than specified, and there were a number of missed triggers in the second event at the S45U site. However, all samples collected were generally representative of storm events monitored, therefore, sampling objectives for FY 2007-08 were met. All analytical data are considered usable except as noted above.

GENERAL

The Field Operations and Investigations and Monitoring Services sections of BES prepared this summary report. For any questions concerning this report, contact Aaron Wieting at 503-823-5437.

Prepared by:

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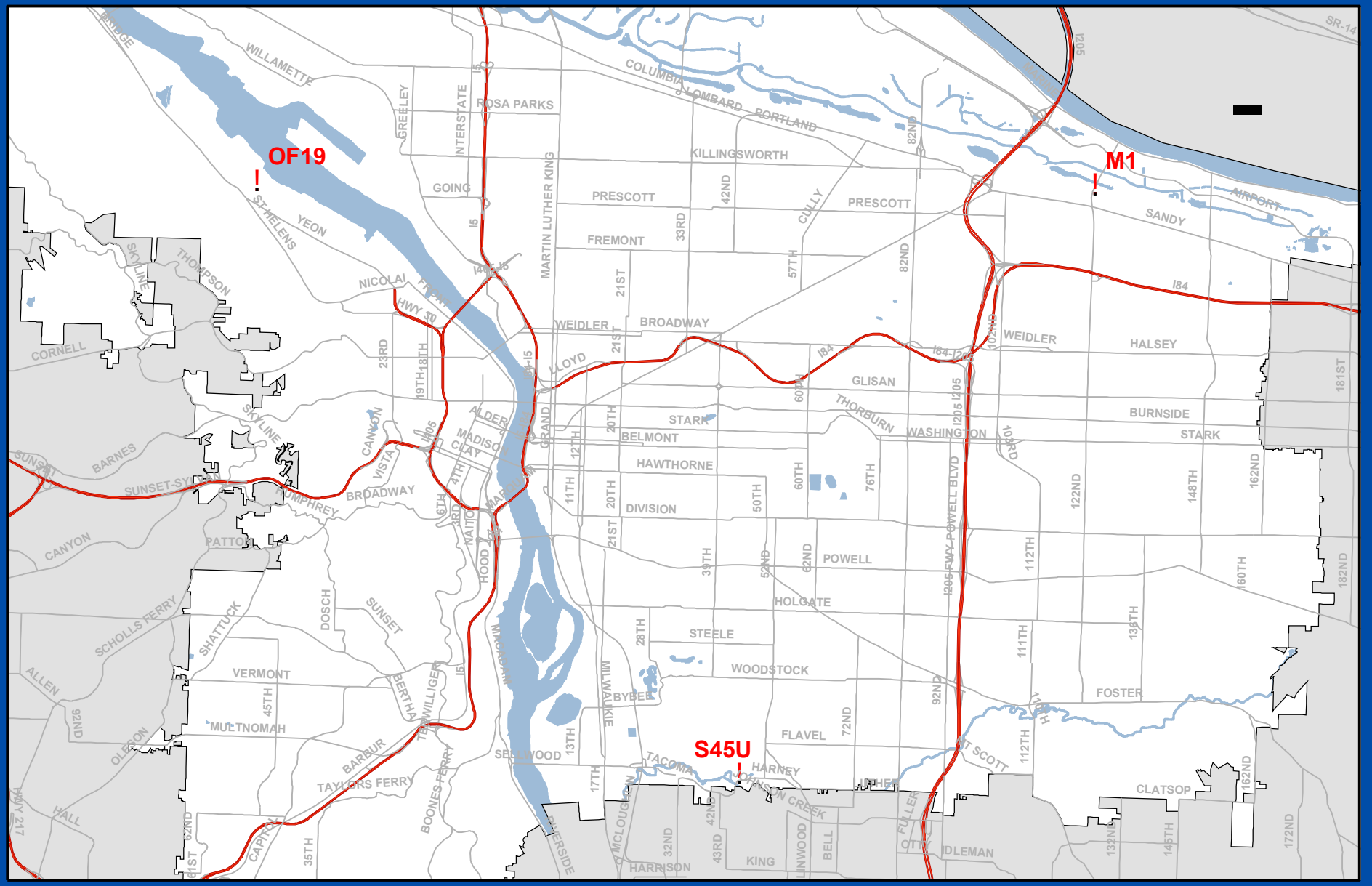
Jordan McCann
Environmental Technician

c: Linda Scheffler, Portland Harbor Program
Michael Pronold, Industrial Stormwater Program

FIGURES

Figure 1: Monitoring Location Overview
Figure 2A: M1 Vicinity Map
Figure 2B: OF19 Vicinity Map
Figure 2C: S45U Vicinity Map
Figure 3A: M1 Site Map
Figure 3B: OF19 Site Map
Figure 3C: S45U Site Map
Figure 4: OF19 River Elevation Data
Figure 5A: M1 Event 46 Hydrograph
Figure 5B: M1 Event 47 Hydrograph
Figure 5C: M1 Event 48 Hydrograph
Figure 6A: OF19 Event 7 Hydrograph
Figure 6B: OF19 Event 8 Hydrograph
Figure 6C: OF19 Event 9 Hydrograph
Figure 7A: S45U Event 4 Hydrograph
Figure 7B: S45U Event 5 Hydrograph
Figure 7C: S45U Event 6 Hydrograph



Monitoring Locations

City Mask

0 1 2 4 Miles

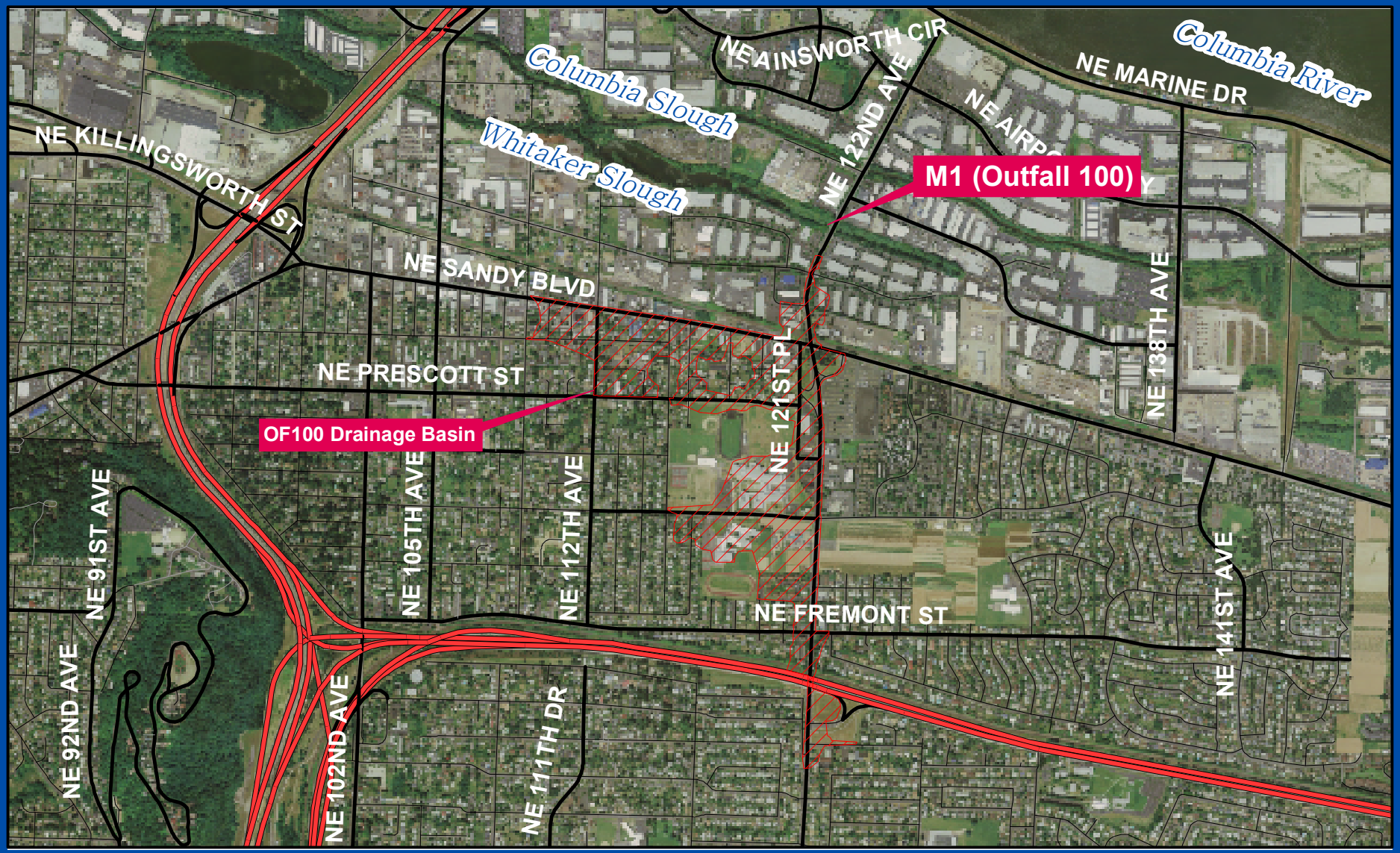
FIGURE 1
Monitoring Location Overview
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by: A. Wieting

Date Created: 9/20/2007



N
W E
S

0 1,000 2,000 4,000 Feet

FIGURE 2A
M1 Site Vicinity Map

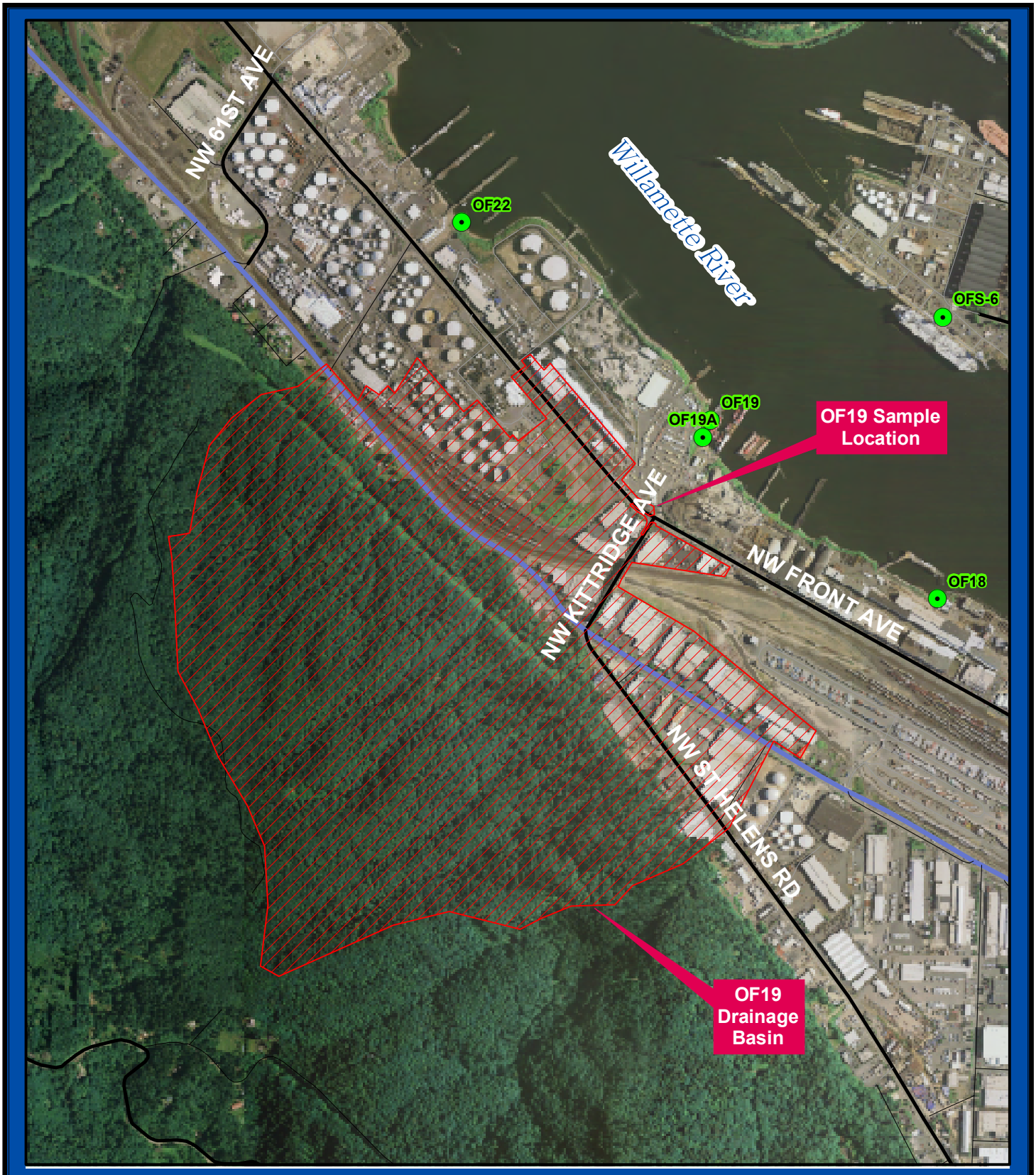
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007



N
W E
S

0 750 1,500 3,000 Feet

FIGURE 2B
OF19 Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9.2 using ArcMap

Created by:	*Date Created:*
A. Wieting	11/3/2008

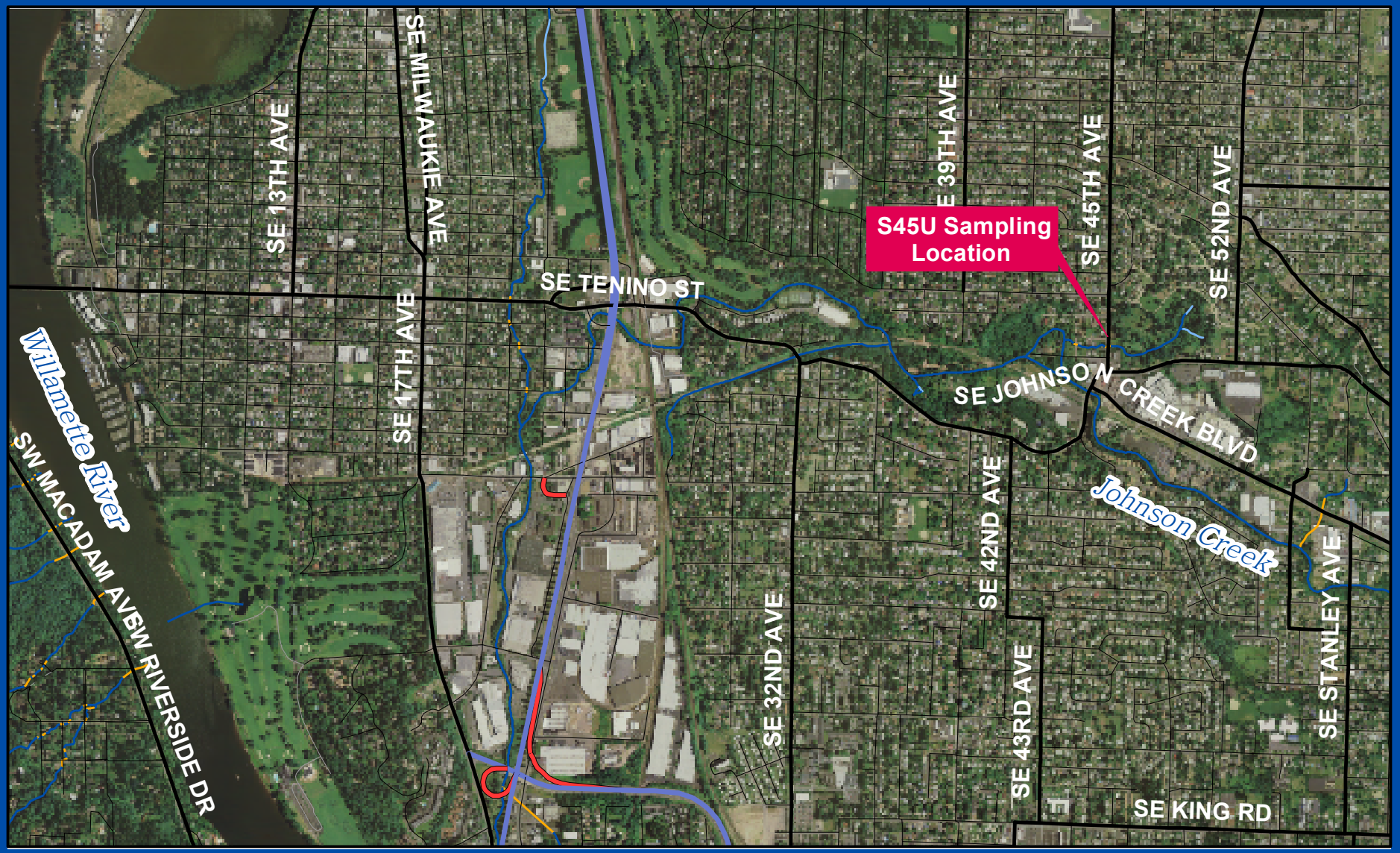


FIGURE 2C
S45U Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007

N
W E
S

0 25 50 100 Feet

FIGURE 3A
M1 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007

N
W E
S

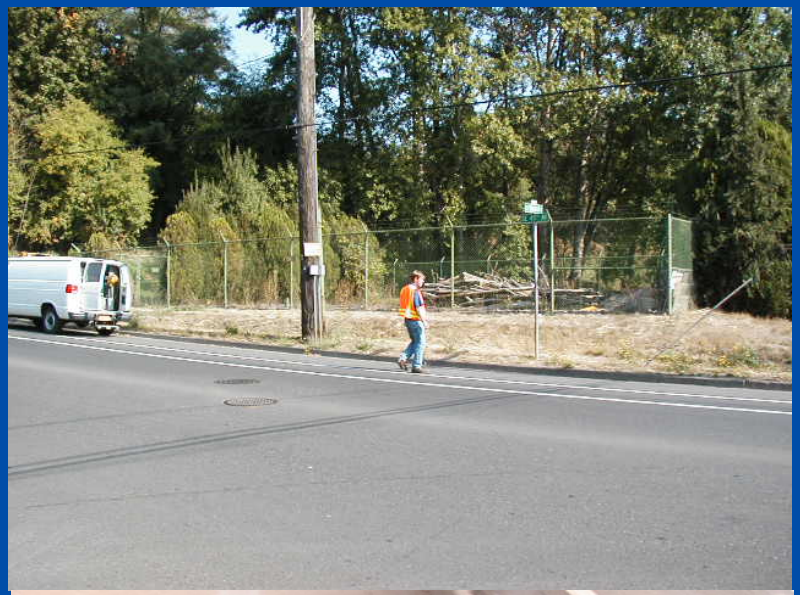
0 75 150 300 Feet

FIGURE 3B
OF19 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007



N
W E
S

0 37.5 75 150 225 300 Feet

FIGURE 3C
S45U Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Service
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
9/20/2007

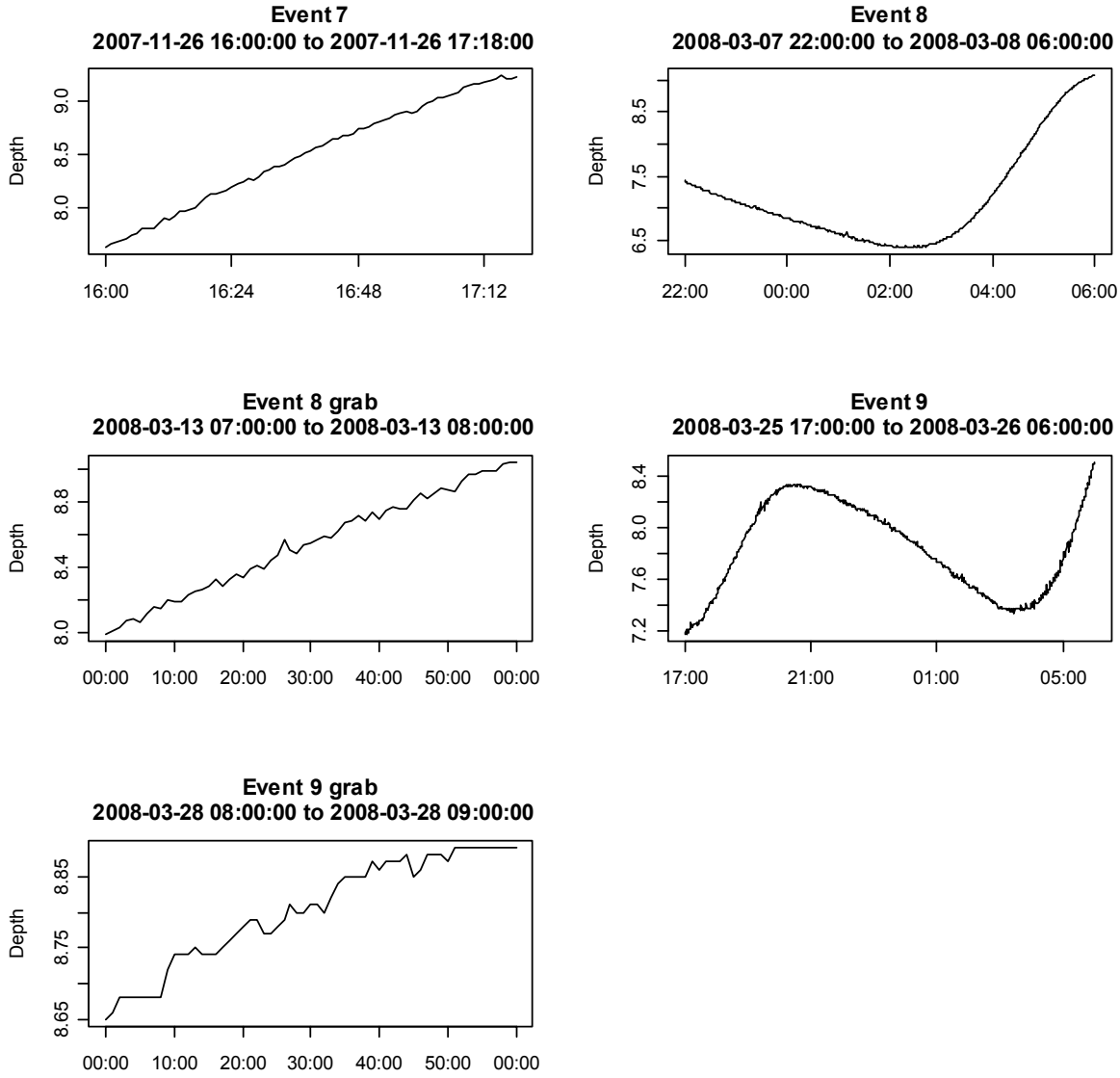


Figure 4: OF19 River Elevation Data

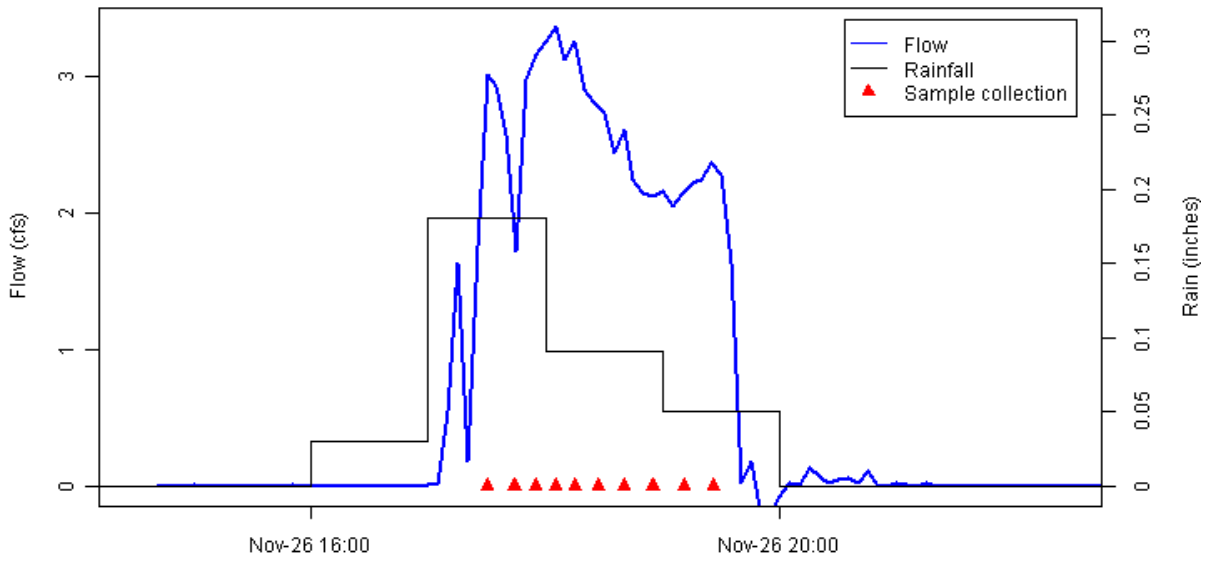


Figure 5A: M1 Event 46 Hydrograph

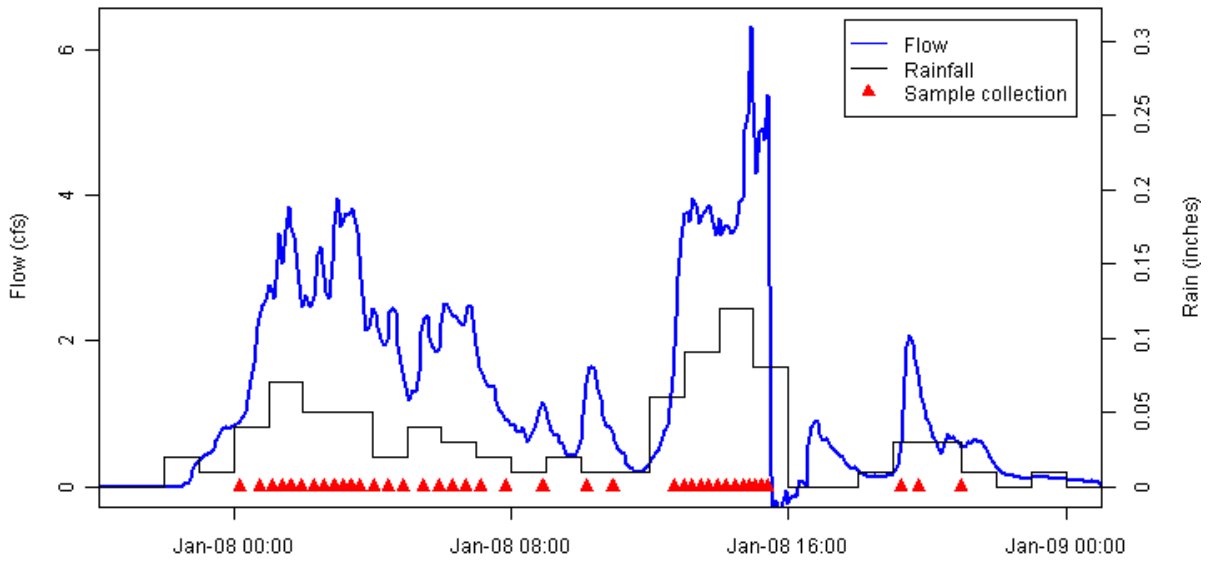


Figure 5B: M1 Event 47 Hydrograph

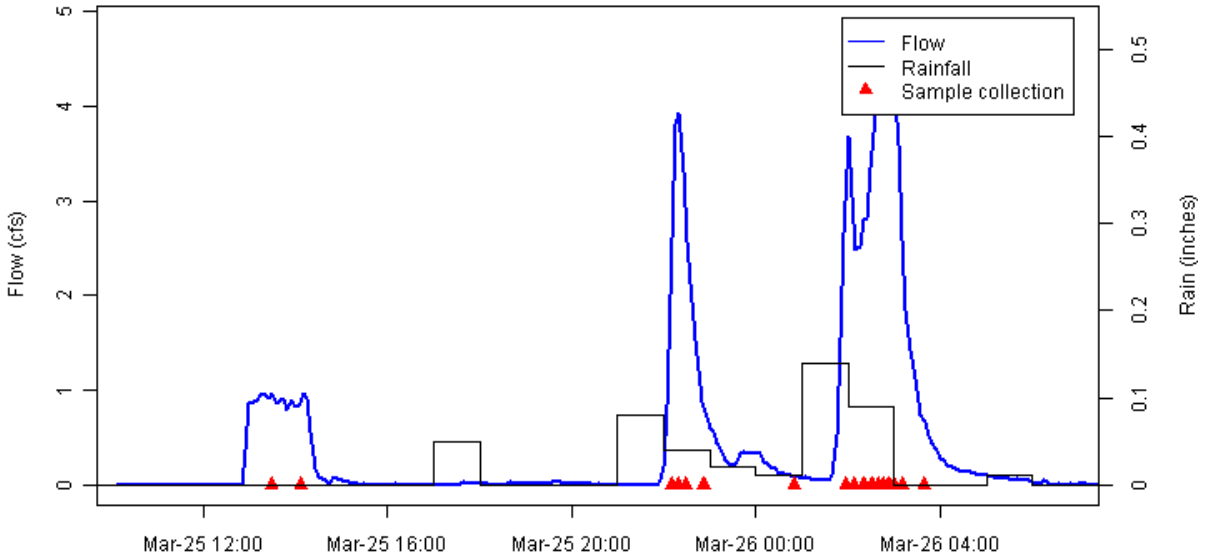


Figure 5C: M1 Event 48 Hydrograph

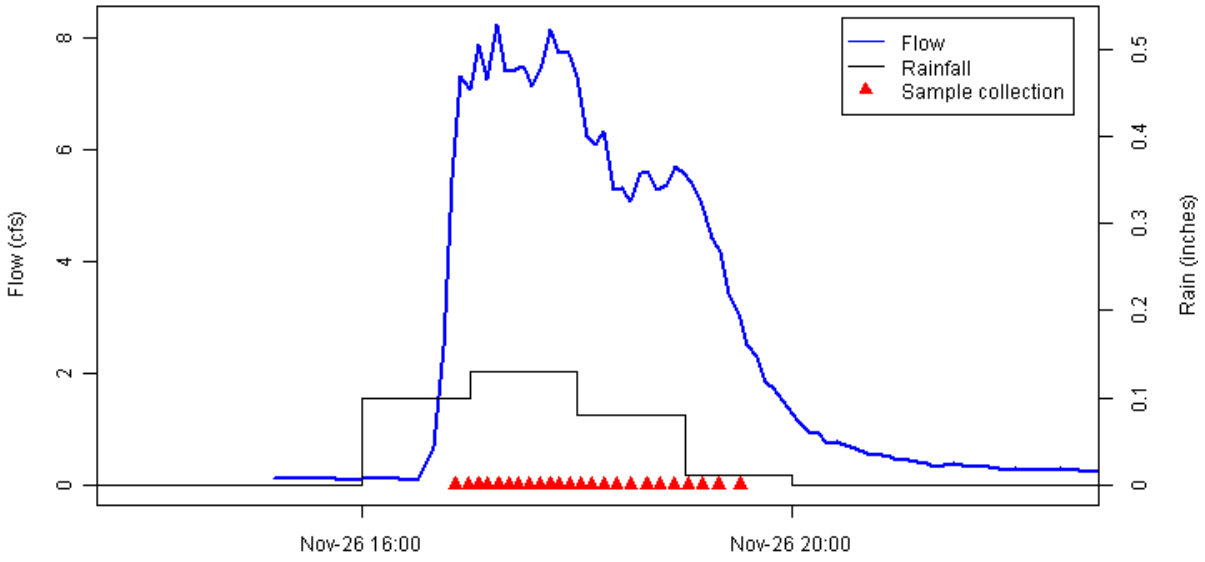


Figure 6A: OF19 Event 7 Hydrograph

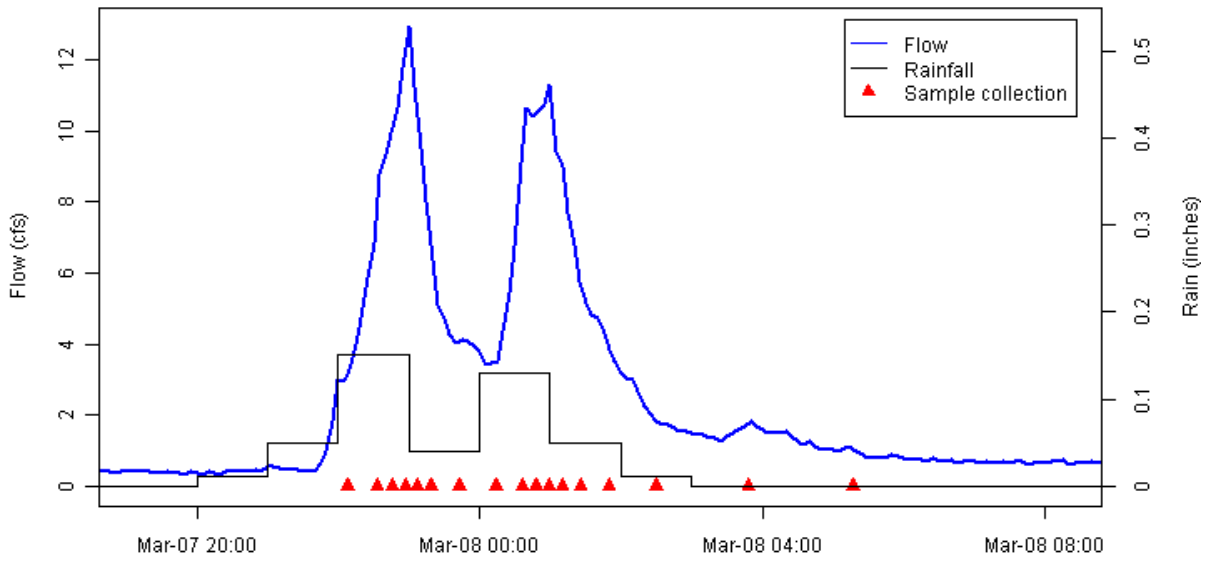


Figure 6B: OF19 Event 8 Hydrograph

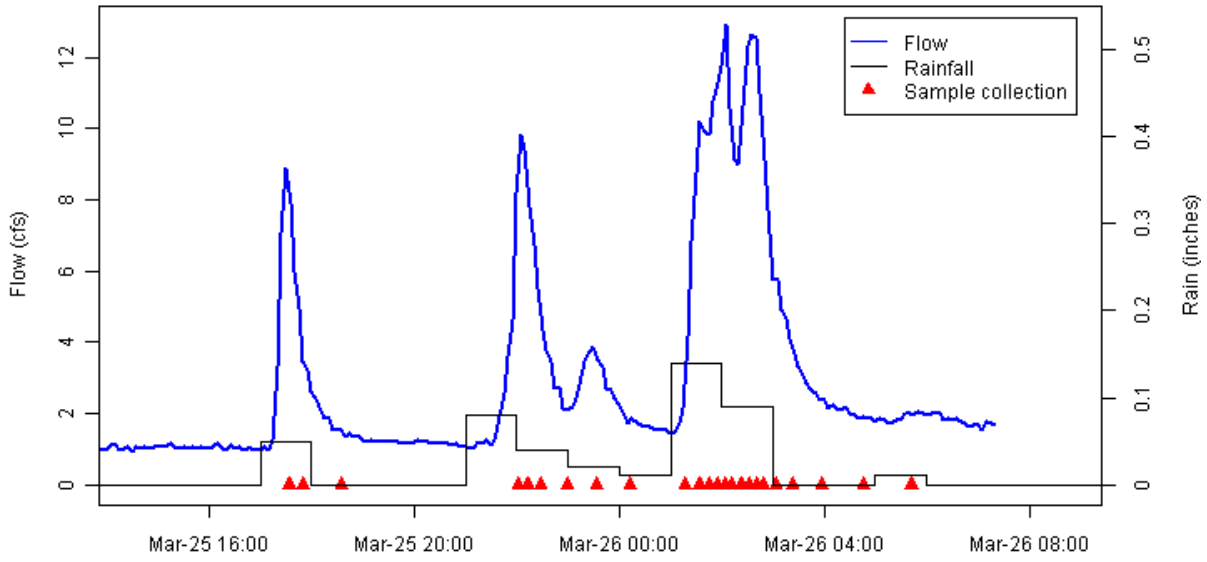


Figure 6C: OF19 Event 9 Hydrograph

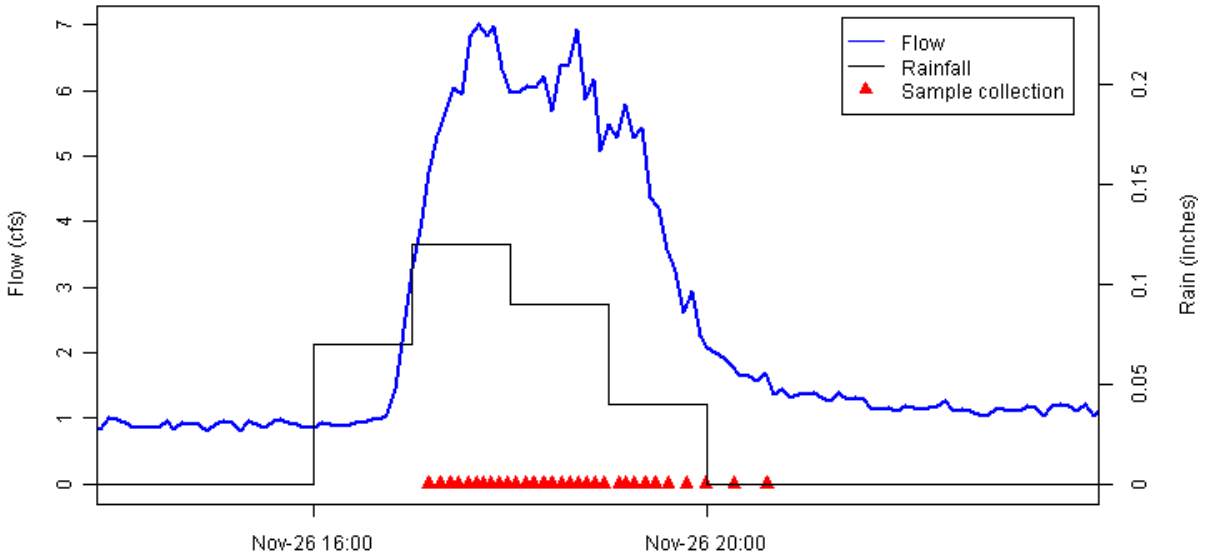


Figure 7A: S45U Event 4 Hydrograph

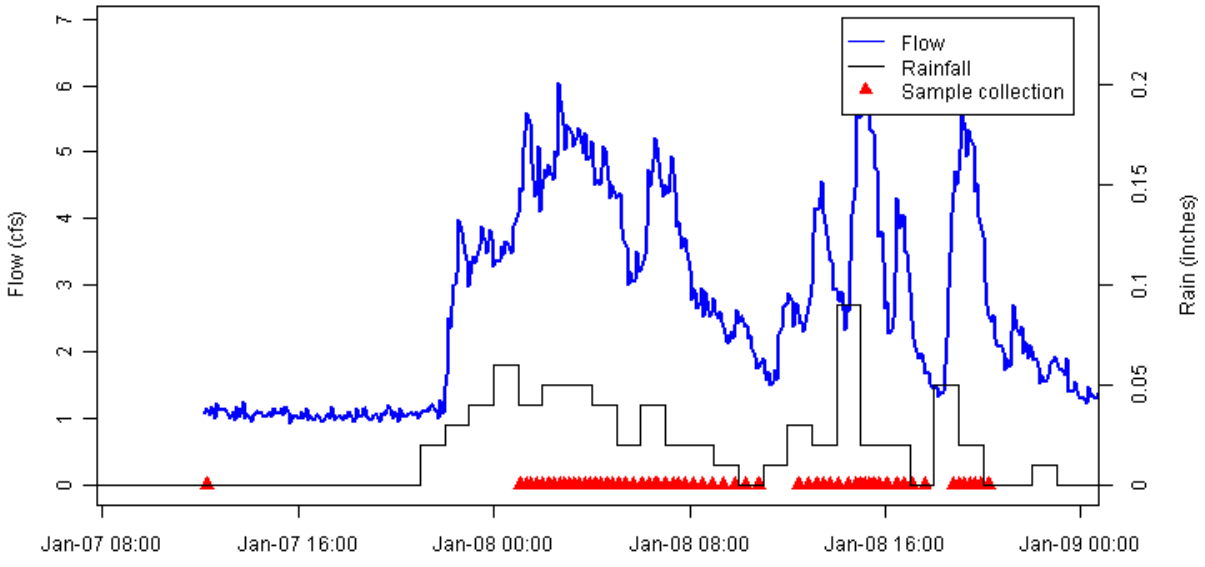


Figure 7B: S45U Event 5 Hydrograph

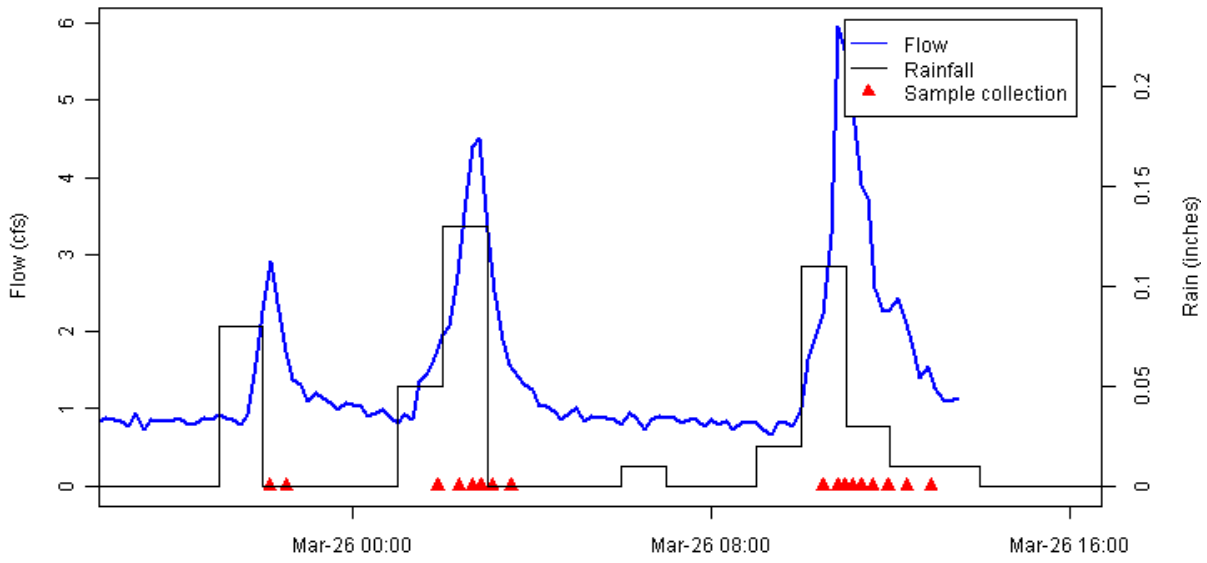


Figure 7C: S45U Event 6 Hydrograph

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Table 1: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location M1
FY 2007 - 08, Events 46 - 48

Daily Rain Report — All Times in Pacific Standard Time
Rain Data Collected by HYDRA - City of Portland
Data from gauge 111, NE Airport Way — Sample Aliquots Collected

Event 46	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
11/23/2007																									0.00
11/24/2007																									0.00
11/25/2007																									0.00
11/26/2007																	0.03	0.18	0.09	0.05					0.35
11/27/2007							0.01		0.04						0.01										0.06
Event 47																									
1/5/2008	0.01		0.02	0.05	0.04	0.06		0.01			0.02											0.01			0.22
1/6/2008			0.01	0.02					0.03	0.01								0.05	0.01	0.02	0.02	0.05		0.01	0.23
1/7/2008	0.01		0.03	0.01																			0.02	0.01	0.08
1/8/2008	0.04	0.07	0.05	0.05	0.02	0.04	0.03	0.02	0.01	0.02	0.01	0.01	0.06	0.09	0.12	0.08			0.01	0.03	0.03	0.01		0.01	0.81
1/9/2008																		0.02	0.02	0.05	0.04	0.06	0.01	0.05	0.25
Event 48																									
3/22/2008														0.01											0.01
3/23/2008					0.01	0.05	0.06	0.02	0.02	0.03	0.02	0.03	0.01	0.05											0.30
3/24/2008				0.01																					0.01
3/25/2008																		0.05				0.08	0.04	0.02	0.19
3/26/2008	0.01	0.14	0.09			0.01					0.15	0.05	0.01	0.01		0.01				0.01		0.03			0.52

Table 2: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location OF19
FY 2007 - 08, Events 7 - 9

Daily Rain Report — All Times in Pacific Standard Time
Rain Data Collected by HYDRA - City of Portland
Data from gauge 121, Yeon — Sample Aliquots Collected

Event 7	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
11/23/2007																									0.00
11/24/2007																									0.00
11/25/2007																									0.00
11/26/2007																	0.1	0.13	0.08	0.01					0.32
11/27/2007								0.01	0.01					0.01	0.02	0.01									0.06
Event 8																									
3/4/2008																									0.00
3/5/2008																									0.00
3/6/2008																									0.00
3/7/2008																		0.01			0.01	0.05	0.15	0.04	0.26
3/8/2008	0.13	0.05	0.01																						0.19
Event 9																									
3/22/2008														0.01											0.01
3/23/2008					0.01	0.05	0.06	0.02	0.02	0.03	0.02	0.03	0.01	0.05											0.3
3/24/2008				0.01																					0.01
3/25/2008																		0.05				0.08	0.04	0.02	0.19
3/26/2008	0.01	0.14	0.09			0.01					0.15	0.05	0.01	0.01		0.01				0.01		0.03			0.52

Table 3: HYDRA Rain Gauge Data
Land Use Stormwater Monitoring Location S45U
FY 2007 - 08, Events 4 - 6

Daily Rain Report — All Times in Pacific Standard Time
Rain Data Collected by HYDRA - City of Portland
Data from gauge 64, 2033 SE Harney St — Sample Aliquots Collected

Event 4	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
11/23/2007																									0.00
11/24/2007																									0.00
11/25/2007																									0.00
11/26/2007																	0.07	0.12	0.09	0.04					0.32
11/27/2007							0.07		0.01						0.01	0.03				0.01					0.13
Event 5																									
1/4/2008							0.02	0.06	0.06								0.01			0.01	0.05	0.03	0.08	0.01	0.33
1/5/2008	0.01		0.09	0.02	0.04	0.06	0.01	0.02			0.03	0.02													0.30
1/6/2008			0.03	0.01				0.01	0.02								0.01	0.02	0.01	0.02	0.01	0.03	0.01		0.18
1/7/2008			0.01																			0.02	0.03	0.04	0.10
1/8/2008	0.06	0.04	0.05	0.05	0.04	0.02	0.04	0.02	0.02	0.01		0.01	0.03	0.02	0.09	0.02	0.02		0.05	0.02			0.01		0.62
1/9/2008																		0.02	0.03	0.03	0.02	0.03	0.03	0.05	0.21
Event 6																									
3/22/2008																									0.00
3/23/2008							0.03	0.05	0.03	0.04	0.03	0.02	0.01	0.02	0.02	0.03									0.28
3/24/2008				0.01																					0.01
3/25/2008																						0.08			0.08
3/26/2008		0.05	0.13				0.01			0.02	0.11	0.03	0.01	0.01											0.37

TABLE 4
DRY PERIOD AND RAINFALL SUMMARY
NPDES Land Use Stormwater Monitoring, FY 2007-2008

Monitoring Location	Event	Sample Date(s)	Sample Collection Time	Antecedent Dry Period (hours)[a]	Antecedent Rainfall Totals			Predicted Rainfall Total[b]	Actual Rainfall Totals	Storm Intensity	Total Rainfall During Sample Collection	Total Aliquots Collected
					72-Hour	24-Hour	6-Hour					
M1	46	11/26/2007	17:27 - 19:23	> 72	0	0	0	0.23 - 0.35 +	0.35	moderate, distinct peak	0.35	10
	47	1/8/2008	00:07 - 20:56	26	0.53	0.08	0.03	0.52 - 0.73 +	0.89	moderate pulses	0.79	40
	48	3/25 - 26/2008	13:25 - 03:35	50	0.32	0	0	0.32 - 0.44 0.17 - 0.28 +	0.47	moderate, intermittent	0.43	17
	n/a	3/28/2008	8:49	14	0.27	0.16	0.06	0.35 - 0.52 +	0.3	moderate, distinct peak	n/a	grab
OF19	7	11/26/2007	16:54 - 19:33	> 72	0	0	0	0.23 - 0.35 +	0.32	moderate, distinct peak	0.32	24
	8	3/7 - 8/2008	22:07 - 05:16	> 72	0.02	0.02	0.02	0.12 - 0.18 +	0.44	moderate, 2 pulses	0.44	17
	n/a	3/13/2008	7:20	3	0.73	0.55	0.31	0.33 - 0.51 +	0.71	light-moderate, intermittent	n/a	grab
	9	3/25 - 26/2008	17:33 - 05:41	55	0.32	0	0	0.05 - 0.11 0.32 - 0.44	0.43	moderate, intermittent	0.43	24
	n/a	3/28/2008	8:07	25	0.82	0.07	0.07	0.37 - 0.56	0.31	moderate, distinct peak	n/a	grab
S45U	4	11/26/2007	17:07 - 20:33	> 72	0	0	0	0.23 - 0.35 +	0.32	moderate, distinct peak	0.32	30
	5	1/8/2008	01:02 - 20:11	24	0.58	0.1	0.09	0.52 - 0.73 +	0.71	moderate, steady	0.61[c]	57
	6	3/25 - 26/2008	22:09 - 12:54	59	0.29	0	0	0.05 - 0.11 0.32 - 0.44	0.47	light- moderate, intermittent	0.45	17

Notes:
All rainfall totals in inches. All rainfall data from City of Portland HYDRA network except as noted
[a] less than 0.10 inches of rain
[b] provided by Extended Range Forecasting (ERF), Inc. For delayed storms or storms lasting longer than one day, forecasts for each day are listed in chronological order.
[c] 8 aliquots missed at beginning due to delayed program, 6 aliquots missed due to completed program (i.e., all autosampler sample bottles full)

Table 5A: Analytical Summary, Conventional Parameters
Land Use Stormwater Monitoring Location M1
FY 2007-08, Events 46-48

Sample Type	Parameter	Units	Event 46 11/26/2007	Event 47 1/8/08	Event 48 3/25-26/2008
Grab	Conductivity (field)	µmhos/cm	27	180	47*
	E. coli	mpn/100 mℓ	340	140	680*
	Oil & Grease, Total	mg/ℓ	< 5	< 5	< 5*
	pH (field)	S.U.	6.8	6.3	6.8*
	Temperature	Deg. C	5.4	11.5	6.1*
Composite	Ammonia-Nitrogen	mg/ℓ	0.35	0.078	0.28
	Nitrate-Nitrogen	mg/ℓ	0.21	< 0.1	0.18
	Nitrite-Nitrogen	mg/ℓ	0.021	< 0.01	NA
	Orthophosphate-Phosphorus	mg/ℓ	0.061	< 0.02	< 0.02
	Total Dissolved Solids	mg/ℓ	31	15	33
	Total Phosphorus	mg/ℓ	0.16	0.22	1.44
	Total Solids	mg/ℓ	76	83	97
	Total Suspended Solids	mg/ℓ	45	60	84
	Hardness, Total	mg CaCO3/ℓ	15.4	11.9	25.1
	Arsenic	µg/ℓ	0.45	0.75	NA
	Cadmium	µg/ℓ	0.17	0.14	NA
	Chromium	µg/ℓ	2.59	3.33	6.59
	Copper	µg/ℓ	11.1	8.98	19.2
	Lead	µg/ℓ	6.34	7.98	15.2
	Mercury	µg/ℓ	0.01	0.0077	NA
	Nickel	µg/ℓ	2.05	2.27	NA
	Zinc	µg/ℓ	81.7	66.2	179
	Arsenic, Dissolved	µg/ℓ	0.22	0.14	NA
	Cadmium, Dissolved	µg/ℓ	< 0.1	< 0.1	NA
	Chromium, Dissolved	µg/ℓ	0.46	< 0.4	NA
	Copper, Dissolved	µg/ℓ	4.13	1.58	2.3
	Lead, Dissolved	µg/ℓ	0.26	< 0.1	0.13
	Mercury, Dissolved	µg/ℓ	0.003	< 0.001	NA
	Nickel, Dissolved	µg/ℓ	0.59	< 0.5	NA
	Zinc, Dissolved	µg/ℓ	37.8	16	23.3
	BOD	mg/ℓ	14	2	3

µmhos/cm = microsiemens per centimeter
NA = not analyzed, Columbia Slough Sediment Program analytes for first two events only
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
* = collected March 28, 2008
< value = less than method reporting limit

Table 5B: Analytical Summary
Land Use Stormwater Monitoring Location M1
FY 2007-08, Events 46-47*
PCB Aroclors, Pesticides, and PAHs + Phthalates

Analysis	Parameter	Event 4 11/26/07	Event 5 1/8/2008
PCBs (µg/ℓ)	Aroclor 1016/1242	NR	< 0.05
	Aroclor 1016	< 0.5	NR
	Aroclor 1221	< 1	< 0.1
	Aroclor 1232	< 0.5	< 0.05
	Aroclor 1242	< 0.5	NR
	Aroclor 1248	< 0.5	< 0.05
	Aroclor 1254	< 0.5	< 0.05
	Aroclor 1260	< 0.5	< 0.05
	Aroclor 1262	NR	< 0.05
	Aroclor 1268	NR	< 0.05
Pesticides (ng/ℓ)	4,4'-DDD	< 5	J 1.3
	4,4'-DDE	< 5	12
	4,4'-DDT	< 5.8	34
	Aldrin	< 5	< 2.5
	Alpha-BHC	< 5	< 2.5
	Alpha-Chlordane	< 5	< 2.5
	Beta-BHC	< 17	< 2.5
	Delta-BHC	< 5	< 2.5
	Dieldrin	< 5	8
	Endosulfan I	< 5	2.6
	Endosulfan II	< 5	< 2.5
	Endosulfan Sulfate	< 5	7.4
	Endrin	< 5	< 2.5
	Endrin Aldehyde	< 5	< 2.5
	Endrin Ketone	< 5	< 2.5
	Gamma-BHC(Lindane)	< 5	< 2.5
	Gamma-Chlordane	< 5	< 2.5
	Heptachlor	< 5	< 2.5
	Heptachlor Epoxide	< 5	< 2.5
	Methoxychlor	< 5	7.4
	Toxaphene	< 250	< 140
PAHs (µg/ℓ)	Acenaphthene	< 0.02	< 0.019
	Acenaphthylene	0.0378	< 0.019
	Anthracene	< 0.08	< 0.019
	Benzo(a)anthracene	< 0.04	0.0624
	Benzo(a)pyrene	0.0277	0.0741
	Benzo(b)fluoranthene	0.0364	0.0963
	Benzo(ghi)perylene	0.0574	0.0849
	Benzo(k)fluoranthene	0.0273	0.0617
	Bis(2-ethylhexyl) phthalate	1.89	JB 2.71
	Butyl benzyl phthalate	< 1	< 0.952
	Chrysene	0.0669	0.112
	Dibenzo(a,h)anthracene	< 0.01	0.0178
	Diethyl phthalate	< 1	< 0.952
	Dimethyl phthalate	< 1	< 0.952
	Di-n-butyl phthalate	< 1	< 0.952
	Di-n-octyl phthalate	< 1	< 0.952
	Fluoranthene	0.0119	0.254
	Fluorene	0.02	< 0.019
	Indeno(1,2,3-cd)pyrene	0.0227	0.0522
	Naphthalene	0.116	0.0213
	Phenanthrene	0.09	0.0964
	Pyrene	0.132	0.168

* = Columbia Slough Sediment Program parameters analyzed Event 46 & 47 only
µg/ℓ = micrograms per liter
ng/ℓ = nanograms per liter
NR = not reported
JB = analyte detected in method blank, sample concentration < 10x blank concentration
J = estimated concentration
< = less than method reporting limit

Table 6A: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2007-08, Events 7-9
Conventional Parameters

Sample Type	Parameter	Units	Event 7 11/27/07	Event 8 3/7/2008	Event 9 3/25/2008
Grab	Conductivity (field)	µmhos/cm	96	69*	62*
	E. coli	mpn/100 mℓ	3700	1700*	1800*
	Oil & Grease, Total	mg/ℓ	< 5	< 5*	< 5*
	pH (field)	S.U.	7.1	6.9*	7.1*
	Temperature	Deg. C	8.3	8.5*	4.1*
Composite	Ammonia-Nitrogen	mg/ℓ	0.28	0.12	0.11
	Nitrate-Nitrogen	mg/ℓ	0.24	0.46	0.69
	Orthophosphate-Phosphorus Dissolved	mg/ℓ	0.036	0.03	0.022
	Total Dissolved Solids	mg/ℓ	53	45	59
	Total Phosphorus	mg/ℓ	0.22	0.31	0.13
	Total Solids	mg/ℓ	123	117	93
	Total Suspended Solids	mg/ℓ	69	87	38
	Hardness, Total	mg CaCO3/ℓ	28.8	27.5	26.5
	Arsenic, Total	µg/ℓ	1.18	1.54	0.77
	Cadmium, Total	µg/ℓ	0.32	0.36	0.17
	Chromium, Total	µg/ℓ	5.01	5.98	2.88
	Copper, Total	µg/ℓ	18.2	21.8	10.6
	Lead, Total	µg/ℓ	13.3	18.4	11.3
	Silver, Total	µg/ℓ	< 0.1	< 0.1	< 0.1
	Zinc, Total	µg/ℓ	206	223	125
	Arsenic, Dissolved	µg/ℓ	0.41	0.46	0.41
	Cadmium, Dissolved	µg/ℓ	< 0.1	< 0.1	< 0.1
	Chromium, Dissolved	µg/ℓ	1.23	< 0.4	< 0.4
	Copper, Dissolved	µg/ℓ	5.64	3.96	2.61
	Lead, Dissolved	µg/ℓ	0.56	0.51	0.56
	Silver, Dissolved	µg/ℓ	< 0.1	< 0.1	< 0.1
	Zinc, Dissolved	µg/ℓ	84.6	77.2	67.3

* = sampled on March 13 and 28, 2008
µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< value = less than method reporting limit

Table 6B: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2007-08, Events 7-9
SVOCs and PAHs + Phthalates

Parameter	Event 7 11/27/07		Event 8 3/7/2008		Event 9 3/25/2008	
	8270C	8270-SIM	8270C	8270-SIM	8270C	8270-SIM
1,2,4-Trichlorobenzene	< 0.2		< 0.39		< 0.2	
1,2-Dichlorobenzene	< 0.2		< 0.39		< 0.2	
1,3-Dichlorobenzene	< 0.2		< 0.39		< 0.2	
1,4-Dichlorobenzene	< 0.2		< 0.39		< 0.2	
2,4,5-Trichlorophenol	< 0.49		< 0.98		< 0.49	
2,4,6-Trichlorophenol	< 0.49		< 0.98		< 0.49	
2,4-Dichlorophenol	< 0.49		< 0.98		< 0.49	
2,4-Dimethylphenol	< 3.9		< 7.8		< 3.9	
2,4-Dinitrophenol	< 3.9		< 7.8		< 3.9	
2,4-Dinitrotoluene	< 0.2		< 0.39		< 0.2	
2,6-Dinitrotoluene	< 0.2		< 0.39		< 0.2	
2-Chloronaphthalene	< 0.2		< 0.39		< 0.2	
2-Chlorophenol	< 0.49		< 0.98		< 0.49	
2-Methylnaphthalene	< 0.2		< 0.39		< 0.2	
2-Methylphenol	< 0.49		< 0.98		< 0.49	
2-Nitroaniline	< 0.2		< 0.39		< 0.2	
2-Nitrophenol	< 0.49		< 0.98		< 0.49	
3,3'-Dichlorobenzidine	< 2		< 3.9		< 2	
3-Nitroaniline	< 0.97		< 2		< 0.97	
4,6-Dinitro-2-methylphenol	< 2		< 3.9		< 2	
4-Bromophenylphenyl ether	< 0.2		< 0.39		< 0.2	
4-Chloro-3-methylphenol	< 0.49		< 0.98		< 0.49	
4-Chloroaniline	< 0.2		< 0.39		< 0.2	
4-Chlorophenylphenyl ether	< 0.2		< 0.39		< 0.2	
4-Methylphenol	< 0.49		< 0.98		< 0.49	
4-Nitroaniline	< 0.97		< 2		< 0.97	
4-Nitrophenol	< 2		< 3.9		< 2	
Acenaphthene	< 0.2	< 0.02	< 0.39	< 0.02	< 0.2	< 0.019
Acenaphthylene	< 0.2	0.0226	< 0.39	< 0.02	< 0.2	< 0.019
Anthracene	< 0.2	< 0.08	< 0.39	0.0513	< 0.2	< 0.019
Benzo(a)anthracene	< 0.2	0.0375	< 0.39	0.0594	< 0.2	0.0396
Benzo(a)pyrene	< 0.2	0.0414	< 0.39	0.0645	< 0.2	0.0507
Benzo(b)fluoranthene	< 0.2	0.0529	< 0.39	0.0931	< 0.2	0.0664
Benzo(g,h,i)perylene	< 0.2	0.0496	< 0.39	0.0848	< 0.2	0.0686
Benzo(k)fluoranthene	< 0.2	0.031	< 0.39	0.051	< 0.2	0.0474
Benzoic acid	< 4.9		< 9.8		< 4.9	
Benzyl alcohol	< 4.9		< 9.8		< 4.9	
Bis(2-chloroethoxy) methane	< 0.2		< 0.39		< 0.2	
Bis(2-chloroethyl) ether	< 0.2		< 0.39		< 0.2	
Bis(2-chloroisopropyl) ether	< 0.2		< 0.39		< 0.2	
Bis(2-ethylhexyl) phthalate	J 3.2	JH 173	JH 7.3	J 2.12	1.5	1.71
Butyl benzyl phthalate	0.96	< 20	JH 7	UJ 1	0.71	0.988
Chrysene	< 0.2	0.0673	< 0.39	0.103	< 0.2	0.0772
Dibenzo(a,h)anthracene	< 0.2	0.0108	< 0.39	0.0171	< 0.2	< 0.0286
Dibenzofuran	< 0.2		< 0.39		< 0.2	
Diethyl phthalate	< 0.2	< 1	< 0.39	< 1	< 0.2	< 0.952
Dimethyl phthalate	6.4	3.57	2.1	2.48	0.81	< 0.952
Di-n-butyl phthalate	UB 0.52	< 1	< 0.39	< 1	JB 0.32	< 0.952
Di-n-octyl phthalate	< 0.39	< 1	< 0.39	< 1	< 0.2	< 0.952
Fluoranthene	0.24	0.12	< 0.39	0.195	< 0.2	0.126
Fluorene	< 0.2	< 0.02	< 0.39	< 0.02	< 0.2	< 0.019
Hexachlorobenzene	< 0.2		< 0.39		< 0.2	
Hexachlorobutadiene	< 0.2		< 0.39		< 0.2	
Hexachlorocyclopentadiene	< 0.97		< 2		< 0.97	
Hexachloroethane	< 0.2		< 0.39		< 0.2	
Indeno(1,2,3-cd)pyrene	< 0.2	0.0282	< 0.39	0.0482	< 0.2	0.0389
Isophorone	< 0.2		< 0.39		< 0.2	
Naphthalene	< 0.2	< 0.08	< 0.39	0.0527	< 0.2	0.0555
Nitrobenzene	< 0.2		< 0.39		< 0.2	
N-Nitrosodi-n-propylamine	< 0.2		< 0.39		< 0.2	
N-Nitrosodiphenylamine	< 0.2		< 0.39		< 0.2	
Pentachlorophenol	< 0.97		< 2		< 0.97	
Phenanthrene	< 0.2	0.0995	< 0.39	0.0872	< 0.2	0.0516
Phenol	< 0.49		< 0.98		< 0.49	
Pyrene	0.3	0.153	< 0.39	JB 0.126	< 0.2	0.0646

all units in micrograms per liter (µg/ℓ)
NR = not reported
J = estimated concentration
JH = estimated concentration, probable high bias
JB = analyte detected in method blank, sample concentration < 10x blank concentration
UJ = estimated concentration
< = less than method detection limit

Table 7A: Analytical Summary, Conventional Parameters
Land Use Stormwater Monitoring Location S45U
FY 2007-08, Events 4-6

Sample Type	Parameter	Units	Event 4 11/26/2007	Event 5 1/8/2008	Event 6 3/26/2008
Grab	Conductivity (field)	µmhos/cm	65	101	22
	E. coli	mpn/100 mℓ	490	380	160
	Oil & Grease, Total	mg/ℓ	< 5	< 5	< 5
	pH (field)	S.U.	6.6	6	6.7
	Temperature	Deg. C	6.5	7.4	6.7
Composite	Ammonia-Nitrogen	mg/ℓ	0.36	0.041	0.22
	Nitrate-Nitrogen	mg/ℓ	1.6	2.4	2.4
	Orthophosphate-Phosphorus	mg/ℓ	0.076	0.036	0.039
	Total Dissolved Solids	mg/ℓ	61	80	91
	Total Phosphorus	mg/ℓ	0.21	0.18	0.35
	Total Solids	mg/ℓ	117	149	225
	Total Suspended Solids	mg/ℓ	52	70	132
	Hardness, Total	mg CaCO3/ℓ	28.1	42.4	44.7
	Chromium, Total	µg/ℓ	7.97	4.68	9.43
	Copper, Total	µg/ℓ	13.7	8.52	16.5
	Lead, Total	µg/ℓ	4.69	5.13	10.3
	Zinc, Total	µg/ℓ	126	86.5	147
	Copper, Dissolved	µg/ℓ	4.63	1.84	3.14
	Lead, Dissolved	µg/ℓ	0.22	0.14	0.14
	Zinc, Dissolved	µg/ℓ	82.9	44.5	52.7

µmhos/cm = microsiemens per centimeter
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< = less than method reporting limit

Table 7B: Analytical Summary
Land Use Stormwater Monitoring Location S45U
FY 2007-08, Events 4 - 6
PCB Aroclors, Pesticides, and PAHs

Analysis	Parameter	Event 4 11/26/07	Event 5 1/8/2008	Event 6 3/25/2008
PCBs (µg/ℓ)	Aroclor 1016/1242	NR	< 0.05	< 0.025
	Aroclor 1016	< 0.5	NR	NR
	Aroclor 1221	< 1	< 0.1	< 0.05
	Aroclor 1232	< 0.5	< 0.05	< 0.025
	Aroclor 1242	< 0.5	NR	NR
	Aroclor 1248	< 0.5	< 0.05	< 0.025
	Aroclor 1254	< 0.5	< 0.05	0.093
	Aroclor 1260	< 0.5	< 0.05	< 0.025
	Aroclor 1262	NR	< 0.05	< 0.025
	Aroclor 1268	NR	< 0.05	< 0.025
Pesticides (ng/ℓ)	4,4'-DDD	< 4.9	< 2.5	< 0.53
	4,4'-DDE	< 4.9	< 2.5	< 0.73
	4,4'-DDT	< 4.9	< 2.5	< 0.53
	Aldrin	< 4.9	< 2.5	< 1
	Alpha-BHC	< 4.9	< 2.5	< 0.53
	Alpha-Chlordane	< 4.9	< 2.5	< 0.53
	Beta-BHC	< 13	< 2.5	< 5.7
	Delta-BHC	< 4.9	< 2.5	< 4.2
	Dieldrin	< 4.9	< 2.5	< 0.53
	Endosulfan I	< 4.9	< 2.5	J 1
	Endosulfan II	< 4.9	< 2.5	< 0.53
	Endosulfan Sulfate	< 4.9	< 2.5	< 2.2
	Endrin	< 4.9	< 2.5	< 0.53
	Endrin Aldehyde	< 4.9	< 2.5	1.5
	Endrin Ketone	< 4.9	< 2.5	J 1.5
	Gamma-BHC(Lindane)	< 4.9	< 2.5	< 3.1
	Gamma-Chlordane	< 4.9	2.9	3.8
	Heptachlor	< 4.9	< 2.5	< 3.5
	Heptachlor Epoxide	< 4.9	J 3.9	< 0.72
	Methoxychlor	< 4.9	< 4.7	< 0.66
	Toxaphene	< 250	< 130	< 27
PAHs (µg/ℓ)	Acenaphthene	< 0.02	< 0.0194	< 0.02
	Acenaphthylene	0.0243	< 0.0194	< 0.02
	Anthracene	< 0.04	< 0.0194	< 0.02
	Benzo(a)anthracene	0.0132	0.0148	0.0292
	Benzo(a)pyrene	0.0128	0.00993	0.0318
	Benzo(b)fluoranthene	0.0127	0.0113	0.0337
	Benzo(ghi)perylene	< 0.02	< 0.0194	0.0307
	Benzo(k)fluoranthene	0.0114	< 0.00971	0.027
	Bis(2-ethylhexyl) phthalate	< 1	JB 1.19	1.09
	Butyl benzyl phthalate	2.44	1.54	2.29
	Chrysene	0.0222	0.0238	0.0378
	Dibenzo(a,h)anthracene	< 0.01	< 0.00971	0.0166
	Diethyl phthalate	< 1	< 0.971	< 1
	Dimethyl phthalate	< 1	< 0.971	< 1
	Di-n-butyl phthalate	< 1	< 0.971	< 1
	Di-n-octyl phthalate	< 1	< 0.971	< 1
	Fluoranthene	< 0.04	0.0396	0.122
	Fluorene	< 0.02	< 0.0194	< 0.02
	Indeno(1,2,3-cd)pyrene	< 0.01	< 0.00971	0.025
	Naphthalene	0.0618	< 0.0194	0.0593
	Phenanthrene	0.0479	0.0317	0.0623
	Pyrene	0.0523	0.0451	0.0504

µg/ℓ = micrograms per liter
ng/ℓ = nanograms per liter
NR = not reported
JB = analyte detected in method blank, sample concentration < 10x blank concentration
J = estimated concentration
< = less than method detection limit

ATTACHMENTS

OF 19 Pace Analytical Services PCB Congener Reports

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DETERMINATION OF PCB CONGENERS

Prepared for:
Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

ACCREDITED IN ACCORDANCE WITH nelac

This report contains 23 pages

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: PQK0981

REPORT OF LABORATORY ANALYSIS

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nelac

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REPORT OF: CHEMICAL ANALYSES

PROJECT: **PCB CONGENER ANALYSES**

DATE: December 21, 2007

ISSUED TO: Test America
Attn: Howard Holmes
9405 SW Nimbus Avenue
Beaverton, OR 97008

REPORT NO: 07-1064070

INTRODUCTION

This report presents the results from the analysis performed on one sample submitted by a representative of Test America. The sample was analyzed for the presence or absence of polychlorobiphenyl (PCB) congeners using USEPA Method 1668A.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
PQK0981-01	Water	11/30/07	1064070001

RESULTS

The results from the analyses are included in the following:

Appendix A - Documentation
Appendix B - Sample Analysis Results

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REPORT OF: CHEMICAL ANALYSES

PROJECT: PCB CONGENER ANALYSES **DATE:** December 21, 2007

 REPORT NO: 07-1064070

DISCUSSION

The recoveries of the isotopically labeled PCB internal standards in the sample extract ranged from 71-163%. With one exception, flagged "P" on the results table, the labeled standard recoveries obtained for the sample were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. Six internal standard recoveries for the method blank were below the target range for this method. With the one exception noted above, the sample recoveries were within the target range. None of the affected analytes were present within the reporting range for this project. The results show that the sample preparation procedures did not significantly impact the results of the sample analyses.

Laboratory spike samples were also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The results show that spiked native compounds were recovered at 90-115%, with relative percent differences of 0.0-17.0%. These results indicate high degrees of accuracy and precision for these determinations.

REMARKS

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

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APPENDIX A

REPORT OF LABORATORY ANALYSIS

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SUBCONTRACT ORDER

TestAmerica - Portland, OR

PQK0981

1064070

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PQK0981-01	**Water**		Sampled: **11/26/07 16:54**	
1668 Coplanar PCBs - SUB	ug/l	12/18/07	05/24/08 16:54	209 Congeners

Containers Supplied:
1L Amber - Unpres. (C)

001

F= 2.9°C

Released By — 11/29/07 — Date/Time
Received By — Dong Thao / Pace — 11/30/07 930 — Date/Time
Released By — Date/Time
Received By — Date/Time

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APPENDIX B

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID	BLANK-14979		
Filename	P71217B_10		
Injected By	SMT	Matrix	Water
Total Amount Extracted	1050 mL	Extracted	12/06/2007
ICAL Date	12/17/2007	Analyzed	12/17/2007 22:09
CCal Filename(s)	P71217B_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	6.063	1.04	2.0	0.00411	0	IP
13C-4-MoCB	3	8.711	3.19	2.0	0.0229	1	P
13C-2,2'-DiCB	4	8.999	1.54	2.0	0.0263	1	P
13C-4,4'-DiCB	15	16.787	1.61	2.0	0.339	17	P
13C-2,2',6-TrCB	19	13.121	1.09	2.0	0.111	6	P
13C-3,4,4'-TrCB	37	25.213	1.07	2.0	1.17	58	
13C-2,2',6,6'-TeCB	54	17.046	0.79	2.0	0.294	15	P
13C-3,4,4',5-TeCB	81	32.775	0.79	2.0	1.62	81	
13C-3,3',4,4'-TeCB	77	33.379	0.79	2.0	1.61	81	
13C-2,2',4,6,6'-PeCB	104	23.704	1.62	2.0	0.863	43	
13C-2,3,3',4,4'-PeCB	105	37.136	1.62	2.0	1.70	85	
13C-2,3,4,4',5-PeCB	114	36.448	1.62	2.0	1.65	83	
13C-2,3',4,4',5-PeCB	118	35.911	1.62	2.0	1.74	87	
13C-2,3',4,4',5'-PeCB	123	35.542	1.58	2.0	1.70	85	
13C-3,3',4,4',5-PeCB	126	40.489	1.58	2.0	1.73	87	
13C-2,2',4,4',6,6'-HxCB	155	30.193	1.28	2.0	1.16	58	
13C-HxCB (156/157)	156/157	43.642	1.27	4.0	3.36	84	
13C-2,3',4,4',5,5'-HxCB	167	42.451	1.27	2.0	1.69	85	
13C-3,3',4,4',5,5'-HxCB	169	47.113	1.33	2.0	1.50	75	
13C-2,2',3,4',5,6,6'-HpCB	188	36.414	1.06	2.0	1.71	86	
13C-2,3,3',4,4',5,5'-HpCB	189	49.712	1.04	2.0	1.85	92	
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.116	0.91	2.0	1.74	87	
13C-2,3,3',4,4',5,5',6-OcCB	205	52.384	0.90	2.0	1.76	88	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	54.152	0.78	2.0	1.69	85	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.130	0.79	2.0	1.71	86	
13C--DeCB	209	55.768	0.72	2.0	1.61	80	
Cleanup Standards							
13C-2,4,4'-TrCB	28	20.501	1.07	2.0	0.787	39	
13C-2,3,3',5,5'-PeCB	111	33.463	1.59	2.0	1.54	77	
13C-2,2',3,3',5,5',6-HpCB	178	39.701	1.03	2.0	1.54	77	
Recovery Standards							
13C-2,5-DiCB	9	11.695	1.61	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	22.681	0.80	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	30.478	1.63	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	39.198	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.867	0.92	2.0	NA	NA	

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1064070

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.477
2		---	---	ND	---	0.477
3		---	---	ND	---	0.477
4		---	---	ND	---	0.477
5		---	---	ND	---	0.477
6		---	---	ND	---	0.477
7		---	---	ND	---	0.477
8		---	---	ND	---	0.477
9		---	---	ND	---	0.477
10		---	---	ND	---	0.477
11		---	---	ND	---	0.572
12	12/13	---	---	ND	---	0.477
13	12/13	---	---	ND	---	0.477
14		---	---	ND	---	0.477
15		---	---	ND	---	0.477
16		---	---	ND	---	0.477
17		---	---	ND	---	0.477
18	18/30	---	---	ND	---	0.477
19		---	---	ND	---	0.477
20	20/28	---	---	ND	---	0.572
21	21/33	---	---	ND	---	0.477
22		---	---	ND	---	0.477
23		---	---	ND	---	0.477
24		---	---	ND	---	0.477
25		---	---	ND	---	0.477
26	26/29	---	---	ND	---	0.477
27		---	---	ND	---	0.477
28	20/28	---	---	ND	---	0.572
29	26/29	---	---	ND	---	0.477
30	18/30	---	---	ND	---	0.477
31		---	---	ND	---	0.477
32		---	---	ND	---	0.477
33	21/33	---	---	ND	---	0.477
34		---	---	ND	---	0.477
35		---	---	ND	---	0.477
36		---	---	ND	---	0.477
37		---	---	ND	---	0.477
38		---	---	ND	---	0.477
39		---	---	ND	---	0.477
40	40/41/71	---	---	ND	---	0.477
41	40/41/71	---	---	ND	---	0.477
42		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1064070

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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.477
44	44/47/65	---	---	ND	---	0.572
45	45/51	---	---	ND	---	0.477
46		---	---	ND	---	0.477
47	44/47/65	---	---	ND	---	0.572
48		---	---	ND	---	0.477
49	49/69	---	---	ND	---	0.477
50	50/53	---	---	ND	---	0.477
51	45/51	---	---	ND	---	0.477
52		---	---	ND	---	0.477
53	50/53	---	---	ND	---	0.477
54		---	---	ND	---	0.477
55		---	---	ND	---	0.477
56		---	---	ND	---	0.477
57		---	---	ND	---	0.477
58		---	---	ND	---	0.477
59	59/62/75	---	---	ND	---	0.477
60		---	---	ND	---	0.477
61	61/70/74/76	---	---	ND	---	0.477
62	59/62/75	---	---	ND	---	0.477
63		---	---	ND	---	0.477
64		---	---	ND	---	0.477
65	44/47/65	---	---	ND	---	0.572
66		---	---	ND	---	0.477
67		---	---	ND	---	0.477
68		---	---	ND	---	0.477
69	49/69	---	---	ND	---	0.477
70	61/70/74/76	---	---	ND	---	0.477
71	40/41/71	---	---	ND	---	0.477
72		---	---	ND	---	0.477
73		---	---	ND	---	0.477
74	61/70/74/76	---	---	ND	---	0.477
75	59/62/75	---	---	ND	---	0.477
76	61/70/74/76	---	---	ND	---	0.477
77		---	---	ND	---	0.477
78		---	---	ND	---	0.477
79		---	---	ND	---	0.477
80		---	---	ND	---	0.477
81		---	---	ND	---	0.477
82		---	---	ND	---	0.477
83		---	---	ND	---	0.477
84		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1064070

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.572
86	86/87/97/108/119/125	---	---	ND	---	0.954
87	86/87/97/108/119/125	---	---	ND	---	0.954
88	88/91	---	---	ND	---	0.477
89		---	---	ND	---	0.477
90	90/101/113	---	---	ND	---	0.477
91	88/91	---	---	ND	---	0.477
92		---	---	ND	---	0.477
93	93/98/100/102	---	---	ND	---	0.716
94		---	---	ND	---	0.477
95		---	---	ND	---	0.477
96		---	---	ND	---	0.477
97	86/87/97/108/119/125	---	---	ND	---	0.954
98	93/98/100/102	---	---	ND	---	0.716
99		---	---	ND	---	0.477
100	93/98/100/102	---	---	ND	---	0.716
101	90/101/113	---	---	ND	---	0.477
102	93/98/100/102	---	---	ND	---	0.716
103		---	---	ND	---	0.477
104		---	---	ND	---	0.477
105		---	---	ND	---	0.477
106		---	---	ND	---	0.477
107	107/124	---	---	ND	---	0.477
108	86/87/97/108/119/125	---	---	ND	---	0.954
109		---	---	ND	---	0.477
110	110/115	---	---	ND	---	0.477
111		---	---	ND	---	0.477
112		---	---	ND	---	0.477
113	90/101/113	---	---	ND	---	0.477
114		---	---	ND	---	0.477
115	110/115	---	---	ND	---	0.477
116	85/116/117	---	---	ND	---	0.572
117	85/116/117	---	---	ND	---	0.572
118		---	---	ND	---	0.477
119	86/87/97/108/119/125	---	---	ND	---	0.954
120		---	---	ND	---	0.477
121		---	---	ND	---	0.477
122		---	---	ND	---	0.477
123		---	---	ND	---	0.477
124	107/124	---	---	ND	---	0.477
125	86/87/97/108/119/125	---	---	ND	---	0.954
126		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
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NC = Not Calculated
*I = See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference

Report No.....1064070

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.477
128	128/166	---	---	ND	---	0.954
129	129/138/163	---	---	ND	---	0.477
130		---	---	ND	---	0.477
131		---	---	ND	---	0.477
132		---	---	ND	---	0.477
133		---	---	ND	---	0.477
134	134/143	---	---	ND	---	0.477
135	135/151	---	---	ND	---	0.487
136		---	---	ND	---	0.477
137		---	---	ND	---	0.477
138	129/138/163	---	---	ND	---	0.477
139	139/140	---	---	ND	---	0.477
140	139/140	---	---	ND	---	0.477
141		---	---	ND	---	0.477
142		---	---	ND	---	0.477
143	134/143	---	---	ND	---	0.477
144		---	---	ND	---	0.477
145		---	---	ND	---	0.477
146		---	---	ND	---	0.477
147	147/149	---	---	ND	---	0.477
148		---	---	ND	---	0.477
149	147/149	---	---	ND	---	0.477
150		---	---	ND	---	0.477
151	135/151	---	---	ND	---	0.487
152		---	---	ND	---	0.477
153	153/168	---	---	ND	---	0.572
154		---	---	ND	---	0.477
155		---	---	ND	---	0.477
156	156/157	---	---	ND	---	0.477
157	156/157	---	---	ND	---	0.477
158		---	---	ND	---	0.477
159		---	---	ND	---	0.477
160		---	---	ND	---	0.477
161		---	---	ND	---	0.477
162		---	---	ND	---	0.477
163	129/138/163	---	---	ND	---	0.477
164		---	---	ND	---	0.477
165		---	---	ND	---	0.477
166	128/166	---	---	ND	---	0.954
167		---	---	ND	---	0.477
168	153/168	---	---	ND	---	0.572

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl Blank Analysis Results

Lab Sample ID BLANK-14979
Filename P71217B_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.477
170		---	---	ND	---	0.477
171	171/173	---	---	ND	---	0.477
172		---	---	ND	---	0.477
173	171/173	---	---	ND	---	0.477
174		---	---	ND	---	0.477
175		---	---	ND	---	0.477
176		---	---	ND	---	0.477
177		---	---	ND	---	0.477
178		---	---	ND	---	0.477
179		---	---	ND	---	0.477
180	180/193	---	---	ND	---	0.477
181		---	---	ND	---	0.477
182		---	---	ND	---	0.477
183	183/185	---	---	ND	---	0.477
184		---	---	ND	---	0.477
185	183/185	---	---	ND	---	0.477
186		---	---	ND	---	0.477
187		---	---	ND	---	0.477
188		---	---	ND	---	0.477
189		---	---	ND	---	0.477
190		---	---	ND	---	0.477
191		---	---	ND	---	0.477
192		---	---	ND	---	0.477
193	180/193	---	---	ND	---	0.477
194		---	---	ND	---	0.477
195		---	---	ND	---	0.477
196		---	---	ND	---	0.668
197	197/200	---	---	ND	---	2.39
198	198/199	---	---	ND	---	0.477
199	198/199	---	---	ND	---	0.477
200	197/200	---	---	ND	---	2.39
201		---	---	ND	---	0.477
202		---	---	ND	---	0.477
203		---	---	ND	---	0.477
204		---	---	ND	---	0.477
205		---	---	ND	---	0.477
206		---	---	ND	---	0.477
207		---	---	ND	---	0.477
208		---	---	ND	---	0.477
209		---	---	ND	---	0.477

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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Report No.....1064070

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-14979
Filename P71217B_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

Report No.....1064070

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Minneapolis, MN 55414

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PQK0981-01		
Lab Sample ID	1064070001		
Filename	P71220A_10		
Injected By	BAL		
Total Amount Extracted	1020 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/26/2007
ICAL Date	12/20/2007	Received	11/30/2007
CCal Filename(s)	P71220A_01	Extracted	12/06/2007
Method Blank ID	BLANK-14979	Analyzed	12/20/2007 17:39

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Internal Standards							
13C-2-MoCB	1	5.599	3.27	2.0	1.55	77	
13C-4-MoCB	3	8.020	3.29	2.0	1.60	80	
13C-2,2'-DiCB	4	8.283	1.61	2.0	2.18	109	
13C-4,4'-DiCB	15	15.892	1.54	2.0	1.78	89	
13C-2,2',6-TrCB	19	12.298	1.06	2.0	2.19	109	
13C-3,4,4'-TrCB	37	24.234	1.04	2.0	1.69	84	
13C-2,2',6,6'-TeCB	54	16.151	0.79	2.0	1.85	93	
13C-3,4,4',5-TeCB	81	31.780	0.77	2.0	1.80	90	
13C-3,3',4,4'-TeCB	77	32.383	0.77	2.0	1.74	87	
13C-2,2',4,6,6'-PeCB	104	22.758	1.60	2.0	2.11	105	
13C-2,3,3',4,4'-PeCB	105	36.123	1.59	2.0	1.64	82	
13C-2,3,4,4',5-PeCB	114	35.452	1.54	2.0	1.55	77	
13C-2,3',4,4',5-PeCB	118	34.916	1.54	2.0	1.69	85	
13C-2,3',4,4',5'-PeCB	123	34.563	1.58	2.0	1.68	84	
13C-3,3',4,4',5-PeCB	126	39.477	1.62	2.0	1.59	80	
13C-2,2',4,4',6,6'-HxCB	155	29.231	1.28	2.0	2.26	113	
13C-HxCB (156/157)	156/157	42.629	1.25	4.0	3.21	80	
13C-2,3',4,4',5,5'-HxCB	167	41.456	1.26	2.0	1.60	80	
13C-3,3',4,4',5,5'-HxCB	169	46.101	1.28	2.0	1.41	71	
13C-2,2',3,4',5,6,6'-HpCB	188	35.419	1.07	2.0	3.25	163	P
13C-2,3,3',4,4',5,5'-HpCB	189	48.709	1.03	2.0	1.96	98	
13C-2,2',3,3',5,5',6,6'-OcCB	202	41.120	0.92	2.0	2.75	137	
13C-2,3,3',4,4',5,5',6-OcCB	205	51.382	0.89	2.0	2.05	103	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.149	0.76	2.0	2.27	113	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	48.127	0.80	2.0	2.37	119	
13C--DeCB	209	54.766	0.71	2.0	2.41	121	
Cleanup Standards							
13C-2,4,4'-TrCB	28	19.572	1.02	2.0	1.62	81	
13C-2,3,3',5,5'-PeCB	111	32.501	1.62	2.0	1.99	99	
13C-2,2',3,3',5,5',6-HpCB	178	38.705	1.06	2.0	2.13	106	
Recovery Standards							
13C-2,5-DiCB	9	10.908	1.58	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	21.752	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	29.516	1.58	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	38.202	1.27	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	50.886	0.90	2.0	NA	NA	

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* = See Discussion
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Report No.....1064070

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Minneapolis, MN 55414

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Fax: 612- 607-6444

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0981-01
Lab Sample ID 1064070001
Filename P71220A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.489
2		---	---	ND	---	0.489
3		---	---	ND	---	0.489
4		---	---	ND	---	0.489
5		---	---	ND	---	0.489
6		---	---	ND	---	0.489
7		---	---	ND	---	0.489
8		---	---	ND	---	0.489
9		---	---	ND	---	0.489
10		---	---	ND	---	0.489
11		---	---	ND	---	0.587
12	12/13	---	---	ND	---	0.489
13	12/13	---	---	ND	---	0.489
14		---	---	ND	---	0.489
15		---	---	ND	---	0.489
16		---	---	ND	---	0.489
17		---	---	ND	---	0.489
18	18/30	---	---	ND	---	0.489
19		---	---	ND	---	0.489
20	20/28	---	---	ND	---	0.587
21	21/33	---	---	ND	---	0.489
22		---	---	ND	---	0.489
23		---	---	ND	---	0.489
24		---	---	ND	---	0.489
25		---	---	ND	---	0.489
26	26/29	---	---	ND	---	0.489
27		---	---	ND	---	0.489
28	20/28	---	---	ND	---	0.587
29	26/29	---	---	ND	---	0.489
30	18/30	---	---	ND	---	0.489
31		---	---	ND	---	0.489
32		---	---	ND	---	0.489
33	21/33	---	---	ND	---	0.489
34		---	---	ND	---	0.489
35		---	---	ND	---	0.489
36		---	---	ND	---	0.489
37		---	---	ND	---	0.489
38		---	---	ND	---	0.489
39		---	---	ND	---	0.489
40	40/41/71	---	---	ND	---	0.489
41	40/41/71	---	---	ND	---	0.489
42		---	---	ND	---	0.489

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PQK0981-01
Lab Sample ID 1064070001
Filename P71220A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
43		---	---	ND	---	0.489
44	44/47/65	---	---	ND	---	0.587
45	45/51	---	---	ND	---	0.489
46		---	---	ND	---	0.489
47	44/47/65	---	---	ND	---	0.587
48		---	---	ND	---	0.489
49	49/69	---	---	ND	---	0.489
50	50/53	---	---	ND	---	0.489
51	45/51	---	---	ND	---	0.489
52		21.769	0.76	0.524	---	0.489
53	50/53	---	---	ND	---	0.489
54		---	---	ND	---	0.489
55		---	---	ND	---	0.489
56		---	---	ND	---	0.489
57		---	---	ND	---	0.489
58		---	---	ND	---	0.489
59	59/62/75	---	---	ND	---	0.489
60		---	---	ND	---	0.489
61	61/70/74/76	27.235	0.77	0.761	---	0.489
62	59/62/75	---	---	ND	---	0.489
63		---	---	ND	---	0.489
64		---	---	ND	---	0.489
65	44/47/65	---	---	ND	---	0.587
66		---	---	ND	---	0.489
67		---	---	ND	---	0.489
68		---	---	ND	---	0.489
69	49/69	---	---	ND	---	0.489
70	61/70/74/76	27.235	0.77	(0.761)	---	0.489
71	40/41/71	---	---	ND	---	0.489
72		---	---	ND	---	0.489
73		---	---	ND	---	0.489
74	61/70/74/76	27.235	0.77	(0.761)	---	0.489
75	59/62/75	---	---	ND	---	0.489
76	61/70/74/76	27.235	0.77	(0.761)	---	0.489
77		---	---	ND	---	0.489
78		---	---	ND	---	0.489
79		---	---	ND	---	0.489
80		---	---	ND	---	0.489
81		---	---	ND	---	0.489
82		---	---	ND	---	0.489
83		---	---	ND	---	0.489
84		---	---	ND	---	0.489

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0981-01
Lab Sample ID 1064070001
Filename P71220A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
85	85/116/117	---	---	ND	---	0.587
86	86/87/97/108/119/125	---	---	ND	---	0.978
87	86/87/97/108/119/125	---	---	ND	---	0.978
88	88/91	---	---	ND	---	0.489
89		---	---	ND	---	0.489
90	90/101/113	29.533	1.58	0.948	---	0.489
91	88/91	---	---	ND	---	0.489
92		---	---	ND	---	0.489
93	93/98/100/102	---	---	ND	---	0.733
94		---	---	ND	---	0.489
95		26.212	1.57	0.651	---	0.489
96		---	---	ND	---	0.489
97	86/87/97/108/119/125	---	---	ND	---	0.978
98	93/98/100/102	---	---	ND	---	0.733
99		---	---	ND	---	0.489
100	93/98/100/102	---	---	ND	---	0.733
101	90/101/113	29.533	1.58	(0.948)	---	0.489
102	93/98/100/102	---	---	ND	---	0.733
103		---	---	ND	---	0.489
104		---	---	ND	---	0.489
105		---	---	ND	---	0.489
106		---	---	ND	---	0.489
107	107/124	---	---	ND	---	0.489
108	86/87/97/108/119/125	---	---	ND	---	0.978
109		---	---	ND	---	0.489
110	110/115	31.645	1.56	1.21	---	0.489
111		---	---	ND	---	0.489
112		---	---	ND	---	0.489
113	90/101/113	29.533	1.58	(0.948)	---	0.489
114		---	---	ND	---	0.489
115	110/115	31.645	1.56	(1.21)	---	0.489
116	85/116/117	---	---	ND	---	0.587
117	85/116/117	---	---	ND	---	0.587
118		34.949	1.50	0.832	---	0.489
119	86/87/97/108/119/125	---	---	ND	---	0.978
120		---	---	ND	---	0.489
121		---	---	ND	---	0.489
122		---	---	ND	---	0.489
123		---	---	ND	---	0.489
124	107/124	---	---	ND	---	0.489
125	86/87/97/108/119/125	---	---	ND	---	0.978
126		---	---	ND	---	0.489

Conc = Concentration
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EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1064070

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0981-01
Lab Sample ID 1064070001
Filename P71220A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
127		---	---	ND	---	0.489
128	128/166	---	---	ND	---	0.978
129	129/138/163	38.236	1.23	1.62	---	0.489
130		---	---	ND	---	0.489
131		---	---	ND	---	0.489
132		34.966	1.23	0.541	---	0.489
133		---	---	ND	---	0.489
134	134/143	---	---	ND	---	0.489
135	135/151	---	---	ND	---	0.499
136		---	---	ND	---	0.489
137		---	---	ND	---	0.489
138	129/138/163	38.236	1.23	(1.62)	---	0.489
139	139/140	---	---	ND	---	0.489
140	139/140	---	---	ND	---	0.489
141		---	---	ND	---	0.489
142		---	---	ND	---	0.489
143	134/143	---	---	ND	---	0.489
144		---	---	ND	---	0.489
145		---	---	ND	---	0.489
146		---	---	ND	---	0.489
147	147/149	33.658	1.26	1.09	---	0.489
148		---	---	ND	---	0.489
149	147/149	33.658	1.26	(1.09)	---	0.489
150		---	---	ND	---	0.489
151	135/151	---	---	ND	---	0.499
152		---	---	ND	---	0.489
153	153/168	36.961	1.26	1.30	---	0.587
154		---	---	ND	---	0.489
155		---	---	ND	---	0.489
156	156/157	---	---	ND	---	0.489
157	156/157	---	---	ND	---	0.489
158		---	---	ND	---	0.489
159		---	---	ND	---	0.489
160		---	---	ND	---	0.489
161		---	---	ND	---	0.489
162		---	---	ND	---	0.489
163	129/138/163	38.236	1.23	(1.62)	---	0.489
164		---	---	ND	---	0.489
165		---	---	ND	---	0.489
166	128/166	---	---	ND	---	0.978
167		---	---	ND	---	0.489
168	153/168	36.961	1.26	(1.30)	---	0.587

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
I = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1064070

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Pace Analytical™

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PQK0981-01
Lab Sample ID	1064070001
Filename	P71220A_10

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
169		---	---	ND	---	0.489
170		---	---	ND	---	0.489
171	171/173	---	---	ND	---	0.489
172		---	---	ND	---	0.489
173	171/173	---	---	ND	---	0.489
174		---	---	ND	---	0.489
175		---	---	ND	---	0.489
176		---	---	ND	---	0.489
177		---	---	ND	---	0.489
178		---	---	ND	---	0.489
179		---	---	ND	---	0.489
180	180/193	44.139	1.03	0.823	---	0.489
181		---	---	ND	---	0.489
182		---	---	ND	---	0.489
183	183/185	---	---	ND	---	0.489
184		---	---	ND	---	0.489
185	183/185	---	---	ND	---	0.489
186		---	---	ND	---	0.489
187		---	---	ND	---	0.489
188		---	---	ND	---	0.489
189		---	---	ND	---	0.489
190		---	---	ND	---	0.489
191		---	---	ND	---	0.489
192		---	---	ND	---	0.489
193	180/193	44.139	1.03	(0.823)	---	0.489
194		---	---	ND	---	0.489
195		---	---	ND	---	0.489
196		---	---	ND	---	0.684
197	197/200	---	---	ND	---	2.44
198	198/199	---	---	ND	---	0.489
199	198/199	---	---	ND	---	0.489
200	197/200	---	---	ND	---	2.44
201		---	---	ND	---	0.489
202		---	---	ND	---	0.489
203		---	---	ND	---	0.489
204		---	---	ND	---	0.489
205		---	---	ND	---	0.489
206		---	---	ND	---	0.489
207		---	---	ND	---	0.489
208		---	---	ND	---	0.489
209		---	---	ND	---	0.489

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

Report No.....1064070

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID PQK0981-01
Lab Sample ID 1064070001
Filename P71220A_10

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	1.29
Total Pentachloro Biphenyls	3.64
Total Hexachloro Biphenyls	4.56
Total Heptachloro Biphenyls	0.823
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	10.3

ND = Not Detected

Report No.....1064070

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCS-14980		
Filename	P71217B_07	Matrix	Water
Total Amount Extracted	1050 mL	Dilution	NA
ICAL Date	12/17/2007	Extracted	12/06/2007
CCal Filename(s)	P71217B_03	Analyzed	12/17/2007 18:58
Method Blank ID	BLANK-14979	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	1.07	107	2.0	1.19	59
3	1.0	1.07	107	2.0	1.13	57
4	1.0	1.03	103	2.0	1.23	62
15	1.0	1.05	105	2.0	1.35	67
19	1.0	1.01	101	2.0	1.27	63
37	1.0	1.08	108	2.0	1.68	84
54	1.0	1.03	103	2.0	1.27	63
81	1.0	1.03	103	2.0	1.93	96
77	1.0	1.05	105	2.0	1.89	95
104	1.0	0.984	98	2.0	1.41	70
105	1.0	1.04	104	2.0	1.95	98
114	1.0	1.05	105	2.0	1.89	95
118	1.0	1.15	115	2.0	2.02	101
123	1.0	0.988	99	2.0	1.99	100
126	1.0	0.973	97	2.0	2.04	102
155	1.0	1.00	100	2.0	1.46	73
156/157	2.0	2.06	103	4.0	3.86	96
167	1.0	1.11	111	2.0	1.94	97
169	1.0	0.966	97	2.0	1.79	90
188	1.0	0.995	99	2.0	1.96	98
189	1.0	1.07	107	2.0	2.10	105
202	1.0	1.05	105	2.0	1.95	97
205	1.0	0.928	93	2.0	2.02	101
206	1.0	0.972	97	2.0	1.96	98
208	1.0	1.01	101	2.0	1.95	97
209	1.0	0.921	92	2.0	1.85	92

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms

Report No.....1064070

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Client - Test America

Lab Sample ID	LCSD-14981		
Filename	P71217B_08	Matrix	Water
Total Amount Extracted	1050 mL	Dilution	NA
ICAL Date	12/17/2007	Extracted	12/06/2007
CCal Filename(s)	P71217B_03	Analyzed	12/17/2007 20:02
Method Blank ID	BLANK-14979	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	1.02	102	2.0	1.45	73
3	1.0	1.03	103	2.0	1.39	69
4	1.0	1.02	102	2.0	1.48	74
15	1.0	1.03	103	2.0	1.54	77
19	1.0	0.989	99	2.0	1.48	74
37	1.0	1.05	105	2.0	1.87	94
54	1.0	1.03	103	2.0	1.44	72
81	1.0	1.00	100	2.0	2.07	103
77	1.0	1.04	104	2.0	2.02	101
104	1.0	0.958	96	2.0	1.55	77
105	1.0	0.993	99	2.0	2.03	102
114	1.0	1.01	101	2.0	1.96	98
118	1.0	0.972	97	2.0	2.06	103
123	1.0	0.960	96	2.0	2.05	103
126	1.0	0.942	94	2.0	2.09	105
155	1.0	0.992	99	2.0	1.60	80
156/157	2.0	1.90	95	4.0	4.04	101
167	1.0	1.03	103	2.0	2.06	103
169	1.0	0.953	95	2.0	1.88	94
188	1.0	0.974	97	2.0	2.01	101
189	1.0	1.01	101	2.0	2.20	110
202	1.0	1.00	100	2.0	2.00	100
205	1.0	0.905	90	2.0	2.09	104
206	1.0	0.900	90	2.0	2.02	101
208	1.0	0.971	97	2.0	2.00	100
209	1.0	0.911	91	2.0	1.91	95

P = Recovery outside of method 1668A control limits
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
I = See Discussion
ng = Nanograms

Report No.....1064070

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Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A
Spike Recovery Relative Percent Difference (RPD) Results

Client

Spike 1 ID	LCS-14980	Spike 2 ID	LCSD-14981
Spike 1 Filename	P71217B_07	Spike 2 Filename	P71217B_08

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	107	102	4.8
4-MoCB	3	107	103	3.8
2,2'-DiCB	4	103	102	1.0
4,4'-DiCB	15	105	103	1.9
2,2',6-TrCB	19	101	99	2.0
3,4,4'-TrCB	37	108	105	2.8
2,2',6,6'-TeCB	54	103	103	0.0
3,3',4,4'-TeCB	77	105	104	1.0
3,4,4',5-TeCB	81	103	100	3.0
2,2',4,6,6'-PeCB	104	98	96	2.1
2,3,3',4,4'-PeCB	105	104	99	4.9
2,3,4,4',5-PeCB	114	105	101	3.9
2,3',4,4',5-PeCB	118	115	97	17.0
2,3',4,4',5'-PeCB	123	99	96	3.1
3,3',4,4',5-PeCB	126	97	94	3.1
2,2',4,4',6,6'-HxCB	155	100	99	1.0
HxCB (156/157)	156/157	103	95	8.1
2,3',4,4',5,5'-HxCB	167	111	103	7.5
3,3',4,4',5,5'-HxCB	169	97	95	2.1
2,2',3,4',5,6,6'-HpCB	188	99	97	2.0
2,3,3',4,4',5,5'-HpCB	189	107	101	5.8
2,2',3,3',5,5',6,6'-OcCB	202	105	100	4.9
2,3,3',4,4',5,5',6-OcCB	205	93	90	3.3
2,2',3,3',4,4',5,5',6-NoCB	206	97	90	7.5
2,2',3,3',4,5,5',6,6'-NoCB	208	101	97	4.0
Decachlorobiphenyl	209	92	91	1.1

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

Report No.....1064070

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Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Accounts Payable
Test America-Portland
PO Box 2912
Canton OH 44720

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

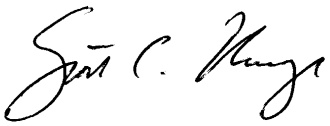
Pace Project #: 1070450
Sample Receipt Date: 03/28/2008
Client Project #: PRC0836
Client Sub PO #: N/A
State Cert #: N/A

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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Report Prepared Date:
April 17, 2008

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of the Test America. The samples were analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 ppt and were corrected for the amount of sample extracted.

The recoveries of the isotopically-labeled PCB internal standards in the sample extracts ranged from 33-85%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1668A. Also, since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 88-118%, with relative percent differences of 0.0-17.6%. These results indicate high degrees of accuracy and precision for these determinations.

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Appendix A

Sample Management

1130

SUBCONTRACT ORDER

TestAmerica Portland

PRC0836

1070450

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRC0836-01	**Water**		Sampled: **03/25/08 17:33**	1070450001 F0080442
1668 Coplanar PCBs - SUB	ug/l	04/08/08	09/21/08 17:33	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (C)				
Sample ID: PRC0836-02	**Water**		Sampled: **03/07/08 22:07**	F0080358 * 002
1668 Coplanar PCBs - SUB	ug/l	04/08/08	09/03/08 22:07	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (A)				

* This sample replaces the lost sample from TAP PRC0225

Released By	Date/Time	Received By	Date/Time
Jamie J. Hall	3/27/08 13:45	D.BRUSMY Pace	3/28/08@9:30 T=2.6
Released By	Date/Time	Received By	Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America Project # 1070450

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 1Z 1A6 68701 9291 2876

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other PAPER

Thermometer Used 230194010, 72310129 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.6 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: DB 3/28/08

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 03/28/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America-Portland

Client's Sample ID	PRC0836-01		
Lab Sample ID	1070450001		
Filename	P80404B_07		
Injected By	BAL		
Total Amount Extracted	1010 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/25/2008
ICAL ID	P80404B02	Received	03/28/2008
CCal Filename(s)	P80404B_01	Extracted	04/02/2008
Method Blank ID	BLANK-15949	Analyzed	04/04/2008 15:16

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.941	3.08	2.0	1.05	53
13C-4-MoCB	3	12.343	3.20	2.0	1.00	50
13C-2,2'-DiCB	4	12.703	1.63	2.0	0.953	48
13C-4,4'-DiCB	15	20.874	1.57	2.0	1.02	51
13C-2,2',6-TrCB	19	17.148	1.09	2.0	1.08	54
13C-3,4,4'-TrCB	37	29.225	1.05	2.0	1.56	78
13C-2,2',6,6'-TeCB	54	21.293	0.82	2.0	1.18	59
13C-3,4,4',5-TeCB	81	36.620	0.80	2.0	1.70	85
13C-3,3',4,4'-TeCB	77	37.207	0.80	2.0	1.64	82
13C-2,2',4,6,6'-PeCB	104	27.850	1.57	2.0	1.05	52
13C-2,3,3',4,4'-PeCB	105	40.880	1.61	2.0	1.60	80
13C-2,3,4,4',5-PeCB	114	40.226	1.60	2.0	1.46	73
13C-2,3',4,4',5-PeCB	118	39.689	1.61	2.0	1.66	83
13C-2,3',4,4',5'-PeCB	123	39.337	1.60	2.0	1.62	81
13C-3,3',4,4',5-PeCB	126	44.100	1.58	2.0	1.49	75
13C-2,2',4,4',6,6'-HxCB	155	34.189	1.31	2.0	1.02	51
13C-HxCB (156/157)	156/157	47.185	1.27	4.0	2.67	67
13C-2,3',4,4',5,5'-HxCB	167	46.028	1.29	2.0	1.35	68
13C-3,3',4,4',5,5'-HxCB	169	50.506	1.26	2.0	1.18	59
13C-2,2',3,4',5,6,6'-HpCB	188	40.226	1.08	2.0	1.63	81
13C-2,3,3',4,4',5,5'-HpCB	189	53.054	1.06	2.0	1.53	76
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.760	0.92	2.0	1.57	79
13C-2,3,3',4,4',5,5',6-OcCB	205	55.641	0.91	2.0	1.41	70
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.387	0.81	2.0	1.32	66
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.559	0.81	2.0	1.43	71
13C--DeCB	209	59.003	0.71	2.0	1.26	63
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.597	1.08	2.0	1.34	67
13C-2,3,3',5,5'-PeCB	111	37.291	1.63	2.0	1.33	66
13C-2,2',3,3',5,5',6-HpCB	178	43.379	1.08	2.0	1.07	54
Recovery Standards						
13C-2,5-DiCB	9	15.614	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.777	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.424	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.909	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.167	0.92	2.0	NA	NA

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-01
Lab Sample ID	1070450001
Filename	P80404B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		20.107	1.58	0.672	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.600
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.600
48		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-01
Lab Sample ID	1070450001
Filename	P80404B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	32.227	0.78	0.511	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.600
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	32.227	0.78	(0.511)	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	32.227	0.78	(0.511)	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	32.227	0.78	(0.511)	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500
85	85/116/117	---	---	ND	---	0.600
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	34.457	1.60	0.786	---	0.500
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		31.204	1.68	0.582	---	0.500
96		---	---	ND	---	0.500

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRC0836-01
Lab Sample ID 1070450001
Filename P80404B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.750
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	34.457	1.60	(0.786)	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.500
110	110/115	36.520	1.61	0.866	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	34.457	1.60	(0.786)	---	0.500
114		---	---	ND	---	0.500
115	110/115	36.520	1.61	(0.866)	---	0.500
116	85/116/117	---	---	ND	---	0.600
117	85/116/117	---	---	ND	---	0.600
118		39.706	1.59	0.589	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.500
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.00
129	129/138/163	42.943	1.29	1.50	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		39.790	1.21	0.530	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	---	---	ND	---	0.510
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	42.943	1.29	(1.50)	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-01
Lab Sample ID	1070450001
Filename	P80404B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	38.499	1.27	1.30	---	0.500
148		---	---	ND	---	0.500
149	147/149	38.499	1.27	(1.30)	---	0.500
150		---	---	ND	---	0.500
151	135/151	---	---	ND	---	0.510
152		---	---	ND	---	0.500
153	153/168	41.668	1.28	1.40	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	42.943	1.29	(1.50)	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.500
168	153/168	41.668	1.28	(1.40)	---	0.600
169		---	---	ND	---	0.500
170		---	---	ND	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		---	---	ND	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	48.627	1.03	1.01	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	---	---	ND	---	0.500
184		---	---	ND	---	0.500
185	183/185	---	---	ND	---	0.500
186		---	---	ND	---	0.500
187		44.351	1.05	0.508	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-01
Lab Sample ID	1070450001
Filename	P80404B_07

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.627	1.03	(1.01)	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0836-01
Lab Sample ID	1070450001
Filename	P80404B_07

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	0.672
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	0.511
Total Pentachloro Biphenyls	2.82
Total Hexachloro Biphenyls	4.73
Total Heptachloro Biphenyls	1.51
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	10.3

ND = Not Detected

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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America-Portland

Client's Sample ID	PRC0836-02		
Lab Sample ID	1070450002		
Filename	P80404B_08		
Injected By	BAL		
Total Amount Extracted	985 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/07/2008
ICAL ID	P80404B02	Received	03/28/2008
CCal Filename(s)	P80404B_01	Extracted	04/02/2008
Method Blank ID	BLANK-15949	Analyzed	04/04/2008 16:19

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.953	3.19	2.0	0.755	38
13C-4-MoCB	3	12.344	3.33	2.0	0.795	40
13C-2,2'-DiCB	4	12.703	1.64	2.0	0.662	33
13C-4,4'-DiCB	15	20.850	1.60	2.0	1.03	52
13C-2,2',6-TrCB	19	17.148	1.10	2.0	0.839	42
13C-3,4,4'-TrCB	37	29.225	1.08	2.0	1.24	62
13C-2,2',6,6'-TeCB	54	21.209	0.82	2.0	0.997	50
13C-3,4,4',5-TeCB	81	36.620	0.79	2.0	1.31	65
13C-3,3',4,4'-TeCB	77	37.207	0.80	2.0	1.27	63
13C-2,2',4,6,6'-PeCB	104	27.850	1.62	2.0	0.858	43
13C-2,3,3',4,4'-PeCB	105	40.897	1.59	2.0	1.24	62
13C-2,3,4,4',5-PeCB	114	40.226	1.61	2.0	1.15	57
13C-2,3',4,4',5-PeCB	118	39.689	1.61	2.0	1.32	66
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13C-3,3',4,4',5-PeCB	126	44.100	1.56	2.0	1.13	57
13C-2,2',4,4',6,6'-HxCB	155	34.172	1.29	2.0	0.847	42
13C-HxCB (156/157)	156/157	47.202	1.29	4.0	2.08	52
13C-2,3',4,4',5,5'-HxCB	167	46.028	1.29	2.0	1.07	54
13C-3,3',4,4',5,5'-HxCB	169	50.505	1.30	2.0	0.882	44
13C-2,2',3,4',5,6,6'-HpCB	188	40.226	1.07	2.0	1.39	69
13C-2,3,3',4,4',5,5'-HpCB	189	53.054	1.02	2.0	1.15	58
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.760	0.90	2.0	1.27	64
13C-2,3,3',4,4',5,5',6-OcCB	205	55.662	0.91	2.0	1.14	57
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.408	0.80	2.0	1.10	55
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.558	0.81	2.0	1.14	57
13C--DeCB	209	59.003	0.72	2.0	1.07	54
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.597	1.06	2.0	1.18	59
13C-2,3,3',5,5'-PeCB	111	37.291	1.61	2.0	1.11	56
13C-2,2',3,3',5,5',6-HpCB	178	43.379	1.06	2.0	0.898	45
Recovery Standards						
13C-2,5-DiCB	9	15.615	1.61	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.760	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.407	1.60	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.909	1.31	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.167	0.91	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-02
Lab Sample ID	1070450002
Filename	P80404B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		---	---	ND	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	24.630	1.01	0.604	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	24.630	1.01	(0.604)	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500
43		---	---	ND	---	0.500
44	44/47/65	27.917	0.81	1.22	---	0.600
45	45/51	---	---	ND	---	0.500
46		---	---	ND	---	0.500
47	44/47/65	27.917	0.81	(1.22)	---	0.600
48		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-02
Lab Sample ID	1070450002
Filename	P80404B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	27.364	0.80	0.716	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		26.794	0.79	2.90	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	32.177	0.78	3.22	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	27.917	0.81	(1.22)	---	0.600
66		32.529	0.79	0.913	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	27.364	0.80	(0.716)	---	0.500
70	61/70/74/76	32.177	0.78	(3.22)	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	32.177	0.78	(3.22)	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	32.177	0.78	(3.22)	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		36.838	1.59	0.598	---	0.500
83		---	---	ND	---	0.500
84		32.378	1.64	1.43	---	0.500
85	85/116/117	36.335	1.61	0.814	---	0.600
86	86/87/97/108/119/125	35.648	1.60	3.80	---	1.00
87	86/87/97/108/119/125	35.648	1.60	(3.80)	---	1.00
88	88/91	32.160	1.64	0.664	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	34.440	1.61	5.40	---	0.500
91	88/91	32.160	1.64	(0.664)	---	0.500
92		33.803	1.56	0.947	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		31.204	1.60	4.28	---	0.500
96		---	---	ND	---	0.500

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRC0836-02
Lab Sample ID 1070450002
Filename P80404B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	35.648	1.60	(3.80)	---	1.00
98	93/98/100/102	---	---	ND	---	0.750
99		35.061	1.61	1.93	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	34.440	1.61	(5.40)	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		40.913	1.56	2.06	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	35.648	1.60	(3.80)	---	1.00
109		---	---	ND	---	0.500
110	110/115	36.520	1.63	6.05	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	34.440	1.61	(5.40)	---	0.500
114		---	---	ND	---	0.500
115	110/115	36.520	1.63	(6.05)	---	0.500
116	85/116/117	36.335	1.61	(0.814)	---	0.600
117	85/116/117	36.335	1.61	(0.814)	---	0.600
118		39.706	1.56	4.64	---	0.500
119	86/87/97/108/119/125	35.648	1.60	(3.80)	---	1.00
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	35.648	1.60	(3.80)	---	1.00
126		---	---	ND	---	0.500
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.00
129	129/138/163	42.943	1.26	5.88	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		39.790	1.30	2.44	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	37.526	1.31	1.49	---	0.510
136		34.927	1.29	0.699	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	42.943	1.26	(5.88)	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		41.852	1.23	0.995	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500

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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-02
Lab Sample ID	1070450002
Filename	P80404B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.500
146		41.031	1.30	0.638	---	0.500
147	147/149	38.482	1.26	4.48	---	0.500
148		---	---	ND	---	0.500
149	147/149	38.482	1.26	(4.48)	---	0.500
150		---	---	ND	---	0.500
151	135/151	37.526	1.31	(1.49)	---	0.510
152		---	---	ND	---	0.500
153	153/168	41.668	1.27	4.24	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	47.202	1.28	0.807	---	0.500
157	156/157	47.202	1.28	(0.807)	---	0.500
158		43.345	1.28	0.593	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	42.943	1.26	(5.88)	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.500
168	153/168	41.668	1.27	(4.24)	---	0.600
169		---	---	ND	---	0.500
170		49.902	1.13	0.835	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		45.206	1.07	0.932	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	48.644	1.06	1.72	---	0.500
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	44.988	1.07	0.643	---	0.500
184		---	---	ND	---	0.500
185	183/185	44.988	1.07	(0.643)	---	0.500
186		---	---	ND	---	0.500
187		44.351	1.05	0.948	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRC0836-02
Lab Sample ID	1070450002
Filename	P80404B_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	48.644	1.06	(1.72)	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

Conc = Concentration
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Method 1668A Polychlorobiphenyl Sample Analysis Results

Client Sample ID	PRC0836-02
Lab Sample ID	1070450002
Filename	P80404B_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	0.604
Total Tetrachloro Biphenyls	8.98
Total Pentachloro Biphenyls	32.6
Total Hexachloro Biphenyls	22.3
Total Heptachloro Biphenyls	5.08
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	69.5

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-15949		
Filename	P80404B_06		
Injected By	BAL	Matrix	Water
Total Amount Extracted	1040 mL	Extracted	04/02/2008
ICAL ID	P80404B02	Analyzed	04/04/2008 14:14
CCal Filename(s)	P80404B_01	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	8.929	3.34	2.0	1.03	52
13C-4-MoCB	3	12.308	3.34	2.0	0.899	45
13C-2,2'-DiCB	4	12.679	1.65	2.0	0.970	48
13C-4,4'-DiCB	15	20.815	1.59	2.0	0.995	50
13C-2,2',6-TrCB	19	17.125	1.11	2.0	1.02	51
13C-3,4,4'-TrCB	37	29.210	1.04	2.0	1.16	58
13C-2,2',6,6'-TeCB	54	21.177	0.81	2.0	1.09	54
13C-3,4,4',5-TeCB	81	36.588	0.80	2.0	1.34	67
13C-3,3',4,4'-TeCB	77	37.175	0.80	2.0	1.28	64
13C-2,2',4,6,6'-PeCB	104	27.818	1.62	2.0	0.947	47
13C-2,3,3',4,4'-PeCB	105	40.848	1.60	2.0	1.27	64
13C-2,3,4,4',5-PeCB	114	40.194	1.58	2.0	1.17	59
13C-2,3',4,4',5-PeCB	118	39.641	1.58	2.0	1.31	65
13C-2,3',4,4',5'-PeCB	123	39.305	1.55	2.0	1.25	63
13C-3,3',4,4',5-PeCB	126	44.052	1.56	2.0	1.30	65
13C-2,2',4,4',6,6'-HxCB	155	34.140	1.30	2.0	0.883	44
13C-HxCB (156/157)	156/157	47.154	1.27	4.0	2.46	62
13C-2,3',4,4',5,5'-HxCB	167	45.980	1.26	2.0	1.15	57
13C-3,3',4,4',5,5'-HxCB	169	50.458	1.30	2.0	1.39	70
13C-2,2',3,4',5,6,6'-HpCB	188	40.194	1.06	2.0	0.879	44
13C-2,3,3',4,4',5,5'-HpCB	189	53.014	1.06	2.0	1.20	60
13C-2,2',3,3',5,5',6,6'-OcCB	202	45.729	0.92	2.0	0.928	46
13C-2,3,3',4,4',5,5',6-OcCB	205	55.601	0.92	2.0	1.27	64
13C-2,2',3,3',4,4',5,5',6-NoCB	206	57.347	0.82	2.0	1.10	55
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	52.519	0.81	2.0	1.17	59
13C--DeCB	209	58.964	0.71	2.0	0.986	49
Cleanup Standards						
13C-2,4,4'-TrCB	28	24.581	1.05	2.0	1.17	58
13C-2,3,3',5,5'-PeCB	111	37.259	1.64	2.0	1.32	66
13C-2,2',3,3',5,5',6-HpCB	178	43.347	1.06	2.0	1.11	55
Recovery Standards						
13C-2,5-DiCB	9	15.591	1.59	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	26.728	0.79	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	34.375	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	42.878	1.30	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	55.127	0.93	2.0	NA	NA

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15949
Filename P80404B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.500
2		---	---	ND	---	0.500
3		---	---	ND	---	0.500
4		---	---	ND	---	0.500
5		---	---	ND	---	0.500
6		---	---	ND	---	0.500
7		---	---	ND	---	0.500
8		---	---	ND	---	0.500
9		---	---	ND	---	0.500
10		---	---	ND	---	0.500
11		---	---	ND	---	0.600
12	12/13	---	---	ND	---	0.500
13	12/13	---	---	ND	---	0.500
14		---	---	ND	---	0.500
15		---	---	ND	---	0.500
16		---	---	ND	---	0.500
17		---	---	ND	---	0.500
18	18/30	---	---	ND	---	0.500
19		---	---	ND	---	0.500
20	20/28	---	---	ND	---	0.600
21	21/33	---	---	ND	---	0.500
22		---	---	ND	---	0.500
23		---	---	ND	---	0.500
24		---	---	ND	---	0.500
25		---	---	ND	---	0.500
26	26/29	---	---	ND	---	0.500
27		---	---	ND	---	0.500
28	20/28	---	---	ND	---	0.600
29	26/29	---	---	ND	---	0.500
30	18/30	---	---	ND	---	0.500
31		---	---	ND	---	0.500
32		---	---	ND	---	0.500
33	21/33	---	---	ND	---	0.500
34		---	---	ND	---	0.500
35		---	---	ND	---	0.500
36		---	---	ND	---	0.500
37		---	---	ND	---	0.500
38		---	---	ND	---	0.500
39		---	---	ND	---	0.500
40	40/41/71	---	---	ND	---	0.500
41	40/41/71	---	---	ND	---	0.500
42		---	---	ND	---	0.500
43		---	---	ND	---	0.500
44	44/47/65	---	---	ND	---	0.600
45	45/51	---	---	ND	---	0.500

Conc = Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
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NC = Not Calculated
*! = See Discussion
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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15949
Filename P80404B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.500
47	44/47/65	---	---	ND	---	0.600
48		---	---	ND	---	0.500
49	49/69	---	---	ND	---	0.500
50	50/53	---	---	ND	---	0.500
51	45/51	---	---	ND	---	0.500
52		---	---	ND	---	0.500
53	50/53	---	---	ND	---	0.500
54		---	---	ND	---	0.500
55		---	---	ND	---	0.500
56		---	---	ND	---	0.500
57		---	---	ND	---	0.500
58		---	---	ND	---	0.500
59	59/62/75	---	---	ND	---	0.500
60		---	---	ND	---	0.500
61	61/70/74/76	---	---	ND	---	0.500
62	59/62/75	---	---	ND	---	0.500
63		---	---	ND	---	0.500
64		---	---	ND	---	0.500
65	44/47/65	---	---	ND	---	0.600
66		---	---	ND	---	0.500
67		---	---	ND	---	0.500
68		---	---	ND	---	0.500
69	49/69	---	---	ND	---	0.500
70	61/70/74/76	---	---	ND	---	0.500
71	40/41/71	---	---	ND	---	0.500
72		---	---	ND	---	0.500
73		---	---	ND	---	0.500
74	61/70/74/76	---	---	ND	---	0.500
75	59/62/75	---	---	ND	---	0.500
76	61/70/74/76	---	---	ND	---	0.500
77		---	---	ND	---	0.500
78		---	---	ND	---	0.500
79		---	---	ND	---	0.500
80		---	---	ND	---	0.500
81		---	---	ND	---	0.500
82		---	---	ND	---	0.500
83		---	---	ND	---	0.500
84		---	---	ND	---	0.500
85	85/116/117	---	---	ND	---	0.600
86	86/87/97/108/119/125	---	---	ND	---	1.00
87	86/87/97/108/119/125	---	---	ND	---	1.00
88	88/91	---	---	ND	---	0.500
89		---	---	ND	---	0.500
90	90/101/113	---	---	ND	---	0.500

Conc = Concentration
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15949
Filename P80404B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.500
92		---	---	ND	---	0.500
93	93/98/100/102	---	---	ND	---	0.750
94		---	---	ND	---	0.500
95		---	---	ND	---	0.500
96		---	---	ND	---	0.500
97	86/87/97/108/119/125	---	---	ND	---	1.00
98	93/98/100/102	---	---	ND	---	0.750
99		---	---	ND	---	0.500
100	93/98/100/102	---	---	ND	---	0.750
101	90/101/113	---	---	ND	---	0.500
102	93/98/100/102	---	---	ND	---	0.750
103		---	---	ND	---	0.500
104		---	---	ND	---	0.500
105		---	---	ND	---	0.500
106		---	---	ND	---	0.500
107	107/124	---	---	ND	---	0.500
108	86/87/97/108/119/125	---	---	ND	---	1.00
109		---	---	ND	---	0.500
110	110/115	---	---	ND	---	0.500
111		---	---	ND	---	0.500
112		---	---	ND	---	0.500
113	90/101/113	---	---	ND	---	0.500
114		---	---	ND	---	0.500
115	110/115	---	---	ND	---	0.500
116	85/116/117	---	---	ND	---	0.600
117	85/116/117	---	---	ND	---	0.600
118		---	---	ND	---	0.500
119	86/87/97/108/119/125	---	---	ND	---	1.00
120		---	---	ND	---	0.500
121		---	---	ND	---	0.500
122		---	---	ND	---	0.500
123		---	---	ND	---	0.500
124	107/124	---	---	ND	---	0.500
125	86/87/97/108/119/125	---	---	ND	---	1.00
126		---	---	ND	---	0.500
127		---	---	ND	---	0.500
128	128/166	---	---	ND	---	1.00
129	129/138/163	---	---	ND	---	0.500
130		---	---	ND	---	0.500
131		---	---	ND	---	0.500
132		---	---	ND	---	0.500
133		---	---	ND	---	0.500
134	134/143	---	---	ND	---	0.500
135	135/151	---	---	ND	---	0.510

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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15949
Filename P80404B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.500
137		---	---	ND	---	0.500
138	129/138/163	---	---	ND	---	0.500
139	139/140	---	---	ND	---	0.500
140	139/140	---	---	ND	---	0.500
141		---	---	ND	---	0.500
142		---	---	ND	---	0.500
143	134/143	---	---	ND	---	0.500
144		---	---	ND	---	0.500
145		---	---	ND	---	0.500
146		---	---	ND	---	0.500
147	147/149	---	---	ND	---	0.500
148		---	---	ND	---	0.500
149	147/149	---	---	ND	---	0.500
150		---	---	ND	---	0.500
151	135/151	---	---	ND	---	0.510
152		---	---	ND	---	0.500
153	153/168	---	---	ND	---	0.600
154		---	---	ND	---	0.500
155		---	---	ND	---	0.500
156	156/157	---	---	ND	---	0.500
157	156/157	---	---	ND	---	0.500
158		---	---	ND	---	0.500
159		---	---	ND	---	0.500
160		---	---	ND	---	0.500
161		---	---	ND	---	0.500
162		---	---	ND	---	0.500
163	129/138/163	---	---	ND	---	0.500
164		---	---	ND	---	0.500
165		---	---	ND	---	0.500
166	128/166	---	---	ND	---	1.00
167		---	---	ND	---	0.500
168	153/168	---	---	ND	---	0.600
169		---	---	ND	---	0.500
170		---	---	ND	---	0.500
171	171/173	---	---	ND	---	0.500
172		---	---	ND	---	0.500
173	171/173	---	---	ND	---	0.500
174		---	---	ND	---	0.500
175		---	---	ND	---	0.500
176		---	---	ND	---	0.500
177		---	---	ND	---	0.500
178		---	---	ND	---	0.500
179		---	---	ND	---	0.500
180	180/193	---	---	ND	---	0.500

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
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B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-15949
Filename P80404B_06

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.500
182		---	---	ND	---	0.500
183	183/185	---	---	ND	---	0.500
184		---	---	ND	---	0.500
185	183/185	---	---	ND	---	0.500
186		---	---	ND	---	0.500
187		---	---	ND	---	0.500
188		---	---	ND	---	0.500
189		---	---	ND	---	0.500
190		---	---	ND	---	0.500
191		---	---	ND	---	0.500
192		---	---	ND	---	0.500
193	180/193	---	---	ND	---	0.500
194		---	---	ND	---	0.500
195		---	---	ND	---	0.500
196		---	---	ND	---	0.700
197	197/200	---	---	ND	---	2.50
198	198/199	---	---	ND	---	0.500
199	198/199	---	---	ND	---	0.500
200	197/200	---	---	ND	---	2.50
201		---	---	ND	---	0.500
202		---	---	ND	---	0.500
203		---	---	ND	---	0.500
204		---	---	ND	---	0.500
205		---	---	ND	---	0.500
206		---	---	ND	---	0.500
207		---	---	ND	---	0.500
208		---	---	ND	---	0.500
209		---	---	ND	---	0.500

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID
Lab Sample ID BLANK-15949
Filename P80404B_06

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-15950		
Filename	P80404B_03	Matrix	Water
Total Amount Extracted	1030 mL	Dilution	NA
ICAL ID	P80404B02	Extracted	04/02/2008
CCal Filename(s)	P80404B_01	Analyzed	04/04/2008 11:07
Method Blank ID	BLANK-15949	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.00	100	2.0	1.24	62
3	1.0	1.03	103	2.0	1.00	50
4	1.0	1.10	110	2.0	1.01	50
15	1.0	0.883	88	2.0	1.06	53
19	1.0	1.06	106	2.0	1.07	53
37	1.0	1.01	101	2.0	1.52	76
54	1.0	1.09	109	2.0	1.40	70
81	1.0	1.06	106	2.0	1.81	90
77	1.0	1.10	110	2.0	1.80	90
104	1.0	1.10	110	2.0	1.04	52
105	1.0	1.02	102	2.0	1.74	87
114	1.0	1.05	105	2.0	1.58	79
118	1.0	1.00	100	2.0	1.95	97
123	1.0	1.05	105	2.0	1.79	89
126	1.0	1.02	102	2.0	1.74	87
155	1.0	1.17	117	2.0	1.04	52
156/157	2.0	2.04	102	4.0	2.98	74
167	1.0	1.08	108	2.0	1.41	71
169	1.0	1.09	109	2.0	1.41	71
188	1.0	1.09	109	2.0	1.33	67
189	1.0	1.16	116	2.0	1.56	78
202	1.0	1.17	117	2.0	1.38	69
205	1.0	1.12	112	2.0	1.47	74
206	1.0	1.18	118	2.0	1.27	63
208	1.0	1.16	116	2.0	1.37	69
209	1.0	1.15	115	2.0	1.11	56

P = Recovery outside of method 1668A control limits
ND = Not Detected
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ng = Nanograms

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-15951		
Filename	P80404B_04	Matrix	Water
Total Amount Extracted	1040 mL	Dilution	NA
ICAL ID	P80404B02	Extracted	04/02/2008
CCal Filename(s)	P80404B_01	Analyzed	04/04/2008 12:08
Method Blank ID	BLANK-15949	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.948	95	2.0	1.06	53
3	1.0	0.990	99	2.0	0.900	45
4	1.0	1.03	103	2.0	0.952	48
15	1.0	1.05	105	2.0	1.07	53
19	1.0	1.03	103	2.0	1.01	50
37	1.0	1.02	102	2.0	1.34	67
54	1.0	1.07	107	2.0	1.07	53
81	1.0	1.03	103	2.0	1.61	80
77	1.0	1.07	107	2.0	1.59	80
104	1.0	1.09	109	2.0	0.969	48
105	1.0	0.995	100	2.0	1.56	78
114	1.0	1.04	104	2.0	1.41	70
118	1.0	1.00	100	2.0	1.56	78
123	1.0	0.996	100	2.0	1.47	74
126	1.0	1.02	102	2.0	1.58	79
155	1.0	1.11	111	2.0	0.898	45
156/157	2.0	2.01	101	4.0	2.76	69
167	1.0	1.09	109	2.0	1.32	66
169	1.0	1.09	109	2.0	1.32	66
188	1.0	1.08	108	2.0	1.23	62
189	1.0	1.13	113	2.0	1.47	73
202	1.0	1.17	117	2.0	1.30	65
205	1.0	1.08	108	2.0	1.36	68
206	1.0	1.16	116	2.0	1.17	59
208	1.0	1.16	116	2.0	1.29	64
209	1.0	1.14	114	2.0	1.07	54

P = Recovery outside of method 1668A control limits
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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America-Portland		
Spike 1 ID	LCS-15950	Spike 2 ID	LCSD-15951
Spike 1 Filename	P80404B_03	Spike 2 Filename	P80404B_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	100	95	5.1
4-MoCB	3	103	99	4.0
2,2'-DiCB	4	110	103	6.6
4,4'-DiCB	15	88	105	17.6
2,2',6-TrCB	19	106	103	2.9
3,4,4'-TrCB	37	101	102	1.0
2,2',6,6'-TeCB	54	109	107	1.9
3,3',4,4'-TeCB	77	110	107	2.8
3,4,4',5-TeCB	81	106	103	2.9
2,2',4,6,6'-PeCB	104	110	109	0.9
2,3,3',4,4'-PeCB	105	102	100	2.0
2,3,4,4',5-PeCB	114	105	104	1.0
2,3',4,4',5-PeCB	118	100	100	0.0
2,3',4,4',5'-PeCB	123	105	100	4.9
3,3',4,4',5-PeCB	126	102	102	0.0
2,2',4,4',6,6'-HxCB	155	117	111	5.3
(156/157)	156/157	102	101	1.0
2,3',4,4',5,5'-HxCB	167	108	109	0.9
3,3',4,4',5,5'-HxCB	169	109	109	0.0
2,2',3,4',5,6,6'-HpCB	188	109	108	0.9
2,3,3',4,4',5,5'-HpCB	189	116	113	2.6
2,2',3,3',5,5',6,6'-OcCB	202	117	117	0.0
2,3,3',4,4',5,5',6-OcCB	205	112	108	3.6
2,2',3,3',4,4',5,5',6-NoCB	206	118	116	1.7
2,2',3,3',4,5,5',6,6'-NoCB	208	116	116	0.0
Decachlorobiphenyl	209	115	114	0.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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Additional Documentation for Outfall 19 MS4 Monitoring, FY 2007 – 2008 (Events 1 – 3):

- **Trigger Volume Calculation Worksheets**
- **Daily Field Reports**
- **Composite Bottle Data Sheets**
- **WPCL and Contracting Laboratory Reports**

City of Portland
Environmental Services

DAILY FIELD REPORT

FY 07-08 EVENT 1

Project NDDES STORMWATER
Location OF 19
Subject PRE STORM SET UP -

Project No. 4010.001
Date 11/26/07
By DJH

BACKGROUND - DRY FOR 4 6+ DAYS NOW WITH SMALL FRONT FORECASTED FOR TONIGHT (0.2-0.3" TOTAL) BETWEEN 4-10 PM. MSS/JSM ARE PREPPING M1 + S45U WHILE DJH/WCR PREP OF 19.

1500 PST. DJH/WCR ARRIVE AT OF 19 TO SETUP FOR FIRST STORM OF FY 07-08.

FLOW METER - NO BATT ON METER. INSTALLED BATT AND RE-STARTED PROGRAM.
SAMPLER PACING = 2586 CF (0.3" STORM)

CURRENT LEVEL = 1.6", SET "LOW LEVEL SETPT" AT 1.9" AND DEADBAND AT 1.5" (1.5")

- LEVEL ON METER IS ACCURATE NO ADJUST.
- CALIBRATED SAMPLER. FOR 600 mL ALIQUOTS
- DECON TUBING: SOAP, TAP, NITRIC, ORGANICS SOAK, DI, UPDI
- FRESH BATTERY ON SAMPLER FOLLOWING DECON
- TURN SAMPLER, PROGRAM ON; "DISABLED"

1545 - OFFSITE

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ: FM
Location NE, SE, NW PDX
Subject FY07-08 Event 1

Project No. 4010.011
Date 11/26/2007, 11/27/07
By TJM, MJS

2049 Arrive @ OF19, rain; showers have ceased entirely, yet still ample elevated flow.
Collected grab sample @ 2054
pH = 7.4, temp = 8.3, cond = 96
Program is done, enabled @

1654	1712	1729	1747	1804	1824	1848	1912
1701	1718	1735	1752	1810	1832	1856	1921
1707	1724	1741	1758	1817	1841	1904	1937
Bottle # 1	2	3	4	5	6	7	8

2106 Restarted sampler on bottle 9.

11/27/07

0943 Arrive @ OF19 after ~0.35" of rain since setup yesterday afternoon. Uploaded FM, hydrograph looks excellent. Meter appears to have paced the sampler perfectly, accurately capturing peak flow. Sampler collected two aliquots in bottle 9 @ 2209 and on 11/27 @ 0917.

1009 Left site

1146 Arrive @ S450. Sampler has collected an additional 9 aliquots in bottles 8-10. Uploaded FM, hydrograph looks great! Meter paced sampler perfectly, capturing entire duration of storm. Recorded bottle 8-10 aliquot times.

1210 Left site

1247 Arrive @ M1, Sampler has not collected any additional aliquots since previous visit. A total of 10 aliquots were collected, insufficient volume for analysis.

Attachments

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.011 **Storm Event D:** 11/26/2007

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.3	0.0250	380	16552800	413820	0.15	62073	8	3	2586

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19 Field Sampling Crew MJS, JJM

Date 11/26/07 Time

Grab Sample Date and Time 11/26/07 2054

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	full, 3 triggers	
2		
3		
4		
5		
6		
7		
8		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	1654		11/26/07		
2	1701				
3	1707				
4	1712				
5	1718				
6	1724				
7	1729				
8	1735				
9	1741				
10	1747				
11	1752				
12	1758				

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
13	1804				
14	1810				
15	1817				
16	1824				
17	1832				
18	1841				
19	1848				
20	1856				
21	1904				
22	1912				
23	1921				
24	1933				

Comments Program complete on arrival

FIRST 24 TRIGGERS USED TO FORM COMP.

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19
Date 11/27/07
Grab Sample Date and Time _____

Field Sampling Crew MSS/JSM
Time _____

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
9	2 triggers, 2/3 full	
10		
11		
12		
13		
14		
15		
16		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
25	2209		11/26/07		
26	0917		11/27/07		
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					

Comments TRIGGERS 25+26, NOT USED IN COMP (POST-STORM BASE FLOW)

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/26/07
Page: 1 of 1
Collected By: JJM, MJS

Project Name: NPDES STORMWTR MON
File Number: 4010.001 Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease	General:	Micro: E. coli	Micro:	Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)	Field:
FO 071453 5241 NE 122ND AVE MANHOLE GRAB	M1G	11/26/07	1956	G	●	●		●			5.4	27	6.8	
FO 071454 SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	↓	1906	G	●	●		●			6.5	65	6.6	
FO 071455 4900 NW KITTRIDGE AVE (OF19)	OF19	11/26/07	2054	G	●	●		●			8.3	96	7.1	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McCann Time: 1030	Signature: Douglas J. Hutchinson Time: 1040	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 11/27/07	Printed Name: DOUGLAS J. HUTCHINSON Date: 11/27/07	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Douglas J. Hutchinson Time: 1030	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: DOUGLAS J. HUTCHINSON Date: 11/27/07	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/26/07

Page: 1 of 1

Collected By: JJM, MJS

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☑ Sample Time recorded in PST

Aliquots collected on 11/26/07 from 1654 - 1933

FO 071456

Requested Analyses

	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	General: TDS	General: TSS	General: Hardness	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Metals: Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nutrients: Nitrate-nitrogen	Nutrients: Orthophosphate phosphorus	Nutrients: Total Phosphorus	Outside: SVOCs, low-level	Outside: PAHs + Phthalates	Outside: PCB Congeners
1	4900 NW KITTRIDGE AVE (OF19)	OF19	11/26/07	1654	C	●	●	●	●	●	●	●	●	●	●	●	●	●
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan McLam	Signature:	Signature:	Signature:
Printed Name: Jordan McLam	Printed Name: Doug Hutchinson	Printed Name:	Printed Name:
Time: 1030	Time: 1030	Time:	Time:
Date: 11/27/07	Date: 11/27/07	Date:	Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature:	Signature:	Signature:	Signature:
Printed Name: Doug Hutchinson	Printed Name:	Printed Name:	Printed Name:
Time: 1030	Time:	Time:	Time:
Date: 11/27/07	Date:	Date:	Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071455** **Sample Collected:** 11/26/2007 20:54 **Sample Received:** 11/27/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AL11471
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	96	µmhos/cm	1	SM 2510 B	11/26/07
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	11/26/07
TEMPERATURE	8.3	Deg. C	0.1	SM 2550 B	11/26/07
MICROBIOLOGY					
E. COLI	3700	MPN/100 ml	10	COLILERT QT	11/27/07
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	12/13/07

End of Report for Sample ID: FO071455

Report Date: 03/05/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071456** **Sample Collected:** 11/26/2007 16:54 **Sample Received:** 11/27/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AL11472
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Comments:
QA/QC: Di-n-butyl phthalate was detected in the Method Blank for Semi-volatile Organics analysis. The amount reported in this sample may be due to laboratory contamination.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.28	mg/L	0.02	EPA 350.1	11/29/07
NITRATE-NITROGEN	0.24	mg/L	0.10	EPA 300.0	11/27/07
o-PHOSPHATE-PHOSPHORUS, DISS	0.036	mg/L	0.02	EPA 365.1	11/27/07
TOTAL DISSOLVED SOLIDS @180C	53	mg/L	5	SM 2540 C	11/28/07
TOTAL PHOSPHORUS	0.22	mg/L	0.03	EPA 365.4	11/29/07
TOTAL SOLIDS	123	mg/L	2	SM 2540 B	11/30/07
TOTAL SUSPENDED SOLIDS	69	mg/L	2	SM 2540 D	11/28/07
METALS					
HARDNESS, TOTAL	28.8	mg CaCO3/L	0.5	SM 2340 B CAL	11/28/07
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.41	µg/L	0.1	EPA 200.8	11/29/07
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/29/07
CHROMIUM, DISSOLVED	1.23	µg/L	0.4	EPA 200.8	11/29/07
COPPER, DISSOLVED	5.64	µg/L	0.2	EPA 200.8	11/29/07
LEAD, DISSOLVED	0.56	µg/L	0.1	EPA 200.8	11/29/07
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/29/07
ZINC, DISSOLVED	84.6	µg/L	0.5	EPA 200.8	11/29/07
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.18	µg/L	0.1	EPA 200.8	11/29/07
CADMIUM	0.32	µg/L	0.1	EPA 200.8	11/29/07
CHROMIUM	5.01	µg/L	0.4	EPA 200.8	11/29/07
COPPER	18.2	µg/L	0.2	EPA 200.8	11/29/07
LEAD	13.3	µg/L	0.1	EPA 200.8	11/29/07
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/29/07
ZINC	206	µg/L	0.5	EPA 200.8	11/29/07
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	12/06/07
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.020	µg/L	0.020	EPA 8270M-SIM	11/30/07
Acenaphthylene	0.0226	µg/L	0.020	EPA 8270M-SIM	11/30/07
Anthracene	<0.080	µg/L	0.080	EPA 8270M-SIM	11/30/07
Benzo(a)anthracene	0.0375	µg/L	0.010	EPA 8270M-SIM	11/30/07

Report Date: 03/05/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO071456** **Sample Collected:** 11/26/2007 16:54 **Sample Received:** 11/27/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL11472
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Comments:
QA/QC: Di-n-butyl phthalate was detected in the Method Blank for Semi-volatile Organics analysis. The amount reported in this sample may be due to laboratory contamination.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Benzo(a)pyrene	0.0414	µg/L	0.010	EPA 8270M-SIM	11/30/07
Benzo(b)fluoranthene	0.0529	µg/L	0.010	EPA 8270M-SIM	11/30/07
Benzo(ghi)perylene	0.0496	µg/L	0.020	EPA 8270M-SIM	11/30/07
Benzo(k)fluoranthene	0.0310	µg/L	0.010	EPA 8270M-SIM	11/30/07
Bis(2-ethylhexyl) phthalate	173	µg/L	20.0	EPA 8270M-SIM	11/30/07
Butyl benzyl phthalate	<20.0	µg/L	20.0	EPA 8270M-SIM	11/30/07
Chrysene	0.0673	µg/L	0.010	EPA 8270M-SIM	11/30/07
Dibenzo(a,h)anthracene	0.0108	µg/L	0.010	EPA 8270M-SIM	11/30/07
Diethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	11/30/07
Dimethyl phthalate	3.57	µg/L	1.00	EPA 8270M-SIM	11/30/07
Di-n-butyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	11/30/07
Di-n-octyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	11/30/07
Fluoranthene	0.120	µg/L	0.080	EPA 8270M-SIM	11/30/07
Fluorene	<0.020	µg/L	0.020	EPA 8270M-SIM	11/30/07
Indeno(1,2,3-cd)pyrene	0.0282	µg/L	0.010	EPA 8270M-SIM	11/30/07
Naphthalene	<0.080	µg/L	0.080	EPA 8270M-SIM	11/30/07
Phenanthrene	0.0995	µg/L	0.080	EPA 8270M-SIM	11/30/07
Pyrene	0.153	µg/L	0.020	EPA 8270M-SIM	11/30/07
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	12/03/07
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	12/03/07
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/03/07
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	12/03/07
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	12/03/07
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	12/03/07
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	12/03/07

Report Date: 03/05/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071456** **Sample Collected:** 11/26/2007 16:54 **Sample Received:** 11/27/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AL11472
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Comments:
QA/QC: Di-n-butyl phthalate was detected in the Method Blank for Semi-volatile Organics analysis. The amount reported in this sample may be due to laboratory contamination.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	12/03/07
3-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	12/03/07
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	12/03/07
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/03/07
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	12/03/07
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	12/03/07
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
4-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	12/03/07
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	12/03/07
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Anthracene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	12/03/07
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	12/03/07
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	12/03/07
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	12/03/07
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	12/03/07
Bis(2-ethylhexyl) phthalate	3.2	µg/L	0.97	EPA 8270	12/03/07
Butyl benzyl phthalate	0.96	µg/L	0.20	EPA 8270	12/03/07
Chrysene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	12/03/07
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	12/03/07
Dimethyl phthalate	6.4	µg/L	0.20	EPA 8270	12/03/07
Di-n-butyl phthalate	EST 0.52	µg/L	0.20	EPA 8270	12/03/07
Di-n-octyl phthalate	<0.39	µg/L	0.39	EPA 8270	12/03/07
Fluoranthene	0.24	µg/L	0.20	EPA 8270	12/03/07
Fluorene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07

Report Date: 03/05/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO071456** **Sample Collected:** 11/26/2007 16:54 **Sample Received:** 11/27/07 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AL11472
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/MJS

Comments:
QA/QC: Di-n-butyl phthalate was detected in the Method Blank for Semi-volatile Organics analysis. The amount reported in this sample may be due to laboratory contamination.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270	12/03/07
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	12/03/07
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Isophorone	<0.20	µg/L	0.20	EPA 8270	12/03/07
Naphthalene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	12/03/07
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	12/03/07
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	12/03/07
Pentachlorophenol	<0.97	µg/L	0.97	EPA 8270	12/03/07
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	12/03/07
Phenol	<0.49	µg/L	0.49	EPA 8270	12/03/07
Pyrene	0.30	µg/L	0.20	EPA 8270	12/03/07

End of Report for Sample ID: FO071456

Report Date: 03/05/08 **Validated By: Signature on File**

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

January 14, 2008 Analytical Report for Service Request No: K0711118

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: NPDES Stormwater Mon

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on November 28, 2007. For your reference, these analyses have been assigned our service request number K0711118.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711118
Project:	NPDES Stormwater Mon	**Date Collected:**	11/26/2007
Sample Matrix:	Water	**Date Received:**	11/28/2007

Organochlorine Pesticides

Sample Name:	F0071457	**Units:**	ng/L
Lab Code:	K0711118-002	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
beta-BHC	ND	Ui	17	10	12/03/07	12/18/07	KWG0713122	
gamma-BHC (Lindane)	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
delta-BHC	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Heptachlor	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Aldrin	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Heptachlor Epoxide	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
gamma-Chlordane†	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Endosulfan I	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
alpha-Chlordane	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Dieldrin	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDE	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Endrin	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Endosulfan II	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDD	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Endrin Aldehyde	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Endosulfan Sulfate	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDT	ND	Ui	5.8	10	12/03/07	12/18/07	KWG0713122	
Endrin Ketone	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Methoxychlor	ND	U	5.0	10	12/03/07	12/18/07	KWG0713122	
Toxaphene	ND	U	250	10	12/03/07	12/18/07	KWG0713122	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	47	16-111	12/18/07	Acceptable
Decachlorobiphenyl	73	14-145	12/18/07	Acceptable

Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: 11/26/2007
Date Received: 11/28/2007

Organochlorine Pesticides

Sample Name: F0071458
Lab Code: K0711118-003

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
beta-BHC	ND	Ui	13	10	12/03/07	12/18/07	KWG0713122	
gamma-BHC (Lindane)	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
delta-BHC	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Heptachlor	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Aldrin	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Heptachlor Epoxide	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
gamma-Chlordane†	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endosulfan I	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
alpha-Chlordane	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Dieldrin	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDE	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endrin	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endosulfan II	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDD	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endrin Aldehyde	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endosulfan Sulfate	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
4,4'-DDT	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Endrin Ketone	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Methoxychlor	ND	U	4.9	10	12/03/07	12/18/07	KWG0713122	
Toxaphene	ND	U	250	10	12/03/07	12/18/07	KWG0713122	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	92	16-111	12/18/07	Acceptable
Decachlorobiphenyl	90	14-145	12/18/07	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0711118
Project:	NPDES Stormwater Mon	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG0713122-9	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
beta-BHC	**0.59**		0.49	1	12/03/07	12/17/07	KWG0713122	
gamma-BHC (Lindane)	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
delta-BHC	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Heptachlor	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Aldrin	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Heptachlor Epoxide	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
gamma-Chlordane†	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Endosulfan I	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
alpha-Chlordane	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Dieldrin	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
4,4'-DDE	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Endrin	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Endosulfan II	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
4,4'-DDD	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Endrin Aldehyde	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Endosulfan Sulfate	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
4,4'-DDT	**3.2**	P	0.49	1	12/03/07	12/17/07	KWG0713122	
Endrin Ketone	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Methoxychlor	ND	U	0.49	1	12/03/07	12/17/07	KWG0713122	
Toxaphene	ND	U	25	1	12/03/07	12/17/07	KWG0713122	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	60	16-111	12/17/07	Acceptable
Decachlorobiphenyl	86	14-145	12/17/07	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: 11/26/2007
Date Received: 11/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071456
Lab Code: K0711118-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Phenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
2-Chlorophenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
1,3-Dichlorobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
1,4-Dichlorobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
1,2-Dichlorobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Benzyl Alcohol	ND	U	4.9	1	12/03/07	12/14/07	KWG0713135	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
2-Methylphenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
Hexachloroethane	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Methylphenol†	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
Nitrobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Isophorone	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
2-Nitrophenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
2,4-Dimethylphenol	ND	U	3.9	1	12/03/07	12/14/07	KWG0713135	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
2,4-Dichlorophenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
Benzoic Acid	ND	U	4.9	1	12/03/07	12/14/07	KWG0713135	
1,2,4-Trichlorobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Naphthalene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Chloroaniline	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Hexachlorobutadiene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Chloro-3-methylphenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
2-Methylnaphthalene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Hexachlorocyclopentadiene	ND	U	0.97	1	12/03/07	12/14/07	KWG0713135	
2,4,6-Trichlorophenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
2,4,5-Trichlorophenol	ND	U	0.49	1	12/03/07	12/14/07	KWG0713135	
2-Chloronaphthalene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
2-Nitroaniline	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Acenaphthylene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Dimethyl Phthalate	**6.4**		0.20	1	12/03/07	12/14/07	KWG0713135	
2,6-Dinitrotoluene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: 11/26/2007
Date Received: 11/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071456
Lab Code: K0711118-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
3-Nitroaniline	ND	U	0.97	1	12/03/07	12/14/07	KWG0713135	
2,4-Dinitrophenol	ND	U	3.9	1	12/03/07	12/14/07	KWG0713135	
Dibenzofuran	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Nitrophenol	ND	U	2.0	1	12/03/07	12/14/07	KWG0713135	
2,4-Dinitrotoluene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Fluorene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Diethyl Phthalate	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Nitroaniline	ND	U	0.97	1	12/03/07	12/14/07	KWG0713135	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/03/07	12/14/07	KWG0713135	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Hexachlorobenzene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Pentachlorophenol	ND	U	0.97	1	12/03/07	12/14/07	KWG0713135	
Phenanthrene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Anthracene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Di-n-butyl Phthalate	**0.52**	B	0.20	1	12/03/07	12/14/07	KWG0713135	
Fluoranthene	**0.24**		0.20	1	12/03/07	12/14/07	KWG0713135	
Pyrene	**0.30**		0.20	1	12/03/07	12/14/07	KWG0713135	
Butyl Benzyl Phthalate	**0.96**		0.20	1	12/03/07	12/14/07	KWG0713135	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/03/07	12/14/07	KWG0713135	
Benz(a)anthracene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Chrysene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Bis(2-ethylhexyl) Phthalate	**3.2**		0.97	1	12/03/07	12/14/07	KWG0713135	
Di-n-octyl Phthalate	ND	U	0.39	1	12/03/07	12/14/07	KWG0713135	
Benzo(b)fluoranthene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Benzo(k)fluoranthene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Benzo(a)pyrene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/03/07	12/14/07	KWG0713135	

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: 11/26/2007
Date Received: 11/28/2007

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0071456
Lab Code: K0711118-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	69	16-122	12/14/07	Acceptable
Phenol-d6	77	25-118	12/14/07	Acceptable
Nitrobenzene-d5	85	24-131	12/14/07	Acceptable
2-Fluorobiphenyl	78	26-114	12/14/07	Acceptable
2,4,6-Tribromophenol	94	22-148	12/14/07	Acceptable
Terphenyl-d14	97	28-144	12/14/07	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

C0010

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0713135-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
3-Nitroaniline	ND	U	0.97	1	12/03/07	12/11/07	KWG0713135	
2,4-Dinitrophenol	ND	U	3.9	1	12/03/07	12/11/07	KWG0713135	
Dibenzofuran	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
4-Nitrophenol	ND	U	2.0	1	12/03/07	12/11/07	KWG0713135	
2,4-Dinitrotoluene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Fluorene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Diethyl Phthalate	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
4-Nitroaniline	ND	U	0.97	1	12/03/07	12/11/07	KWG0713135	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	12/03/07	12/11/07	KWG0713135	
N-Nitrosodiphenylamine	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Hexachlorobenzene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Pentachlorophenol	ND	U	0.97	1	12/03/07	12/11/07	KWG0713135	
Phenanthrene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Anthracene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Di-n-butyl Phthalate	**1.1**		0.20	1	12/03/07	12/11/07	KWG0713135	
Fluoranthene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Pyrene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Butyl Benzyl Phthalate	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
3,3'-Dichlorobenzidine	ND	U	2.0	1	12/03/07	12/11/07	KWG0713135	
Benz(a)anthracene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Chrysene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Bis(2-ethylhexyl) Phthalate	ND	U	0.97	1	12/03/07	12/11/07	KWG0713135	
Di-n-octyl Phthalate	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Benzo(b)fluoranthene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Benzo(k)fluoranthene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Benzo(a)pyrene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Dibenz(a,h)anthracene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	
Benzo(g,h,i)perylene	ND	U	0.20	1	12/03/07	12/11/07	KWG0713135	

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0711118
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0713135-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	87	16-122	12/11/07	Acceptable
Phenol-d6	91	25-118	12/11/07	Acceptable
Nitrobenzene-d5	99	24-131	12/11/07	Acceptable
2-Fluorobiphenyl	78	26-114	12/11/07	Acceptable
2,4,6-Tribromophenol	90	22-148	12/11/07	Acceptable
Terphenyl-d14	103	28-144	12/11/07	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0711118
Project:	NPDES Stormwater Mon	**Date Received:**	11/28/2007
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three water samples were received for analysis at Columbia Analytical Services on 11/28/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081A

Continuing Calibration Verification (CCV) Exceptions:
The primary evaluation criterion was exceeded for Heptachlor Epoxide, alpha-BHC, gamma-BHC, Heptachlor, Endosulfan Sulfate, Endosulfan II, alpha-Chlordane, gamma-Chlordane, Dieldrin, Endrin, Endosulfan I, Chlorpyrifos, and Methoxychlor in CCV 1217F004, 1217F007, and 1217F037. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard meets the alternative evaluation criteria.

Results for gamma-BHC and Endosulfan II in LCS and DLCS of workgroup KWG0713122 have been reported from a column using average percent recovery of all analytes in the verification standard.

Method Blank Exceptions:
The Method Blank KWG0713122-9 contained low levels of beta-BHC and 4,4'-DDT above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank are flagged as estimated. The samples were not re-extracted and reanalyzed because insufficient sample remained for additional testing.

Elevated Method Reporting Limits:
The reporting limit is elevated for beta-BHC, delta-BHC, 4,4'-DDT, and Toxaphene in samples F0071457 and F001458. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. (if applicable: A semiquantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.) The results are flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Approved by LV **Date** 1/14/08

Semivolatile Organic Compounds by EPA Method 8270C

Method Blank Exceptions:
The Method Blank KWG0713135-3 contained low levels of Di-n-butyl Phthalate above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank are flagged as estimated.

Lab Control Sample Exceptions:
The advisory criterion was exceeded for Hexachlorocyclopentadiene and Di-n-butyl Phthalate in the replicate Laboratory Control Samples (LCS/DLCS) KWG0713135-1 and KWG0713135-2. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

Approved by LV **Date** 1/14/08

Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: KO71118

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES STORMWTR MON

PROJECT NUMBER:

PROJECT MANAGER: Jennifer Shackelford

COMPANY/ADDRESS: WPCL - City of Portland BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below) ☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081) Low Level	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	Low Level SVOCs EPA 8270 C	PAH + Phthalates EPA 8270C-SIM			REMARKS
F071456	11/26/07	1654		Storm water	1														X				
F071457	11/26/07	1727		↓	1							X											
F071458	11/26/07	1707		↓	1							X											

C0016

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run Low-level analyses for pesticides (8081) and for the full 8270 list. Thanks

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Rona Kluch	Signature:	Signature:	Signature: Tracy Black
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name: Black
Firm: City of Portland BES	Firm:	Firm:	Firm: CAS
Date/Time: 11/28/07 1240	Date/Time: 11.28.07 1240	Date/Time: 11.28.07 2:00	Date/Time: 11/28/07 1430

Columbia Analytical Services, Inc. PC 611
Cooler Receipt and Preservation Form

Client / Project: City of Portland Service Request K07 11118

Received: 11/28/07 Opened: 11/28/07 By:

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (Courier) *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ (NA)
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** _____ _____ _____ _____
   Temperature Blank (°C): _____ _____ _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used. *Inserts* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were the correct types of bottles used for the tests indicated?** NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

December 20, 2007

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 11/28/07 16:40. The following list is a summary of the Work Orders contained in this report, generated on 12/20/07 11:59.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PQK0981	NPDES	36238

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 071456	PQK0981-01	Water	11/26/07 16:54	11/28/07 16:40
FO 071457	PQK0981-02	Water	11/26/07 17:27	11/28/07 16:40
FO 071458	PQK0981-03	Water	11/26/07 17:07	11/28/07 16:40

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	12/20/07 11:59

Polychlorinated Biphenyls per EPA Method 8082

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0981-02 (FO 071457)		**Water**				**Sampled: 11/26/07 17:27**				
Aroclor 1016	EPA 8082	ND	-----	0.490	ug/l	1x	7111105	11/29/07 18:15	12/05/07 18:32	
Aroclor 1221	"	ND	-----	0.980	"	"	"	"	"	
Aroclor 1232	"	ND	-----	0.490	"	"	"	"	"	
Aroclor 1242	"	ND	-----	0.490	"	"	"	"	"	
Aroclor 1248	"	ND	-----	0.490	"	"	"	"	"	
Aroclor 1254	"	ND	-----	0.490	"	"	"	"	"	
Aroclor 1260	"	ND	-----	0.490	"	"	"	"	"	
Surrogate(s): Decachlorobiphenyl			*48.4%*		*12 - 130 %*	*"*			*"*	
PQK0981-03 (FO 071458)		**Water**				**Sampled: 11/26/07 17:07**				
Aroclor 1016	EPA 8082	ND	-----	0.476	ug/l	1x	7111105	11/29/07 18:15	12/05/07 18:51	
Aroclor 1221	"	ND	-----	0.952	"	"	"	"	"	
Aroclor 1232	"	ND	-----	0.476	"	"	"	"	"	
Aroclor 1242	"	ND	-----	0.476	"	"	"	"	"	
Aroclor 1248	"	ND	-----	0.476	"	"	"	"	"	
Aroclor 1254	"	ND	-----	0.476	"	"	"	"	"	
Aroclor 1260	"	ND	-----	0.476	"	"	"	"	"	
Surrogate(s): Decachlorobiphenyl			*64.7%*		*12 - 130 %*	*"*			*"*	

TestAmerica Portland

Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	12/20/07 11:59

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0981-01 (FO 071456)		**Water**			**Sampled: 11/26/07 16:54**					
Acenaphthene	EPA 8270m	ND	-----	0.0194	ug/l	1x	7111145	11/30/07 13:10	12/04/07 03:19	
Acenaphthylene	"	**0.0226**	-----	0.0194	"	"	"	"	"	
Anthracene	"	ND	-----	0.0777	"	4x	"	"	12/07/07 17:40	**RL1**
Benzo (a) anthracene	"	**0.0375**	-----	0.00971	"	1x	"	"	12/04/07 03:19	
Benzo (a) pyrene	"	**0.0414**	-----	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0529**	-----	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0496**	-----	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0310**	-----	0.00971	"	"	"	"	"	
Chrysene	"	**0.0673**	-----	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0108**	-----	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.120**	-----	0.0777	"	4x	"	"	12/07/07 17:40	
Fluorene	"	ND	-----	0.0194	"	1x	"	"	12/04/07 03:19	
Indeno (1,2,3-cd) pyrene	"	**0.0282**	-----	0.00971	"	"	"	"	"	
Naphthalene	"	ND	-----	0.0777	"	4x	"	"	12/07/07 17:40	**RL1**
Phenanthrene	"	**0.0995**	-----	0.0777	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**173**	-----	19.4	"	20x	"	"	12/06/07 19:48	
Butyl benzyl phthalate	"	ND	-----	19.4	"	"	"	"	"	**RL1**
Di-n-butyl phthalate	"	ND	-----	0.971	"	1x	"	"	12/05/07 19:32	
Di-n-octyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Dimethyl phthalate	"	**3.57**	-----	0.971	"	"	"	"	"	
Pyrene	"	**0.153**	-----	0.0194	"	"	"	"	12/04/07 03:19	
Surrogate(s): Fluorene-d10			*72.4%*		*25 - 125 %*	"			"	
Pyrene-d10			*96.4%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*57.1%*		*10 - 125 %*	"			"	
PQK0981-02 (FO 071457)		**Water**			**Sampled: 11/26/07 17:27**					
Acenaphthene	EPA 8270m	ND	-----	0.0192	ug/l	1x	7111145	11/30/07 13:10	12/04/07 03:50	
Acenaphthylene	"	**0.0378**	-----	0.0192	"	"	"	"	"	
Anthracene	"	ND	-----	0.0769	"	4x	"	"	12/07/07 18:11	**RL1**
Benzo (a) anthracene	"	ND	-----	0.0385	"	"	"	"	"	**RL1**
Benzo (a) pyrene	"	**0.0277**	-----	0.00962	"	1x	"	"	12/04/07 03:50	
Benzo (b) fluoranthene	"	**0.0364**	-----	0.00962	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0574**	-----	0.0192	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0273**	-----	0.00962	"	"	"	"	"	
Chrysene	"	**0.0669**	-----	0.0385	"	4x	"	"	12/07/07 18:11	
Dibenzo (a,h) anthracene	"	ND	-----	0.00962	"	1x	"	"	12/04/07 03:50	
Fluoranthene	"	**0.119**	-----	0.0769	"	4x	"	"	12/07/07 18:11	
Fluorene	"	**0.0200**	-----	0.0192	"	1x	"	"	12/04/07 03:50	
Indeno (1,2,3-cd) pyrene	"	**0.0227**	-----	0.00962	"	"	"	"	"	

TestAmerica Portland

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Sarah Rockwell

Sarah Rockwell For Howard Holmes, Project Manager

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	12/20/07 11:59

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQK0981-02 (FO 071457)		**Water**			**Sampled: 11/26/07 17:27**					
Naphthalene	EPA 8270m	**0.116**	-----	0.0769	ug/l	4x	7111145	11/30/07 13:10	12/07/07 18:11	
Phenanthrene	"	**0.0900**	-----	0.0769	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	**1.89**	-----	0.962	"	1x	"	"	12/05/07 20:06	
Butyl benzyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Pyrene	"	**0.132**	-----	0.0769	"	4x	"	"	12/07/07 18:11	
Surrogate(s): Fluorene-d10			*77.0%*		*25 - 125 %*	*1x*			*12/04/07 03:50*	
Pyrene-d10			*86.2%*		*23 - 150 %*	*4x*			*12/07/07 18:11*	
Benzo (a) pyrene-d12			*68.7%*		*10 - 125 %*	*1x*			*12/04/07 03:50*	
PQK0981-03 (FO 071458)		**Water**			**Sampled: 11/26/07 17:07**					
Acenaphthene	EPA 8270m	ND	-----	0.0192	ug/l	1x	7111145	11/30/07 13:10	12/04/07 02:48	
Acenaphthylene	"	**0.0243**	-----	0.0192	"	"	"	"	"	
Anthracene	"	ND	-----	0.0385	"	2x	"	"	12/12/07 15:18	**RL1**
Benzo (a) anthracene	"	**0.0132**	-----	0.00962	"	1x	"	"	12/04/07 02:48	
Benzo (a) pyrene	"	**0.0128**	-----	0.00962	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0127**	-----	0.00962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.0192	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0114**	-----	0.00962	"	"	"	"	"	
Chrysene	"	**0.0222**	-----	0.00962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.00962	"	"	"	"	"	
Fluoranthene	"	ND	-----	0.0385	"	2x	"	"	12/12/07 15:18	**RL1**
Fluorene	"	ND	-----	0.0192	"	1x	"	"	12/04/07 02:48	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.00962	"	"	"	"	"	
Naphthalene	"	**0.0618**	-----	0.0385	"	2x	"	"	12/12/07 15:18	
Phenanthrene	"	**0.0479**	-----	0.0385	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	0.962	"	1x	"	"	12/05/07 20:39	
Butyl benzyl phthalate	"	**2.44**	-----	0.962	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.962	"	"	"	"	"	
Pyrene	"	**0.0523**	-----	0.0192	"	"	"	"	12/04/07 02:48	
Surrogate(s): Fluorene-d10			*74.6%*		*25 - 125 %*	"			"	
Pyrene-d10			*75.0%*		*23 - 150 %*	"			"	
Benzo (a) pyrene-d12			*60.0%*		*10 - 125 %*	"			"	

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Sarah Rockwell For Howard Holmes, Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

Polychlorinated Biphenyls per EPA Method 8082 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7111105 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7111105-BLK1)									**Extracted: 11/29/07 18:15**					
Aroclor 1016	EPA 8082	ND	---	0.500	ug/l	1x	--	--	--	--	--	--	12/05/07 21:58	
Aroclor 1221	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Aroclor 1232	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Aroclor 1242	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Aroclor 1248	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Aroclor 1254	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Aroclor 1260	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): Decachlorobiphenyl		*Recovery: 105%*			*Limits: 12-130%*	"							*12/05/07 21:58*	
LCS (7111105-BS2)									**Extracted: 11/29/07 18:15**					
Aroclor 1016	EPA 8082	4.89	---	0.500	ug/l	1x	--	5.00	97.8%	(50-114)	--	--	12/05/07 22:17	
Aroclor 1260	"	4.68	---	0.500	"	"	--	"	93.7%	(8-127)	--	--	"	
Surrogate(s): Decachlorobiphenyl		*Recovery: 105%*			*Limits: 12-130%*	"							*12/05/07 22:17*	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7111145 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7111145-BLK1)									**Extracted: 11/30/07 13:10**					
Acenaphthene	EPA 8270m	ND	---	0.0200	ug/l	1x	--	--	--	--	--	--	12/03/07 18:57	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	12/05/07 17:51	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	12/03/07 18:57	
Surrogate(s): Fluorene-d10		*Recovery: 98.8%*			*Limits: 25-125%*	"							*12/03/07 18:57*	
Pyrene-d10		*109%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*97.7%*			*10-125%*	"							"	
LCS (7111145-BS1)									**Extracted: 11/30/07 13:10**					
Acenaphthene	EPA 8270m	2.14	---	0.0400	ug/l	2x	--	2.50	85.5%	(35-120)	--	--	12/03/07 19:29	
Acenaphthylene	"	2.27	---	0.0400	"	"	--	"	90.7%	(34-116)	--	--	"	
Anthracene	"	2.28	---	0.0400	"	"	--	"	91.2%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.39	---	0.0200	"	"	--	"	95.4%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.39	---	0.0200	"	"	--	"	95.5%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.37	---	0.0200	"	"	--	"	94.7%	(37-131)	--	--	"	
Benzo (ghi) perylene	"	2.31	---	0.0400	"	"	--	"	92.6%	(26-126)	--	--	"	
Benzo (k) fluoranthene	"	2.43	---	0.0200	"	"	--	"	97.0%	(18-145)	--	--	"	
Chrysene	"	2.35	---	0.0200	"	"	--	"	94.0%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.50	---	0.0200	"	"	--	"	99.8%	(20-141)	--	--	"	
Fluoranthene	"	2.39	---	0.0400	"	"	--	"	95.6%	(31-125)	--	--	"	
Fluorene	"	2.30	---	0.0400	"	"	--	"	92.1%	(27-124)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7111145 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7111145-BS1)									**Extracted: 11/30/07 13:10**					
Indeno (1,2,3-cd) pyrene	EPA 8270m	2.46	---	0.0200	ug/l	2x	--	2.50	98.4%	(30-135)	--	--	12/03/07 19:29	
Naphthalene	"	2.23	---	0.0400	"	"	--	"	89.2%	(30-113)	--	--	"	
Phenanthrene	"	2.37	---	0.0400	"	"	--	"	94.8%	(34-126)	--	--	"	
Bis(2-ethylhexyl)phthalate	"	3.91	---	2.00	"	"	--	4.00	97.8%	(20-150)	--	--	12/05/07 18:25	
Butyl benzyl phthalate	"	2.91	---	2.00	"	"	--	"	72.8%	"	--	--	"	
Di-n-butyl phthalate	"	3.11	---	2.00	"	"	--	"	77.8%	"	--	--	"	
Di-n-octyl phthalate	"	5.28	---	2.00	"	"	--	"	132%	"	--	--	"	
Diethyl phthalate	"	3.15	---	2.00	"	"	--	"	78.7%	"	--	--	"	
Dimethyl phthalate	"	3.04	---	2.00	"	"	--	"	75.9%	"	--	--	"	
Pyrene	"	2.25	---	0.0400	"	"	--	2.50	89.8%	(21-141)	--	--	12/03/07 19:29	
Surrogate(s): Fluorene-d10		*Recovery: 87.1%*			*Limits: 25-125%*	"							*12/03/07 19:29*	
Pyrene-d10		*85.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*90.4%*			*10-125%*	"							"	
LCS Dup (7111145-BSD1)									**Extracted: 11/30/07 13:10**					
Acenaphthene	EPA 8270m	2.19	---	0.0400	ug/l	2x	--	2.50	87.4%	(35-120)	2.23%	(35)	12/03/07 20:01	
Acenaphthylene	"	2.32	---	0.0400	"	"	--	"	92.9%	(34-116)	2.46%	"	"	
Anthracene	"	2.30	---	0.0400	"	"	--	"	92.2%	(24-119)	1.09%	"	"	
Benzo (a) anthracene	"	2.44	---	0.0200	"	"	--	"	97.4%	(36-128)	2.09%	"	"	
Benzo (a) pyrene	"	2.41	---	0.0200	"	"	--	"	96.5%	(17-128)	0.993%	"	"	
Benzo (b) fluoranthene	"	2.43	---	0.0200	"	"	--	"	97.2%	(37-131)	2.57%	"	"	
Benzo (ghi) perylene	"	2.23	---	0.0400	"	"	--	"	89.0%	(26-126)	3.92%	"	"	
Benzo (k) fluoranthene	"	2.49	---	0.0200	"	"	--	"	99.5%	(18-145)	2.59%	"	"	
Chrysene	"	2.39	---	0.0200	"	"	--	"	95.5%	(16-137)	1.58%	"	"	
Dibenzo (a,h) anthracene	"	2.47	---	0.0200	"	"	--	"	98.7%	(20-141)	1.13%	"	"	
Fluoranthene	"	2.64	---	0.0400	"	"	--	"	106%	(31-125)	10.1%	"	"	
Fluorene	"	2.24	---	0.0400	"	"	--	"	89.5%	(27-124)	2.87%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.41	---	0.0200	"	"	--	"	96.6%	(30-135)	1.83%	"	"	
Naphthalene	"	2.19	---	0.0400	"	"	--	"	87.7%	(30-113)	1.64%	"	"	
Phenanthrene	"	2.37	---	0.0400	"	"	--	"	94.9%	(34-126)	0.180%	"	"	
Bis(2-ethylhexyl)phthalate	"	3.08	---	2.00	"	"	--	4.00	77.1%	(20-150)	23.7%	(50)	12/05/07 18:58	
Butyl benzyl phthalate	"	3.08	---	2.00	"	"	--	"	77.0%	"	5.62%	"	"	
Di-n-butyl phthalate	"	3.22	---	2.00	"	"	--	"	80.4%	"	3.30%	"	"	
Di-n-octyl phthalate	"	5.31	---	2.00	"	"	--	"	133%	"	0.683%	"	"	
Diethyl phthalate	"	3.22	---	2.00	"	"	--	"	80.6%	"	2.39%	"	"	
Dimethyl phthalate	"	3.12	---	2.00	"	"	--	"	78.1%	"	2.84%	"	"	
Pyrene	"	2.32	---	0.0400	"	"	--	2.50	92.9%	(21-141)	3.30%	(35)	12/03/07 20:01	
Surrogate(s): Fluorene-d10		*Recovery: 86.0%*			*Limits: 25-125%*	"							*12/03/07 20:01*	
Pyrene-d10		*89.3%*			*23-150%*	"							"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 7111145 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (7111145-BSD1)							**Extracted: 11/30/07 13:10**							
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 94.1%*			*Limits: 10-125%*	*2x*							*12/03/07 20:01*	

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6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/20/07 11:59

Notes and Definitions

Report Specific Notes:

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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ANALYTICAL TESTING CORPORATION

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11922 E. First Ave. Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave. Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 925-484-1919 FAX [illegible]

CHAIN OF CUSTODY REPORT

Work Order #: PGK0981

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX:
PROJECT NAME: NPDES Stormwtr Mon
PROJECT NUMBER:
SAMPLED BY:
INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE
REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PAH phthalates 8270 SIM (*)	PCB 209 Congeners (*)	PCB Aroclors Low Level	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FO 071456	11/26/07 1654	X	X		W	3		
2	FO 071457	" 1727	X		X	W	2		
3	FO 071458	" 1707	X		X	W	3		
4									
5									
6									
7									
8									
9									

RELEASED BY:		DATE: 11/28/07	RECEIVED BY:		DATE: 11/28/07
PRINT NAME: Roma Klnek	FIRM: City of Portland	TIME: 1545	PRINT NAME: Jeremy Morgan	FIRM: TAP	TIME: 1545
RELEASED BY:		DATE: 11-28-07	RECEIVED BY:		DATE: 11/28/07
PRINT NAME:	FIRM: TAP	TIME: 1640	PRINT NAME: Jamie Ireland	FIRM: TAP	TIME: 16:40

ADDITIONAL REMARKS:
(*) Use custom PAH/phthalate list as for UIC project w/ Low DLs.
(**) Please send PCB 209 Congeners to Pace Analytical. Thanks,

TEMP: 1.5

COC REV 09/2004

PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Cooler ID(s):

Received by: *(section A)* Date: 11/28/07 Time: 16:40 Initials: JK

Unpacked by: *(section B)* Date: 11/28/07 Initials: SK

Logged-in by: Date: 11/28/07 Initials: TB

Work Order No. PGK0981

Client: City of Portland

Project: Main ~~Lab~~ NPDES Stormwater

Temperature out of range

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other*_____

***ESI Clients *(see Section C)*

Cooler Temperature (IR): 1.8, 1.9 °C plastic glass NA *(oil/air samples, ESI client)*

Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

2 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

X Bubble Bags

____Styrofoam Cubbies

____None (____Other:_____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other:

_____

B

Sample Status:

(If N circled, see NOD)

General:

Intact? (Y) N

Containers Match COC? (Y) N none given

IDs Match COC? (Y) N

For Analyses Requested:

Correct Type & Preservation? (Y) N

Adequate Volume? (Y) N

Within Hold Time? (Y) N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N (NA)

TB on COC? not provided Y N (NA)

Metals:

HNO3 Preserved? Y N (NA)

Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank _____ °C not provided

All preserved bottles checked Y N NA *(voas/soils/all unp)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers

Comments _____

PM Reviewed _____ *(Initial/Date)*

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project NPDES STORM
Location OF19 -
Subject EVENT 2 GRABS

Project No. 4010.001
Date 3/13/08
By DJH

0713 - DJH ARRIVES TO COLLECT GRAB SAMPLES FOR EVENT 2. EVENT 2 COMPS WERE COLLECTED LATE FRI NIGHT TO SAT A.M. BUT NO GRABS WERE COLLECTED DUE TO MIDDLE OF NIGHT TIMING

IT HAS BEEN SHOWERY ALL MORNING, AND LIGHT RAIN UPON ARRIVAL. STRONG FLOW IN PIPE

0720 PST COLLECT GRABS BY COWORKER S.S. BEAKER + O/G BOTTLE INTO FLOW. SAMPLE IS BROWN + TURBID

@ 720 PST LEVEL = 7.7", V = 3.2 FPS Q = 3.8

0728 - OFFSITE.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 2

Project NPDES STORMWATER Project No. 4010.001

Location OF 19 (NW KITTRIDGE & FRONT) Date 3/7/08

Subject EVENT 2 SET UP By DJH

BACKGROUND - IT HAS BEEN DRY FOR 74 DAYS. TONIGHT (FRI) A SMALL STORM (0.1-0.15) IS EXPECTED, FOLLOWED BY A LARGER STORM BEGINNING LATE SUN OR MONDAY A.M., TODAY, WE WILL START SAMPLER TO RUN FOR WEEKEND, BUT ASSUME WE MAY NOT RUN SAMPLES COLLECTED TONIGHT.

1230 - MJS/DJH ARRIVE TO PROGRAM, CLEAN + START EQUIPMENT

ARRIVAL METER MEASUREMENTS @ 1241
L = 2.5" V = 1.2 fps F = 0.3 CFS

SET LOW LEVEL SET PT TO 3.5" CA LITTLE HIGHER THAN TYPICAL 0.5"-OVER BASE LEVEL TO AVOID SAMPLING FRT SHOWERS

SAMPLER PACING = 7057 CF = 0.4"

DECON'D TUBING W/ NITRIC + ACETONE
TESTED SAMPLER CAL. = PERFECT
ICE SAMPLER, REMOVED BOTTLE LIDS, STARTED SAMPLER

1325 - OFFSITE

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES STORM
Location OF 19
Subject EVENT 2

Project No. 4010 001
Date 3/8/08
By DJH

LATE 3/7/08 (BEGINNING @ 2100) THROUGH EARLY A.M. TODAY RAINED @ 0.4"

1030 - DJH ONSITE TO RETRIEVE SAMPLES

FILLED 5 BOTTLES + 2/3 OF BOTTLE 6. CAPTURED ENTIRE STORM PERFECTLY.

* NO GRABS COLLECTED DUE TO MIDDLE-OF-NIGHT STORM TIMING - STILL NEED TO COLLECT.

TURNED OFF SAMPLER BUT LEFT FLOW MONITOR RUNNING.

1110 PST OFFSITE TO COMPOSITE SAMPLES

Attachments

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event D:** Date

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.4	0.0333	486	21170160	705672	0.24	169361	8	3	7057

Composite Bottle Data Sheet

City of Portland - Bureau of Environmental Services

Station ID # OF19 Field Sampling Crew DJH
Date 3-8-08 Time 1030
Grab Sample Date and Time NOT COLLECTED

Bottle #	Bottle Characteristics (Color, Volume, etc.)	Missed Triggers, Comments
1	TURBID	NONE
2	TURBID	
3	TURBID	
4	TURBID	
5	SEMI TURBID	
6	SEMI TURBID	NONE = 2 TRIGGERS
7		
8		

Trigger Data

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
1	3/7/08	2207			
2		2232			
3		2245			
4		2256			
5		2306			
6		2318			
7		2342			
8	3/8/08	0013			
9		0035			
10		0047			
11		0058			
12		0109			

Trigger #	24 Hour Time		Time, Date, Missed Triggers		
13	3/8/08	0125			
14		0149			
15		0229			
16		0347			
17		0516			
18					
19					
20					
21					
22					
23					
24					

EOP

Comments EQUIPMENT WORKED GREAT! CAPTURED ENTIRE STORM

FO 080358 ~~GREAT~~ CREATED COMPOSITE USING ALL 17 SUBSAMPLES IN TEFLON CHURN SPLITTER.

NOTE- 5 1.8 BOTTLES ARE NEEDED FOR ALL ANALYTES (COULD PROBABLY GET AWAY W/ 4 IF CREATIVE)

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5896

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/8/08
Page: 1 of 1
Collected By: DSH

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☒ Sample Time recorded in PST

COMPOSITE TIME RANGE= 3/7/08 2207 TO 3/8/08 0516

Requested Analyses

WPCL Sample ID	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nitrate-nitrogen	Orthophosphate phosphorus	Total Phosphorus				Outside: SVOCs, low-level	PAHs + Phthalates	PCB Congeners						
FO 080358	4900 NW KITTRIDGE AVE (OF19)	OF19	3/7/08	2207	C	●	●	●	●	●	●	●	●	●	●				●	●	●						

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1125	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: DOUG HOLCOMB Date: 3/8/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/13/08
Page: 1 of 1
Collected By: DJH

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

Requested Analyses

Sample Time recorded in PST

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease		Micro: E. coli		Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)	
	5241 NE 122ND AVE MANHOLE GRAB	~~M1C~~			G	●	●		●		ORIG COMB #4				
	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U			G	●	●		●						
FO 080385	4900 NW KITTRIDGE AVE (OF19)	OF19	3/13/08	0720	G	●	●		●			8.5	69	6.9	

Relinquished By: 1.
Signature: Douglas Hall
Printed Name: Doug Hutchinson
Time: 0852
Date: 3/13/08

Received By: 1.
Signature:
Printed Name:
Time:
Date:

Relinquished By: 2.
Signature:
Printed Name:
Time:
Date:

Received By: 2.
Signature:
Printed Name:
Time:
Date:

Relinquished By: 3.
Signature:
Printed Name:
Time:
Date:

Received By: 3.
Signature:
Printed Name:
Time:
Date:

Relinquished By: 4.
Signature:
Printed Name:
Time:
Date:

Received By: 4.
Signature:
Printed Name:
Time:
Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC.xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080358** **Sample Collected:** 3/7/2008 22:07 **Sample Received:** 03/08/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02348
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH

Comments:
FO: The sample is a stormwater composite collected beginning on 03/07/08 at 2207 and ending on 03/08/08 at 0516. QA/QC: The result for PAH analyte Pyrene should be considered an estimate because this compound was detected in the Method Blank at 0.0286 ug/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.12	mg/L	0.02	EPA 350.1	03/11/08
NITRATE-NITROGEN	0.46	mg/L	0.10	EPA 300.0	03/09/08
o-PHOSPHATE-PHOSPHORUS, DISS	0.030	mg/L	0.02	EPA 365.1	03/09/08
TOTAL DISSOLVED SOLIDS @180C	45	mg/L	5	SM 2540 C	03/14/08
TOTAL PHOSPHORUS	0.31	mg/L	0.03	EPA 365.4	03/20/08
TOTAL SOLIDS	117	mg/L	2	SM 2540 B	03/13/08
TOTAL SUSPENDED SOLIDS	87	mg/L	2	SM 2540 D	03/10/08
METALS					
HARDNESS, TOTAL	27.5	mg CaCO3/L	0.5	SM 2340 B CALC	03/12/08
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.46	µg/L	0.1	EPA 200.8	03/11/08
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/11/08
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	03/11/08
COPPER, DISSOLVED	3.96	µg/L	0.2	EPA 200.8	03/11/08
LEAD, DISSOLVED	0.51	µg/L	0.1	EPA 200.8	03/11/08
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/11/08
ZINC, DISSOLVED	77.2	µg/L	0.5	EPA 200.8	03/11/08
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.54	µg/L	0.1	EPA 200.8	03/11/08
CADMIUM	0.36	µg/L	0.1	EPA 200.8	03/11/08
CHROMIUM	5.98	µg/L	0.4	EPA 200.8	03/11/08
COPPER	21.8	µg/L	0.2	EPA 200.8	03/11/08
LEAD	18.4	µg/L	0.1	EPA 200.8	03/11/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/11/08
ZINC	223	µg/L	0.5	EPA 200.8	03/11/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/02/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0200	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Acenaphthylene	<0.0200	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Anthracene	0.0513	µg/L	0.0200	EPA 8270M-SIM	03/12/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080358** **Sample Collected:** 3/7/2008 22:07 **Sample Received:** 03/08/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02348
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH

Comments:
FO: The sample is a stormwater composite collected beginning on 03/07/08 at 2207 and ending on 03/08/08 at 0516. QA/QC: The result for PAH analyte Pyrene should be considered an estimate because this compound was detected in the Method Blank at 0.0286 ug/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Benzo(a)anthracene	0.0594	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Benzo(a)pyrene	0.0645	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Benzo(b)fluoranthene	0.0931	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Benzo(ghi)perylene	0.0848	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Benzo(k)fluoranthene	0.0510	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Bis(2-ethylhexyl) phthalate	2.12	µg/L	1.00	EPA 8270M-SIM	03/12/08
Butyl benzyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/12/08
Chrysene	0.103	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Dibenzo(a,h)anthracene	0.0171	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Diethyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/12/08
Dimethyl phthalate	2.48	µg/L	1.00	EPA 8270M-SIM	03/12/08
Di-n-butyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/12/08
Di-n-octyl phthalate	<1.00	µg/L	1.00	EPA 8270M-SIM	03/12/08
Fluoranthene	0.195	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Fluorene	<0.0200	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Indeno(1,2,3-cd)pyrene	0.0482	µg/L	0.0100	EPA 8270M-SIM	03/12/08
Naphthalene	0.0527	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Phenanthrene	0.0872	µg/L	0.0200	EPA 8270M-SIM	03/12/08
Pyrene	EST 0.126	µg/L	0.0200	EPA 8270M-SIM	03/12/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
1,2-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
1,3-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
1,4-Dichlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
2,4,5-Trichlorophenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
2,4,6-Trichlorophenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
2,4-Dichlorophenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
2,4-Dimethylphenol	<7.8	µg/L	7.8	EPA 8270	03/13/08
2,4-Dinitrophenol	<7.8	µg/L	7.8	EPA 8270	03/13/08
2,4-Dinitrotoluene	<0.39	µg/L	0.39	EPA 8270	03/13/08
2,6-Dinitrotoluene	<0.39	µg/L	0.39	EPA 8270	03/13/08
2-Chloronaphthalene	<0.39	µg/L	0.39	EPA 8270	03/13/08
2-Chlorophenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
2-Methylnaphthalene	<0.39	µg/L	0.39	EPA 8270	03/13/08
2-Methylphenol	<0.98	µg/L	0.98	EPA 8270	03/13/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080358** **Sample Collected:** 3/7/2008 22:07 **Sample Received:** 03/08/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02348
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH

Comments:
FO: The sample is a stormwater composite collected beginning on 03/07/08 at 2207 and ending on 03/08/08 at 0516. QA/QC: The result for PAH analyte Pyrene should be considered an estimate because this compound was detected in the Method Blank at 0.0286 ug/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Nitroaniline	<0.39	µg/L	0.39	EPA 8270	03/13/08
2-Nitrophenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
3,3'-Dichlorobenzidine	<3.9	µg/L	3.9	EPA 8270	03/13/08
3-Nitroaniline	<2.0	µg/L	2.0	EPA 8270	03/13/08
4,6-Dinitro-2-methylphenol	<3.9	µg/L	3.9	EPA 8270	03/13/08
4-Bromophenylphenyl ether	<0.39	µg/L	0.39	EPA 8270	03/13/08
4-Chloro-3-methylphenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
4-Chloroaniline	<0.39	µg/L	0.39	EPA 8270	03/13/08
4-Chlorophenylphenyl ether	<0.39	µg/L	0.39	EPA 8270	03/13/08
4-Methylphenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
4-Nitroaniline	<2.0	µg/L	2.0	EPA 8270	03/13/08
4-Nitrophenol	<3.9	µg/L	3.9	EPA 8270	03/13/08
Acenaphthene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Acenaphthylene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Anthracene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzo(a)anthracene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzo(a)pyrene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzo(b)fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzo(g,h,i)perylene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzo(k)fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Benzoic acid	<9.8	µg/L	9.8	EPA 8270	03/13/08
Benzyl alcohol	<9.8	µg/L	9.8	EPA 8270	03/13/08
Bis(2-chloroethoxy) methane	<0.39	µg/L	0.39	EPA 8270	03/13/08
Bis(2-chloroethyl) ether	<0.39	µg/L	0.39	EPA 8270	03/13/08
Bis(2-chloroisopropyl) ether	<0.39	µg/L	0.39	EPA 8270	03/13/08
Bis(2-ethylhexyl) phthalate	7.3	µg/L	2.0	EPA 8270	03/13/08
Butyl benzyl phthalate	7.0	µg/L	0.39	EPA 8270	03/13/08
Chrysene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Dibenzo(a,h)anthracene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Dibenzofuran	<0.39	µg/L	0.39	EPA 8270	03/13/08
Diethyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/13/08
Dimethyl phthalate	2.1	µg/L	0.39	EPA 8270	03/13/08
Di-n-butyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/13/08
Di-n-octyl phthalate	<0.39	µg/L	0.39	EPA 8270	03/13/08
Fluoranthene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Fluorene	<0.39	µg/L	0.39	EPA 8270	03/13/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080358** **Sample Collected:** 3/7/2008 22:07 **Sample Received:** 03/08/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM02348
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH

Comments:
FO: The sample is a stormwater composite collected beginning on 03/07/08 at 2207 and ending on 03/08/08 at 0516. QA/QC: The result for PAH analyte Pyrene should be considered an estimate because this compound was detected in the Method Blank at 0.0286 ug/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Hexachlorobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Hexachlorobutadiene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Hexachlorocyclopentadiene	<2.0	µg/L	2.0	EPA 8270	03/13/08
Hexachloroethane	<0.39	µg/L	0.39	EPA 8270	03/13/08
Indeno(1,2,3-cd)pyrene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Isophorone	<0.39	µg/L	0.39	EPA 8270	03/13/08
Naphthalene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Nitrobenzene	<0.39	µg/L	0.39	EPA 8270	03/13/08
N-Nitrosodi-n-propylamine	<0.39	µg/L	0.39	EPA 8270	03/13/08
N-Nitrosodiphenylamine	<0.39	µg/L	0.39	EPA 8270	03/13/08
Pentachlorophenol	<2.0	µg/L	2.0	EPA 8270	03/13/08
Phenanthrene	<0.39	µg/L	0.39	EPA 8270	03/13/08
Phenol	<0.98	µg/L	0.98	EPA 8270	03/13/08
Pyrene	<0.39	µg/L	0.39	EPA 8270	03/13/08

End of Report for Sample ID: FO080358

Report Date: 08/14/08 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO080385** **Sample Collected:** 3/13/2008 07:20 **Sample Received:** 03/13/08 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AM02519
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	69	µmhos/cm	1	SM 2510 B	03/13/08
pH (FIELD)	6.9	pH Units	0.1	SM 4500-H B	03/13/08
TEMPERATURE	8.5	Deg. C	0.1	SM 2550 B	03/13/08
MICROBIOLOGY					
E. COLI	1700	MPN/100 ml	10	COLILERT QT	03/13/08
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/19/08

End of Report for Sample ID: FO080385

Report Date: 08/14/08 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

March 28, 2008 Analytical Report for Service Request No: K0802045

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: NPDES STORMWTR MON

Dear Jennifer:

Enclosed are the results of the sample submitted to our laboratory on March 10, 2008. For your reference, these analyses have been assigned our service request number K0802045.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at LVo@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Loan Vo, Ph.D.
Project Chemist

LV/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0802045
Project:	NPDES Stormwater Monitoring	**Date Received:**	03/10/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 03/03/08. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C

Elevated Method Reporting Limits:
Sample FO 080358 required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by Gregory Meletta **Date** 4/1/08

Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: K080 2045

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES STORMWTR MON

PROJECT NUMBER:

PROJECT MANAGER: Jennifer Shackelford

COMPANY/ADDRESS: WPCL - City of Portland BES

PHONE #: FAX #:

SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below)	☐ Total Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081)	PCBs (8082) ☐ Aroclors ☐ Congeners	Semivolatiles (GC/MS SIM) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PSEP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015 / 418.1	LOW LEVEL SVOCs EPA 8270 c	PAH + Phthalates EPA 8270C-SIM			REMARKS
FD 080358	3/7/08	2207		Storm water	1															X					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn

CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run Low-Level analysis for full 8270 semi-vol list. Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 3/10/08 1152	Date/Time: 3/10/08 1152	Date/Time: 3/10/08 12:30	Date/Time: 3/10/08 1230
Printed Name: Rona Kinch	Printed Name:	Printed Name:	Printed Name:
Firm: City of Portland BES	Firm:	Firm:	Firm: CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Loan

Client / Project: C. of Portland Service Request *K08* 2045

Received: 3-10-08 Opened: 3-10-08 By: A.J

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** _____ _____ _____ _____
   Temperature Blank (°C): _____ _____ _____ _____
6. If applicable, list Chain of Custody Numbers: _____ _____ _____ _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: 03/07/2008
Date Received: 03/10/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080358
Lab Code: K0802045-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Phenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
2-Chlorophenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
1,3-Dichlorobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
1,4-Dichlorobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
1,2-Dichlorobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Benzyl Alcohol	ND	U	9.8	2	03/13/08	03/22/08	KWG0802309	
Bis(2-chloroisopropyl) Ether	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
2-Methylphenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
Hexachloroethane	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
N-Nitrosodi-n-propylamine	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Methylphenol†	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
Nitrobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Isophorone	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
2-Nitrophenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
2,4-Dimethylphenol	ND	U	7.8	2	03/13/08	03/22/08	KWG0802309	
Bis(2-chloroethoxy)methane	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
2,4-Dichlorophenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
Benzoic Acid	ND	U	9.8	2	03/13/08	03/22/08	KWG0802309	
1,2,4-Trichlorobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Naphthalene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Chloroaniline	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Hexachlorobutadiene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Chloro-3-methylphenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
2-Methylnaphthalene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Hexachlorocyclopentadiene	ND	U	2.0	2	03/13/08	03/22/08	KWG0802309	
2,4,6-Trichlorophenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
2,4,5-Trichlorophenol	ND	U	0.98	2	03/13/08	03/22/08	KWG0802309	
2-Chloronaphthalene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
2-Nitroaniline	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Acenaphthylene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Dimethyl Phthalate	**2.1**	D	0.39	2	03/13/08	03/22/08	KWG0802309	
2,6-Dinitrotoluene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: 03/07/2008
Date Received: 03/10/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080358
Lab Code: K0802045-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
3-Nitroaniline	ND	U	2.0	2	03/13/08	03/22/08	KWG0802309	
2,4-Dinitrophenol	ND	U	7.8	2	03/13/08	03/22/08	KWG0802309	
Dibenzofuran	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Nitrophenol	ND	U	3.9	2	03/13/08	03/22/08	KWG0802309	
2,4-Dinitrotoluene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Fluorene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Chlorophenyl Phenyl Ether	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Diethyl Phthalate	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Nitroaniline	ND	U	2.0	2	03/13/08	03/22/08	KWG0802309	
2-Methyl-4,6-dinitrophenol	ND	U	3.9	2	03/13/08	03/22/08	KWG0802309	
N-Nitrosodiphenylamine	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
4-Bromophenyl Phenyl Ether	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Hexachlorobenzene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Pentachlorophenol	ND	U	2.0	2	03/13/08	03/22/08	KWG0802309	
Phenanthrene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Anthracene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Di-n-butyl Phthalate	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Fluoranthene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Pyrene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Butyl Benzyl Phthalate	**7.0**	D	0.39	2	03/13/08	03/22/08	KWG0802309	
3,3'-Dichlorobenzidine	ND	U	3.9	2	03/13/08	03/22/08	KWG0802309	
Benz(a)anthracene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Chrysene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Bis(2-ethylhexyl) Phthalate	**7.3**	D	2.0	2	03/13/08	03/22/08	KWG0802309	
Di-n-octyl Phthalate	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Benzo(b)fluoranthene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Benzo(k)fluoranthene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Benzo(a)pyrene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Indeno(1,2,3-cd)pyrene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Dibenz(a,h)anthracene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	
Benzo(g,h,i)perylene	ND	U	0.39	2	03/13/08	03/22/08	KWG0802309	

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: 03/07/2008
Date Received: 03/10/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 080358
Lab Code: K0802045-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	56	16-122	03/22/08	Acceptable
Phenol-d6	59	25-118	03/22/08	Acceptable
Nitrobenzene-d5	57	24-131	03/22/08	Acceptable
2-Fluorobiphenyl	70	26-114	03/22/08	Acceptable
2,4,6-Tribromophenol	95	22-148	03/22/08	Acceptable
Terphenyl-d14	74	28-144	03/22/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802309-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Phenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
2-Chlorophenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
1,3-Dichlorobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
1,4-Dichlorobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
1,2-Dichlorobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Benzyl Alcohol	ND	U	4.9	1	03/13/08	03/22/08	KWG0802309	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
2-Methylphenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
Hexachloroethane	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Methylphenol†	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
Nitrobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Isophorone	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
2-Nitrophenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
2,4-Dimethylphenol	ND	U	3.9	1	03/13/08	03/22/08	KWG0802309	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
2,4-Dichlorophenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
Benzoic Acid	ND	U	4.9	1	03/13/08	03/22/08	KWG0802309	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Naphthalene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Chloroaniline	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Hexachlorobutadiene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Chloro-3-methylphenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
2-Methylnaphthalene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Hexachlorocyclopentadiene	ND	U	0.98	1	03/13/08	03/22/08	KWG0802309	
2,4,6-Trichlorophenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
2,4,5-Trichlorophenol	ND	U	0.49	1	03/13/08	03/22/08	KWG0802309	
2-Chloronaphthalene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
2-Nitroaniline	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Acenaphthylene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Dimethyl Phthalate	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
2,6-Dinitrotoluene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802309-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
3-Nitroaniline	ND	U	0.98	1	03/13/08	03/22/08	KWG0802309	
2,4-Dinitrophenol	ND	U	3.9	1	03/13/08	03/22/08	KWG0802309	
Dibenzofuran	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Nitrophenol	ND	U	2.0	1	03/13/08	03/22/08	KWG0802309	
2,4-Dinitrotoluene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Fluorene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Diethyl Phthalate	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Nitroaniline	ND	U	0.98	1	03/13/08	03/22/08	KWG0802309	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/13/08	03/22/08	KWG0802309	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Hexachlorobenzene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Pentachlorophenol	ND	U	0.98	1	03/13/08	03/22/08	KWG0802309	
Phenanthrene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Anthracene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Di-n-butyl Phthalate	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Fluoranthene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Pyrene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Butyl Benzyl Phthalate	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/13/08	03/22/08	KWG0802309	
Benz(a)anthracene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Chrysene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Bis(2-ethylhexyl) Phthalate	ND	U	0.98	1	03/13/08	03/22/08	KWG0802309	
Di-n-octyl Phthalate	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Benzo(b)fluoranthene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Benzo(k)fluoranthene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Benzo(a)pyrene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/13/08	03/22/08	KWG0802309	

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0802309-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	62	16-122	03/22/08	Acceptable
Phenol-d6	60	25-118	03/22/08	Acceptable
Nitrobenzene-d5	64	24-131	03/22/08	Acceptable
2-Fluorobiphenyl	66	26-114	03/22/08	Acceptable
2,4,6-Tribromophenol	69	22-148	03/22/08	Acceptable
Terphenyl-d14	80	28-144	03/22/08	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080358	K0802045-001	56 D	59 D	57 D	70 D	95 D	74 D
Method Blank	KWG0802309-3	62	60	64	66	69	80
Lab Control Sample	KWG0802309-1	70	69	70	71	88	83
Duplicate Lab Control Sample	KWG0802309-2	72	69	69	73	94	86

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Extracted: 03/13/2008
Date Analyzed: 03/22/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802309

	Lab Control Sample KWG0802309-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802309-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	3.15	5.00	63	2.94	5.00	59	30-125	7	30
Phenol	3.22	5.00	64	3.04	5.00	61	32-117	6	30
2-Chlorophenol	3.60	5.00	72	3.37	5.00	67	32-117	7	30
1,3-Dichlorobenzene	2.16	5.00	43	1.95	5.00	39	10-79	10	30
1,4-Dichlorobenzene	2.24	5.00	45	2.02	5.00	40	10-81	10	30
1,2-Dichlorobenzene	2.44	5.00	49	2.25	5.00	45	15-86	8	30
Benzyl Alcohol	3.44	5.00	69	3.23	5.00	65	33-119	6	30
Bis(2-chloroisopropyl) Ether	2.57	5.00	51	2.38	5.00	48	29-116	8	30
2-Methylphenol	3.27	5.00	65	3.04	5.00	61	29-115	8	30
Hexachloroethane	1.52	5.00	30	1.46	5.00	29	10-76	4	30
N-Nitrosodi-n-propylamine	3.19	5.00	64	2.91	5.00	58	35-119	9	30
4-Methylphenol	3.34	5.00	67	3.08	5.00	62	30-116	8	30
Nitrobenzene	3.28	5.00	66	3.11	5.00	62	34-122	5	30
Isophorone	3.23	5.00	65	3.26	5.00	65	33-121	1	30
2-Nitrophenol	3.91	5.00	78	3.88	5.00	78	33-120	1	30
2,4-Dimethylphenol	3.16	5.00	63	3.04	5.00	61	10-116	4	30
Bis(2-chloroethoxy)methane	3.31	5.00	66	3.36	5.00	67	34-119	2	30
2,4-Dichlorophenol	3.92	5.00	78	3.87	5.00	77	33-120	1	30
Benzoic Acid	4.24	15.0	28	4.88	15.0	33	10-118	14	30
1,2,4-Trichlorobenzene	2.52	5.00	50	2.44	5.00	49	14-88	3	30
Naphthalene	3.23	5.00	65	3.16	5.00	63	27-103	2	30
4-Chloroaniline	3.32	5.00	66	3.19	5.00	64	10-110	4	30
Hexachlorobutadiene	1.54	5.00	31	1.46	5.00	29	10-75	5	30
4-Chloro-3-methylphenol	3.73	5.00	75	3.66	5.00	73	37-120	2	30
2-Methylnaphthalene	3.20	5.00	64	3.17	5.00	63	27-99	1	30
Hexachlorocyclopentadiene	0.509	5.00	10	0.545	5.00	11	10-54	7	30
2,4,6-Trichlorophenol	3.89	5.00	78	3.69	5.00	74	34-118	5	30
2,4,5-Trichlorophenol	3.81	5.00	76	3.74	5.00	75	36-119	2	30
2-Chloronaphthalene	3.17	5.00	63	3.04	5.00	61	30-108	4	30
2-Nitroaniline	3.48	5.00	70	3.44	5.00	69	35-122	1	30
Acenaphthylene	3.50	5.00	70	3.42	5.00	68	39-116	3	30
Dimethyl Phthalate	3.86	5.00	77	3.77	5.00	75	43-116	2	30
2,6-Dinitrotoluene	4.11	5.00	82	3.85	5.00	77	42-120	7	30
Acenaphthene	3.46	5.00	69	3.28	5.00	66	36-108	5	30
3-Nitroaniline	3.88	5.00	78	3.86	5.00	77	24-115	0	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802045
Date Extracted: 03/13/2008
Date Analyzed: 03/22/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0802309

	Lab Control Sample KWG0802309-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802309-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	2.30	5.00	46	2.42	5.00	48	10-121	5	30
Dibenzofuran	3.52	5.00	70	3.44	5.00	69	36-108	2	30
4-Nitrophenol	3.64	5.00	73	3.48	5.00	70	33-136	5	30
2,4-Dinitrotoluene	4.17	5.00	83	4.01	5.00	80	43-124	4	30
Fluorene	3.55	5.00	71	3.49	5.00	70	37-113	2	30
4-Chlorophenyl Phenyl Ether	3.54	5.00	71	3.51	5.00	70	36-112	1	30
Diethyl Phthalate	3.87	5.00	77	3.77	5.00	75	42-120	3	30
4-Nitroaniline	3.99	5.00	80	3.90	5.00	78	23-120	2	30
2-Methyl-4,6-dinitrophenol	3.09	5.00	62	3.14	5.00	63	24-123	2	30
N-Nitrosodiphenylamine	4.00	5.00	80	3.84	5.00	77	30-115	4	30
4-Bromophenyl Phenyl Ether	3.79	5.00	76	3.67	5.00	73	40-113	3	30
Hexachlorobenzene	3.80	5.00	76	3.56	5.00	71	40-114	7	30
Pentachlorophenol	3.53	5.00	71	3.51	5.00	70	24-123	0	30
Phenanthrene	3.65	5.00	73	3.56	5.00	71	42-113	2	30
Anthracene	3.61	5.00	72	3.51	5.00	70	40-113	3	30
Di-n-butyl Phthalate	3.97	5.00	79	3.96	5.00	79	46-119	0	30
Fluoranthene	3.75	5.00	75	3.60	5.00	72	44-116	4	30
Pyrene	3.57	5.00	71	3.49	5.00	70	42-121	2	30
Butyl Benzyl Phthalate	3.66	5.00	73	3.52	5.00	70	43-121	4	30
3,3'-Dichlorobenzidine	3.79	5.00	76	3.55	5.00	71	10-101	6	30
Benz(a)anthracene	3.64	5.00	73	3.47	5.00	69	43-121	5	30
Chrysene	3.68	5.00	74	3.51	5.00	70	45-119	5	30
Bis(2-ethylhexyl) Phthalate	3.70	5.00	74	3.60	5.00	72	34-136	3	30
Di-n-octyl Phthalate	3.80	5.00	76	3.59	5.00	72	39-123	6	30
Benzo(b)fluoranthene	3.67	5.00	73	3.36	5.00	67	42-119	9	30
Benzo(k)fluoranthene	3.67	5.00	73	3.38	5.00	68	43-120	8	30
Benzo(a)pyrene	3.64	5.00	73	3.38	5.00	68	39-116	7	30
Indeno(1,2,3-cd)pyrene	3.63	5.00	73	3.52	5.00	70	42-123	3	30
Dibenz(a,h)anthracene	3.71	5.00	74	3.51	5.00	70	38-130	6	30
Benzo(g,h,i)perylene	3.65	5.00	73	3.47	5.00	69	38-125	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

April 30, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 03/26/08 13:40. The following list is a summary of the Work Orders contained in this report, generated on 04/30/08 13:19.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRC0836	NPDES	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080442	PRC0836-01	Water	03/25/08 17:33	03/26/08 13:40
FO 080358	PRC0836-02	Water	03/07/08 22:07	03/26/08 13:40

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0836-01 (FO 080442)		**Water**				**Sampled: 03/25/08 17:33**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**1.71**	-----	0.952	ug/l	1x	8030943	03/27/08 14:35	03/31/08 19:18	
Butyl benzyl phthalate	"	**0.988**	-----	0.952	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0190	"	"	"	"	03/28/08 19:41	
Acenaphthylene	"	ND	-----	0.0190	"	"	"	"	"	
Anthracene	"	ND	-----	0.0190	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0396**	-----	0.0286	"	3x	"	"	04/11/08 21:15	
Benzo (a) pyrene	"	**0.0507**	-----	0.0286	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0664**	-----	0.0286	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0686**	-----	0.0571	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0474**	-----	0.0286	"	"	"	"	"	
Chrysene	"	**0.0772**	-----	0.0286	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.0286	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.126**	-----	0.0190	"	1x	"	"	03/28/08 19:41	
Fluorene	"	ND	-----	0.0190	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0389**	-----	0.0286	"	3x	"	"	04/11/08 21:15	
Naphthalene	"	**0.0555**	-----	0.0190	"	1x	"	"	03/28/08 19:41	
Phenanthrene	"	**0.0516**	-----	0.0190	"	"	"	"	"	
Pyrene	"	**0.0646**	-----	0.0571	"	3x	"	"	04/11/08 21:15	
Surrogate(s): Fluorene-d10			*77.5%*		*25 - 125 %*	*1x*			*03/28/08 19:41*	
Pyrene-d10			*52.7%*		*23 - 150 %*	*3x*			*04/11/08 21:15*	
Benzo (a) pyrene-d12			*75.0%*		*10 - 125 %*	*"*			*"*	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **NPDES**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030943-BLK1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	03/31/08 15:29	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	03/28/08 13:12	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 107%*			*Limits: 25-125%*	"							*03/28/08 13:12*	
Pyrene-d10		*101%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*102%*			*10-125%*	"							"	
LCS (8030943-BS1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.08	---	2.00	ug/l	2x	--	4.00	76.9%	(20-150)	--	--	03/31/08 16:03	
Butyl benzyl phthalate	"	3.53	---	2.00	"	"	--	"	88.2%	"	--	--	"	
Di-n-butyl phthalate	"	3.36	---	2.00	"	"	--	"	84.0%	"	--	--	"	
Di-n-octyl phthalate	"	2.73	---	2.00	"	"	--	"	68.3%	"	--	--	"	
Diethyl phthalate	"	3.33	---	2.00	"	"	--	"	83.3%	"	--	--	"	
Dimethyl phthalate	"	3.56	---	2.00	"	"	--	"	89.1%	"	--	--	"	
Acenaphthene	"	2.26	---	0.0400	"	"	--	2.50	90.4%	(35-120)	--	--	03/28/08 13:44	
Acenaphthylene	"	2.24	---	0.0400	"	"	--	"	89.5%	(34-116)	--	--	"	
Anthracene	"	2.36	---	0.0400	"	"	--	"	94.4%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.71	---	0.0200	"	"	--	"	108%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.20	---	0.0200	"	"	--	"	88.2%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.27	---	0.0200	"	"	--	"	91.0%	(37-131)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **NPDES**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8030943-BS1)									**Extracted: 03/27/08 14:35**					
Benzo (ghi) perylene	EPA 8270m	1.75	---	0.0400	ug/l	2x	--	2.50	69.9%	(26-126)	--	--	03/28/08 13:44	
Benzo (k) fluoranthene	"	2.29	---	0.0200	"	"	--	"	91.7%	(18-145)	--	--	"	
Chrysene	"	2.62	---	0.0200	"	"	--	"	105%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.81	---	0.0200	"	"	--	"	72.5%	(20-141)	--	--	"	
Fluoranthene	"	2.30	---	0.0400	"	"	--	"	92.0%	(31-125)	--	--	"	
Fluorene	"	2.32	---	0.0400	"	"	--	"	93.0%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.01	---	0.0200	"	"	--	"	80.2%	(30-135)	--	--	"	
Naphthalene	"	1.96	---	0.0400	"	"	--	"	78.5%	(30-113)	--	--	"	
Phenanthrene	"	2.27	---	0.0400	"	"	--	"	90.9%	(34-126)	--	--	"	
Pyrene	"	2.06	---	0.0400	"	"	--	"	82.5%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 78.3%*			*Limits: 25-125%*	"							*03/28/08 13:44*	
Pyrene-d10		*89.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*95.0%*			*10-125%*	"							"	
LCS Dup (8030943-BSD1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	2.44	---	2.00	ug/l	2x	--	4.00	61.1%	(20-150)	23.0%	(50)	03/31/08 16:35	
Butyl benzyl phthalate	"	3.42	---	2.00	"	"	--	"	85.4%	"	3.25%	"	"	
Di-n-butyl phthalate	"	3.32	---	2.00	"	"	--	"	83.1%	"	1.12%	"	"	
Di-n-octyl phthalate	"	2.05	---	2.00	"	"	--	"	51.4%	"	28.3%	"	"	
Diethyl phthalate	"	3.37	---	2.00	"	"	--	"	84.4%	"	1.22%	"	"	
Dimethyl phthalate	"	3.57	---	2.00	"	"	--	"	89.2%	"	0.102%	"	"	
Acenaphthene	"	2.19	---	0.0400	"	"	--	2.50	87.7%	(35-120)	3.02%	(35)	03/28/08 14:14	
Acenaphthylene	"	2.21	---	0.0400	"	"	--	"	88.6%	(34-116)	1.04%	"	"	
Anthracene	"	2.10	---	0.0400	"	"	--	"	84.1%	(24-119)	11.6%	"	"	
Benzo (a) anthracene	"	2.71	---	0.0200	"	"	--	"	108%	(36-128)	0.0221%	"	"	
Benzo (a) pyrene	"	2.18	---	0.0200	"	"	--	"	87.1%	(17-128)	1.30%	"	"	
Benzo (b) fluoranthene	"	2.33	---	0.0200	"	"	--	"	93.2%	(37-131)	2.39%	"	"	
Benzo (ghi) perylene	"	1.71	---	0.0400	"	"	--	"	68.5%	(26-126)	1.96%	"	"	
Benzo (k) fluoranthene	"	1.97	---	0.0200	"	"	--	"	78.7%	(18-145)	15.2%	"	"	
Chrysene	"	2.67	---	0.0200	"	"	--	"	107%	(16-137)	1.83%	"	"	
Dibenzo (a,h) anthracene	"	1.72	---	0.0200	"	"	--	"	68.7%	(20-141)	5.27%	"	"	
Fluoranthene	"	2.24	---	0.0400	"	"	--	"	89.5%	(31-125)	2.84%	"	"	
Fluorene	"	2.79	---	0.0400	"	"	--	"	112%	(27-124)	18.2%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.96	---	0.0200	"	"	--	"	78.2%	(30-135)	2.52%	"	"	
Naphthalene	"	2.03	---	0.0400	"	"	--	"	81.1%	(30-113)	3.23%	"	"	
Phenanthrene	"	2.27	---	0.0400	"	"	--	"	90.8%	(34-126)	0.0634%	"	"	
Pyrene	"	2.07	---	0.0400	"	"	--	"	82.7%	(21-141)	0.267%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 88.2%*			*Limits: 25-125%*	"							*03/28/08 14:14*	
Pyrene-d10		*87.8%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8030943-BSD1)													**Extracted: 03/27/08 14:35**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 91.5%*			*Limits: 10-125%*	*2x*							*03/28/08 14:14*	

TestAmerica Portland

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

Notes and Definitions

Report Specific Notes:

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PRC0836

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX
PROJECT NAME: NPDES Stormwtr Mon
PROJECT NUMBER:
SAMPLED BY:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | < 1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | < 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH+phthalates 8270 SIM (*)	PCB 209 Congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FC080442	3/25/08 1733	X	X	W	3		
(***) 2	FO080358	3/7/08 2207		X	W	1		
3								
4								
5								
6								
7								
8								
9								
10								

PRESERVATIVE
REQUESTED ANALYSES

RELEASED BY:	Rona Kluch		DATE: 3/26/08	RECEIVED BY: Bob F		DATE: 3/26/08
PRINT NAME:	Rona Kluch	FIRM: City of Portland	TIME: 12:25	PRINT NAME: Bobj	FIRM: TAP	TIME: 12:25
RELEASED BY:	Bob F		DATE: 3/26/08	RECEIVED BY: Jamie Ireland		DATE: 3/26/08
PRINT NAME:	Bob F	FIRM: TAP	TIME: 13:40	PRINT NAME: J. Ireland	FIRM: TAP	TIME: 13:40

ADDITIONAL REMARKS:
(*) Use custom PAH/phthalate list as for UIC project w/ LOW DLs.
(**) Please send PCB 209 Congeners to Pace Analytical. Thanks,
(***) This is a re-send of mis-placed sample @ Pace. Please notify Howard Holmes.

COC REV 09 2004

TEMP: 3.5

PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Received by: (section A)
Date: 3/24/10
Time: 12:40
Initials: JI

Unpacked by: (section B)
Date: 3/24/10
Initials: JI

Logged-in by:
Date: 3/24/10
Initials: JI

Work Order No. PRC0836
Client: City of Portland
Project: NPDES

Temperature out of range:
___Not enough Ice
___No Ice
___Ice Melted
___Win 4 Hours
___Other:

***ESI Clients (see Section C)

Cooler Temperature (IR): 3.5 C plastic glass NA (oil/air samples, ESI client) Temperature Blank: _____ C

A

Custody Seals: (#____)

Signature: Y N Dated:_____
X None

Container Type:
1 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
____Gel Ice
X Loose Ice
____None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
X None (____Other _____)

Received from:
X TA Courier
____Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:
_____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? (Y) N
Containers Match COC? Y N none given
IDs Match COC? Y N

For Analyses Requested:
Correct Type & Preservation? Y N
Adequate Volume? Y N
Within Hold Time? Y N

Volatiles/ Oil Quality:
VOAs/ Syringes free of Headspace? Y N (NA)
TB on COC? not provided Y N (NA)

Metals:
HNO3 Preserved? Y N (NA)
Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: ___ C not provided

All preserved bottles ecked Y N NA (voas/soils/all unp.)
All preserved accord ly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments:_____

*PM Reviewed:*_____ *(Initial/Date)*

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of

Project NPDES Stormwater FM? WQ
Location NEPDX, SEPDX, NWPDX
Subject FY07-08 Event 3

Project No. 4010.001
Date 3/25/08
By JJM, MJS

Time recorded in PST

0915 Arrive at M1, setup traffic control. On site to setup for anticipated 0.35" storm event forecasted for later this afternoon. Upload flow meter, site file looks representative. Meter level currently 1.3" which is in agreement with manual topside approximation and previous site visits.

0923 Calibrated sampler volume to 600mL aliquots.

0928 Decontaminated tubing with non-phosphate soapy rinse, tap water, nitric acid wash, DI water and Ultrapure DI water.

0935 Programmed flow meter with setpoint enable at 1.55", meter level currently 1.4". Programmed sampler pacing at 1985cf.

0942 Started meter, sampler LCD reads "disabled"

0959 Left site.

1040 Arrive at S450 to setup for anticipated 0.35" storm event. Decontaminated sampler tubing with non-phosphate soapy wash, tap water rinse, nitric acid wash, DI water rinse, Acetone wash, DI rinse, Ultrapure DI rinse.

1055 Programmed flow meter with setpoint enable of 4.5", level currently 4.0". Programmed trigger volume of 3388cf.

1111 Adjusted flow meter up by ~0.5" to match manual reading of 4.0"

1120 Departed site.

1235 Arrive at OF19 to setup for anticipated 0.35" storm event. Entrant decontaminated sampler tubing following the same steps as at S450.

1240 Programmed flow meter sampler pacing at 6175cf. Meter level currently 4.3", manual 4.5". Programmed setpoint enable at 4.8". Ran both programs

1349 Left site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of

Project NPDES Stormwater Mon. Project No. 4010.001
Location OF 19 Date 3-26-08
Subject Event 3 Stormwater Sampling By DJH, LAP

Background: 3/25/08 set up composite sampler for showery storm forecasted to begin late on 3/25/08 & continue overnight throughout today.

Wx: Rain began @ 1700 hrs. We received 0.19" from 1700 through 2400. Then an intense burst of rain from 0000 through 0300 (0.24" accumulation) afterwhich rain tapers off. YEON RG

0720 PST: DJH & LAP arrive to check sampler. Program complete w/ all 8 bottles full. Last sample collected at 0541 hrs. 3/26/08. Currently not raining & flow has almost returned to baseflow. May have missed one aliquot on falling limb of hydrograph, but storm capture was nearly perfect. (over 95%) Removed all 8 bottles and sampler (since this is the final event of FY 07-08).

* Still need to collect Event 3 grabs when rain returns, possibly later today.

0800 PST: Left site to relinquish samples to the WPCL.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project NPDES stormwtr WQ: FM
Project No. 4010.001
Location NW, NE PDX
Date 3/28/08
Subject FY07-08 Event 3 (Cleanup grab sampling)
By TJM, RCB

All time recorded in PST

0800 Arrive at ~~AM~~ OF19 to heavy rain/snow mix. Flow meter level currently 11.2" – flow is elevated. ~~Cott~~ om

0807 Collected grabs and field parameters.

0811 Left site.

0840 Arrive at M1 to moderate rain/snow mix. Ample street runoff. Flow in manhole is elevated.

0849 Collected grabs and field parameters.

0854 Departed site.

1310 Relinquished samples to WPCL.

Attachments

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event D:** 3/25-26/08

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.35	0.0292	486	21170160	617463	0.24	148191	8	3	6175

COMPOSITE BOTTLE DATA SHEET

City of Portland - Bureau of Environmental Services

Station ID OF 19
Date 3-26-08
Grab Sample Date and Time _____

Field Sampling Crew D.J.H, LAP
Time 0820

Project#: NPDES Stormwater 40[0.00]

Bottle #	Bottle Characteristics (Color, Volume, etc)	Missed Triggers, Comments
1	FULL; Very turbid	NONE
2	very turbid	
3	moderately turbid	
4	moderately turbid	
5	moderately turbid	
6	moderately turbid	
7	moderately turbid	
8	moderately turbid	

Trigger Data

Trigger #	24 Hour Time	Time, Date, Missed Triggers
1	1733	3/25/08
2	1749	
3	1834	
4	2201	
5	2212	
6	2227	
7	2258	
8	2333	
9	0012	3/26/08
10	0116	
11	0133	
12	0144	

Trigger #	24 Hour Time	Time, Date, Missed Triggers
13	0154	3/26/08
14	0203	
15	0211	
16	0222	
17	0231	
18	0240	
19	0248	
20	0302	
21	0322	
22	0356	
23	0445	
24	0541	

DONE!

Comments 3/26/08 0720 PST VISIT - PROGRAM COMPLETE AND ALL 8 BOTTLES FULL. FLOW ALMOST AT BASE FLOW MAY HAVE MISSED ONE ALREADY (@ 0700?) BUT CAPTURE ALMOST PERFECT (OVER 95%). ANOTHER GREAT COMP!

CREATED COMPOSITES IN TEFLON CHURN USING EQUAL PORTIONS ALIQUOTS OF ALL 24 ALIQUOTS

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3-26-08

Page: 1 of 1

Collected By: DJH, LAP

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☒ Sample Time recorded in PST

Aliquots collected from 1733 3/25/08 through 0541 3/26/08

Requested Analyses

	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nitrate-nitrogen	Orthophosphate phosphorus	Total Phosphorus			Outside: SVOCs, low-level	PAHs + Phthalates	PCB Congeners
FO 080442	4900 NW KITTRIDGE AVE (OF19)	OF19	~~3-26-08~~ VP 3-25-08	1733	C	●	●	●	●	●	●	●	●	●	●			●	●	●
			3-25-08																	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Douglas Hutchinson	Signature:	Signature:	Signature:
Time: 0945	Time:	Time:	Time:
Printed Name: Doug Hutchinson	Printed Name:	Printed Name:	Printed Name:
Date: 3/26/08	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Rona Kineh	Signature:	Signature:	Signature:
Time: 0945	Time:	Time:	Time:
Printed Name: Rona Kineh	Printed Name:	Printed Name:	Printed Name:
Date: 3/26/08	Date:	Date:	Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland
Chain-of-Custody
Bureau of Environmental Services

Date: 3/28/08
Page: 1 of 1
Collected By: JTM, RCB

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease		Micro: E. coli		Comments	Field: Temperature (degrees C)	Field: Conductivity (umhos/cm)	Field: pH (pH units)	
FO 080461	4900 NW KITTRIDGE AVE (OF19)	OF19	3/28/08	0807	G	●	●		●			4.1	62	7.1	
FO 080462	5241 NE 122ND AVE MANHOLE GRAB	M1G	3/28/08	0849	G	●	●		●			6.1	47	6.8	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Jordan Mccann Time: 1310	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McCann Date: 3/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time: 1310	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Daniel M. Van Mater Date: 3/28/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC.xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080442** **Sample Collected:** 3/25/2008 17:33 **Sample Received:** 03/26/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02955
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH/LAP

Comments:
FO: THE SAMPLE IS A COMPOSITE OF ALIQUOTS COLLECTED FROM 1733 ON 03/25/08 THROUGH 0541 ON 03/26/08.
QA/QC: Semivolatile Organic analyte Di-n-butyl Phthalate was detected in the Method Blank at 0.23 ug/L; the result for the sample may be a false positive or high estimate. Benzoic Acid, 2,4-Dinitrophenol, 2-Methyl-4,6-dinitrophenol, Pentachlorophenol, and 3,3-Dichlorobenzidine exhibited low recovery in the LCS and/or LCS duplicate, indicating possible low bias for these compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.11	mg/L	0.02	EPA 350.1	03/31/08
NITRATE-NITROGEN	0.69	mg/L	0.10	EPA 300.0	03/26/08
o-PHOSPHATE-PHOSPHORUS, DISS	0.022	mg/L	0.02	EPA 365.1	03/26/08
TOTAL DISSOLVED SOLIDS @180C	59	mg/L	5	SM 2540 C	03/27/08
TOTAL PHOSPHORUS	0.13	mg/L	0.03	EPA 365.4	03/31/08
TOTAL SOLIDS	93	mg/L	2	SM 2540 B	03/27/08
TOTAL SUSPENDED SOLIDS	38	mg/L	2	SM 2540 D	03/26/08
METALS					
HARDNESS, TOTAL	26.5	mg CaCO3/L	0.5	SM 2340 B CALC	03/31/08
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.41	µg/L	0.1	EPA 200.8	04/02/08
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	04/02/08
CHROMIUM, DISSOLVED	<0.40	µg/L	0.4	EPA 200.8	04/02/08
COPPER, DISSOLVED	2.61	µg/L	0.2	EPA 200.8	04/02/08
LEAD, DISSOLVED	0.56	µg/L	0.1	EPA 200.8	04/02/08
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	04/02/08
ZINC, DISSOLVED	67.3	µg/L	0.5	EPA 200.8	04/02/08
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	0.77	µg/L	0.1	EPA 200.8	04/02/08
CADMIUM	0.17	µg/L	0.1	EPA 200.8	04/02/08
CHROMIUM	2.88	µg/L	0.4	EPA 200.8	04/02/08
COPPER	10.6	µg/L	0.2	EPA 200.8	04/02/08
LEAD	11.3	µg/L	0.1	EPA 200.8	04/02/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	04/02/08
ZINC	125	µg/L	0.5	EPA 200.8	04/02/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	04/02/08
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0190	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Acenaphthylene	<0.0190	µg/L	0.0190	EPA 8270M-SIM	05/04/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080442** **Sample Collected:** 3/25/2008 17:33 **Sample Received:** 03/26/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02955
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH/LAP

Comments:
FO: THE SAMPLE IS A COMPOSITE OF ALIQUOTS COLLECTED FROM 1733 ON 03/25/08 THROUGH 0541 ON 03/26/08.
QA/QC: Semivolatile Organic analyte Di-n-butyl Phthalate was detected in the Method Blank at 0.23 ug/L; the result for the sample may be a false positive or high estimate. Benzoic Acid, 2,4-Dinitrophenol, 2-Methyl-4,6-dinitrophenol, Pentachlorophenol, and 3,3-Dichlorobenzidine exhibited low recovery in the LCS and/or LCS duplicate, indicating possible low bias for these compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Anthracene	<0.0190	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Benzo(a)anthracene	0.0396	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Benzo(a)pyrene	0.0507	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Benzo(b)fluoranthene	0.0664	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Benzo(ghi)perylene	0.0686	µg/L	0.0571	EPA 8270M-SIM	05/04/08
Benzo(k)fluoranthene	0.0474	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Bis(2-ethylhexyl) phthalate	1.71	µg/L	0.952	EPA 8270M-SIM	05/04/08
Butyl benzyl phthalate	0.988	µg/L	0.952	EPA 8270M-SIM	05/04/08
Chrysene	0.0772	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Dibenzo(a,h)anthracene	<0.0286	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Diethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	05/04/08
Dimethyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	05/04/08
Di-n-butyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	05/04/08
Di-n-octyl phthalate	<0.952	µg/L	0.952	EPA 8270M-SIM	05/04/08
Fluoranthene	0.126	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Fluorene	<0.0190	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Indeno(1,2,3-cd)pyrene	0.0389	µg/L	0.0286	EPA 8270M-SIM	05/04/08
Naphthalene	0.0555	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Phenanthrene	0.0516	µg/L	0.0190	EPA 8270M-SIM	05/04/08
Pyrene	0.0646	µg/L	0.0571	EPA 8270M-SIM	05/04/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
1,2-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
1,3-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
1,4-Dichlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
2,4,5-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
2,4,6-Trichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
2,4-Dichlorophenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
2,4-Dimethylphenol	<3.9	µg/L	3.9	EPA 8270	03/28/08
2,4-Dinitrophenol	<3.9	µg/L	3.9	EPA 8270	03/28/08
2,4-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/28/08
2,6-Dinitrotoluene	<0.20	µg/L	0.20	EPA 8270	03/28/08
2-Chloronaphthalene	<0.20	µg/L	0.20	EPA 8270	03/28/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080442** **Sample Collected:** 3/25/2008 17:33 **Sample Received:** 03/26/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM02955
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH/LAP

Comments:
FO: THE SAMPLE IS A COMPOSITE OF ALIQUOTS COLLECTED FROM 1733 ON 03/25/08 THROUGH 0541 ON 03/26/08.
QA/QC: Semivolatile Organic analyte Di-n-butyl Phthalate was detected in the Method Blank at 0.23 ug/L; the result for the sample may be a false positive or high estimate. Benzoic Acid, 2,4-Dinitrophenol, 2-Methyl-4,6-dinitrophenol, Pentachlorophenol, and 3,3-Dichlorobenzidine exhibited low recovery in the LCS and/or LCS duplicate, indicating possible low bias for these compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Chlorophenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
2-Methylnaphthalene	<0.20	µg/L	0.20	EPA 8270	03/28/08
2-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
2-Nitroaniline	<0.20	µg/L	0.20	EPA 8270	03/28/08
2-Nitrophenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
3,3'-Dichlorobenzidine	<2.0	µg/L	2.0	EPA 8270	03/28/08
3-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	03/28/08
4,6-Dinitro-2-methylphenol	<2.0	µg/L	2.0	EPA 8270	03/28/08
4-Bromophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/28/08
4-Chloro-3-methylphenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
4-Chloroaniline	<0.20	µg/L	0.20	EPA 8270	03/28/08
4-Chlorophenylphenyl ether	<0.20	µg/L	0.20	EPA 8270	03/28/08
4-Methylphenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
4-Nitroaniline	<0.97	µg/L	0.97	EPA 8270	03/28/08
4-Nitrophenol	<2.0	µg/L	2.0	EPA 8270	03/28/08
Acenaphthene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Acenaphthylene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Anthracene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzo(a)anthracene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzo(a)pyrene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzo(b)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzo(g,h,i)perylene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzo(k)fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Benzoic acid	<4.9	µg/L	4.9	EPA 8270	03/28/08
Benzyl alcohol	<4.9	µg/L	4.9	EPA 8270	03/28/08
Bis(2-chloroethoxy) methane	<0.20	µg/L	0.20	EPA 8270	03/28/08
Bis(2-chloroethyl) ether	<0.20	µg/L	0.20	EPA 8270	03/28/08
Bis(2-chloroisopropyl) ether	<0.20	µg/L	0.20	EPA 8270	03/28/08
Bis(2-ethylhexyl) phthalate	1.5	µg/L	0.97	EPA 8270	03/28/08
Butyl benzyl phthalate	0.71	µg/L	0.20	EPA 8270	03/28/08
Chrysene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Dibenzo(a,h)anthracene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Dibenzofuran	<0.20	µg/L	0.20	EPA 8270	03/28/08
Diethyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/28/08

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080442** **Sample Collected:** 3/25/2008 17:33 **Sample Received:** 03/26/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 4 of 4
System ID: AM02955
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: DJH/LAP

Comments:
FO: THE SAMPLE IS A COMPOSITE OF ALIQUOTS COLLECTED FROM 1733 ON 03/25/08 THROUGH 0541 ON 03/26/08.
QA/QC: Semivolatile Organic analyte Di-n-butyl Phthalate was detected in the Method Blank at 0.23 ug/L; the result for the sample may be a false positive or high estimate. Benzoic Acid, 2,4-Dinitrophenol, 2-Methyl-4,6-dinitrophenol, Pentachlorophenol, and 3,3-Dichlorobenzidine exhibited low recovery in the LCS and/or LCS duplicate, indicating possible low bias for these compounds.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Dimethyl phthalate	0.81	µg/L	0.20	EPA 8270	03/28/08
Di-n-butyl phthalate	EST 0.32	µg/L	0.20	EPA 8270	03/28/08
Di-n-octyl phthalate	<0.20	µg/L	0.20	EPA 8270	03/28/08
Fluoranthene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Fluorene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Hexachlorobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Hexachlorobutadiene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Hexachlorocyclopentadiene	<0.97	µg/L	0.97	EPA 8270	03/28/08
Hexachloroethane	<0.20	µg/L	0.20	EPA 8270	03/28/08
Indeno(1,2,3-cd)pyrene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Isophorone	<0.20	µg/L	0.20	EPA 8270	03/28/08
Naphthalene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Nitrobenzene	<0.20	µg/L	0.20	EPA 8270	03/28/08
N-Nitrosodi-n-propylamine	<0.20	µg/L	0.20	EPA 8270	03/28/08
N-Nitrosodiphenylamine	<0.20	µg/L	0.20	EPA 8270	03/28/08
Pentachlorophenol	<0.97	µg/L	0.97	EPA 8270	03/28/08
Phenanthrene	<0.20	µg/L	0.20	EPA 8270	03/28/08
Phenol	<0.49	µg/L	0.49	EPA 8270	03/28/08
Pyrene	<0.20	µg/L	0.20	EPA 8270	03/28/08

End of Report for Sample ID: FO080442

Report Date: 08/14/08 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO080461** **Sample Collected:** 3/28/2008 08:07 **Sample Received:** 03/28/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR
Comments:

Report Page: Page 1 of 1
System ID: AM03059
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/RCB

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	62	µmhos/cm	1	SM 2510 B	03/28/08
pH (FIELD)	7.1	pH Units	0.1	SM 4500-H B	03/28/08
TEMPERATURE	4.1	Deg. C	0.1	SM 2550 B	03/28/08
MICROBIOLOGY					
E. COLI	1800	MPN/100 ml	10	COLILERT QT	03/28/08
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	04/10/08

End of Report for Sample ID: FO080461

Report Date: 08/14/08 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

April 18, 2008 Analytical Report for Service Request No: K0802654

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: NPDES STORMWTR MON

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on March 27, 2008. For your reference, these analyses have been assigned our service request number K0802654.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3376. You may also contact me via Email at GSalata@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Gregory Salata, Ph.D.
Project Chemist

GS/lb

cc: Peter Abrams

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	City of Portland	**Service Request No.:**	K0802654
Project:	NPDES STORMWTR MON	**Date Received:**	03/27/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 03/27/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081A

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Sample Confirmation Notes:
The confirmation comparison criterion of 40% difference for Endosulfan I and Endrin Ketone was exceeded in sample FO 080448. The higher of the two values was reported when both peaks were within the expected retention time window for this analysis and Gaussian in shape. The lower of the two values was reported when there was an apparent interference on the alternate column that produced the higher value.

Elevated Method Reporting Limits:
The reporting limits are elevated for several analytes in sample FO 080448. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limits. The results are flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270C

Method Blank Exceptions:
The Method Blank KWG0802876-3 contained low levels of Di-n-butyl Phthalate above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank are flagged as estimated. The samples were not re-extracted and reanalyzed because insufficient sample remained for additional testing.

Lab Control Sample Exceptions:
The advisory criterion was exceeded for Benzoic Acid and 3,3'-Dichlorobenzidine in Laboratory Control Sample (LCS) KWG0802876-1. The advisory criterion was exceeded for Benzoic Acid, 2,4-Dinitrophenol, 2-Methyl-4,6-

Approved by _____ **Date** 4/21/08

dinitrophenol, and 3,3'-Dichlorobenzidine in Duplicate Laboratory Control Sample (DLCS) KWG0802876-2. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

The spike recovery of Pentachlorophenol for Duplicate Laboratory Control Sample (DLCS) KWG0802876-2 was outside the lower control criterion. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. The data is flagged to indicate the problem.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for Pentachlorophenol in the replicate Laboratory Control Samples (LCS/DLCS) KWG0802876-1 and KWG0802873-2 is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____ **Date** 4/21/08

Chain of Custody Documentation

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

Sediment and Tissue Chemistry

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • FAX (360) 636-1068

SR#: KC08 2654

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES STORMWTR MON
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: WPCL - City of Portland BES
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Metals (list below) ☐ Total/Volatile Solids ☐ Total Solids ☐ Lipids	TOC (ASTM D4129M)	Grain size - PSEP / ASTM D422	Sulfide ☐ Total (9030M) ☐ Water Soluble	AVS / SEM	Ammonia ☐ Total (350.1m) ☐ Pore water	Pesticides (8081) Low LEVEL	PCBs (8082) ☐ Arocolors ☐ Congeners	Semivolatiles (GC/MS S/M) ☐ PAHs ☐ Phthalates ☐ Phenols ☐ PCP	Organotin - Sediment ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Organotin - Pore water ☐ Mono ☐ Di ☐ Tri ☐ Tetra	Volatiles (8260)	TRPH 8015/418.1	Low LEVEL VOCs EPA 8270C	PAH + Phthalates EPA 8270C SIM				REMARKS
FO 080442	3/25/08	1733		Storm water	1														X					
FO 080448	3/25/08	2209		↓	1							X												

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

SMS Metals: As Cd Cr Cu Pb Hg Ag Zn
CA Metals: Ag As Cd Cr Cu Hg Ni Pb Se Zn

SPECIAL INSTRUCTIONS/COMMENTS:

Please run Low Level analysis for pesticides (8081) and for full 8270 list. Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: Rona Kluch	Printed Name:	Printed Name:	Printed Name:
Date/Time: 3/27/08 0915	Date/Time: 3/27/08 0915	Date/Time: 3/27/08 10:30	Date/Time: 3/27/08 1030
Firm: City of Portland WPCL-BES	Firm: BES	Firm: BES	Firm: CAS

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC UH

Client / Project: City of Portland Service Request K08 0826S4

Received: 3.27.08 Opened: 3.27.08 By: BW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? NA
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):**	14.4			
Temperature Blank (°C):	11.8			
6. If applicable, list Chain of Custody Numbers:				

7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* NA
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials
All Samples			✓							BW

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Organochlorine Pesticides
EPA Method 8081

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	03/25/2008
Sample Matrix:	Water	**Date Received:**	03/27/2008

Organochlorine Pesticides

Sample Name:	FO 080448	**Units:**	ng/L
Lab Code:	K0802654-002	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
beta-BHC	ND	Ui	5.7	1	04/01/08	04/05/08	KWG0802987	
gamma-BHC (Lindane)	ND	Ui	3.1	1	04/01/08	04/05/08	KWG0802987	
delta-BHC	ND	Ui	4.2	1	04/01/08	04/05/08	KWG0802987	
Heptachlor	ND	Ui	3.5	1	04/01/08	04/05/08	KWG0802987	
Aldrin	ND	Ui	1.0	1	04/01/08	04/05/08	KWG0802987	
Heptachlor Epoxide	ND	Ui	0.72	1	04/01/08	04/05/08	KWG0802987	
gamma-Chlordane†	**3.8**		0.53	1	04/01/08	04/05/08	KWG0802987	
Endosulfan I	**1.0**	P	0.53	1	04/01/08	04/05/08	KWG0802987	
alpha-Chlordane	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
Dieldrin	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDE	ND	Ui	0.73	1	04/01/08	04/05/08	KWG0802987	
Endrin	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
Endosulfan II	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDD	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
Endrin Aldehyde	**1.5**		0.53	1	04/01/08	04/05/08	KWG0802987	
Endosulfan Sulfate	ND	Ui	2.2	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDT	ND	U	0.53	1	04/01/08	04/05/08	KWG0802987	
Endrin Ketone	**1.5**	P	0.53	1	04/01/08	04/05/08	KWG0802987	
Methoxychlor	ND	Ui	0.66	1	04/01/08	04/05/08	KWG0802987	
Toxaphene	ND	U	27	1	04/01/08	04/05/08	KWG0802987	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	65	10-121	04/05/08	Acceptable
Decachlorobiphenyl	61	17-150	04/05/08	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG0802987-9	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
beta-BHC	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
gamma-BHC (Lindane)	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
delta-BHC	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Heptachlor	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Aldrin	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Heptachlor Epoxide	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
gamma-Chlordane†	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endosulfan I	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
alpha-Chlordane	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Dieldrin	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDE	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endrin	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endosulfan II	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDD	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endrin Aldehyde	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endosulfan Sulfate	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
4,4'-DDT	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Endrin Ketone	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Methoxychlor	ND	U	0.49	1	04/01/08	04/05/08	KWG0802987	
Toxaphene	ND	U	25	1	04/01/08	04/05/08	KWG0802987	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	69	10-121	04/05/08	Acceptable
Decachlorobiphenyl	81	17-150	04/05/08	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802654

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
FO 080448	K0802654-002	65	61
Method Blank	KWG0802987-9	69	81
Lab Control Sample	KWG0802987-1	57	76
Duplicate Lab Control Sample	KWG0802987-2	60	82

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	10-121
Sur2 =	Decachlorobiphenyl	17-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802654
Date Extracted: 04/01/2008
Date Analyzed: 04/05/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG0802987

	Lab Control Sample KWG0802987-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802987-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	9.05	10.0	91	9.34	10.0	93	43-127	3	30
beta-BHC	9.10	10.0	91	9.62	10.0	96	41-129	6	30
gamma-BHC (Lindane)	9.18	10.0	92	9.84	10.0	98	42-128	7	30
delta-BHC	9.02	10.0	90	9.99	10.0	100	47-141	10	30
Heptachlor	7.56	10.0	76	8.92	10.0	89	34-126	16	30
Aldrin	3.04	10.0	30	3.01	10.0	30	10-125	1	30
Heptachlor Epoxide	8.08	10.0	81	8.95	10.0	90	45-124	10	30
gamma-Chlordane	7.78	10.0	78	8.88	10.0	89	48-119	13	30
Endosulfan I	9.07	10.0	91	7.31	10.0	73	30-115	21	30
alpha-Chlordane	7.64	10.0	76	8.67	10.0	87	48-119	13	30
Dieldrin	8.24	10.0	82	9.07	10.0	91	50-120	10	30
4,4'-DDE	6.65	10.0	67	7.88	10.0	79	36-137	17	30
Endrin	8.64	10.0	86	9.57	10.0	96	53-132	10	30
Endosulfan II	7.51	10.0	75	8.43	10.0	84	32-123	12	30
4,4'-DDD	7.59	10.0	76	9.00	10.0	90	38-140	17	30
Endrin Aldehyde	7.39	10.0	74	7.74	10.0	77	30-114	5	30
Endosulfan Sulfate	7.42	10.0	74	8.09	10.0	81	46-120	9	30
4,4'-DDT	8.94	10.0	89	10.3	10.0	103	45-146	14	30
Endrin Ketone	7.12	10.0	71	7.80	10.0	78	45-127	9	30
Methoxychlor	9.61	10.0	96	10.7	10.0	107	48-140	10	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds
EPA Method 8270C

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	03/25/2008
Sample Matrix:	Water	**Date Received:**	03/27/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080442	**Units:**	ug/L
Lab Code:	K0802654-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Phenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
2-Chlorophenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
1,3-Dichlorobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
1,4-Dichlorobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
1,2-Dichlorobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Benzyl Alcohol	ND	U	4.9	1	03/28/08	04/08/08	KWG0802876	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
2-Methylphenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
Hexachloroethane	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Methylphenol†	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
Nitrobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Isophorone	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
2-Nitrophenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
2,4-Dimethylphenol	ND	U	3.9	1	03/28/08	04/08/08	KWG0802876	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
2,4-Dichlorophenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
Benzoic Acid	ND	U	4.9	1	03/28/08	04/08/08	KWG0802876	
1,2,4-Trichlorobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Naphthalene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Chloroaniline	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Hexachlorobutadiene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Chloro-3-methylphenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
2-Methylnaphthalene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Hexachlorocyclopentadiene	ND	U	0.97	1	03/28/08	04/08/08	KWG0802876	
2,4,6-Trichlorophenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
2,4,5-Trichlorophenol	ND	U	0.49	1	03/28/08	04/08/08	KWG0802876	
2-Chloronaphthalene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
2-Nitroaniline	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Acenaphthylene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Dimethyl Phthalate	**0.81**		0.20	1	03/28/08	04/08/08	KWG0802876	
2,6-Dinitrotoluene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	

Comments:

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	03/25/2008
Sample Matrix:	Water	**Date Received:**	03/27/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080442	**Units:**	ug/L
Lab Code:	K0802654-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
3-Nitroaniline	ND	U	0.97	1	03/28/08	04/08/08	KWG0802876	
2,4-Dinitrophenol	ND	U	3.9	1	03/28/08	04/08/08	KWG0802876	
Dibenzofuran	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Nitrophenol	ND	U	2.0	1	03/28/08	04/08/08	KWG0802876	
2,4-Dinitrotoluene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Fluorene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Diethyl Phthalate	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Nitroaniline	ND	U	0.97	1	03/28/08	04/08/08	KWG0802876	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	03/28/08	04/08/08	KWG0802876	
N-Nitrosodiphenylamine	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Hexachlorobenzene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Pentachlorophenol	ND	U	0.97	1	03/28/08	04/08/08	KWG0802876	
Phenanthrene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Anthracene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Di-n-butyl Phthalate	**0.32**	B	0.20	1	03/28/08	04/08/08	KWG0802876	
Fluoranthene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Pyrene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Butyl Benzyl Phthalate	**0.71**		0.20	1	03/28/08	04/08/08	KWG0802876	
3,3'-Dichlorobenzidine	ND	U	2.0	1	03/28/08	04/08/08	KWG0802876	
Benz(a)anthracene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Chrysene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Bis(2-ethylhexyl) Phthalate	**1.5**		0.97	1	03/28/08	04/08/08	KWG0802876	
Di-n-octyl Phthalate	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Benzo(b)fluoranthene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Benzo(k)fluoranthene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Benzo(a)pyrene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Dibenz(a,h)anthracene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	
Benzo(g,h,i)perylene	ND	U	0.20	1	03/28/08	04/08/08	KWG0802876	

Comments:

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	03/25/2008
Sample Matrix:	Water	**Date Received:**	03/27/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	FO 080442	**Units:**	ug/L
Lab Code:	K0802654-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	72	16-122	04/08/08	Acceptable
Phenol-d6	73	25-118	04/08/08	Acceptable
Nitrobenzene-d5	67	24-131	04/08/08	Acceptable
2-Fluorobiphenyl	72	26-114	04/08/08	Acceptable
2,4,6-Tribromophenol	110	22-148	04/08/08	Acceptable
Terphenyl-d14	96	28-144	04/08/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802876-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Phenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
2-Chlorophenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
1,3-Dichlorobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
1,4-Dichlorobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
1,2-Dichlorobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Benzyl Alcohol	ND	U	4.8	1	03/28/08	04/07/08	KWG0802876	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
2-Methylphenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
Hexachloroethane	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
N-Nitrosodi-n-propylamine	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Methylphenol†	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
Nitrobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Isophorone	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
2-Nitrophenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
2,4-Dimethylphenol	ND	U	3.8	1	03/28/08	04/07/08	KWG0802876	
Bis(2-chloroethoxy)methane	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
2,4-Dichlorophenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
Benzoic Acid	ND	U	4.8	1	03/28/08	04/07/08	KWG0802876	
1,2,4-Trichlorobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Naphthalene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Chloroaniline	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Hexachlorobutadiene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Chloro-3-methylphenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
2-Methylnaphthalene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Hexachlorocyclopentadiene	ND	U	0.95	1	03/28/08	04/07/08	KWG0802876	
2,4,6-Trichlorophenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
2,4,5-Trichlorophenol	ND	U	0.48	1	03/28/08	04/07/08	KWG0802876	
2-Chloronaphthalene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
2-Nitroaniline	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Acenaphthylene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Dimethyl Phthalate	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
2,6-Dinitrotoluene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	

Comments:

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802876-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
3-Nitroaniline	ND	U	0.95	1	03/28/08	04/07/08	KWG0802876	
2,4-Dinitrophenol	ND	U	3.8	1	03/28/08	04/07/08	KWG0802876	
Dibenzofuran	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Nitrophenol	ND	U	1.9	1	03/28/08	04/07/08	KWG0802876	
2,4-Dinitrotoluene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Fluorene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Diethyl Phthalate	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Nitroaniline	ND	U	0.95	1	03/28/08	04/07/08	KWG0802876	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	1	03/28/08	04/07/08	KWG0802876	
N-Nitrosodiphenylamine	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
4-Bromophenyl Phenyl Ether	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Hexachlorobenzene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Pentachlorophenol	ND	U	0.95	1	03/28/08	04/07/08	KWG0802876	
Phenanthrene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Anthracene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Di-n-butyl Phthalate	**0.23**		0.19	1	03/28/08	04/07/08	KWG0802876	
Fluoranthene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Pyrene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Butyl Benzyl Phthalate	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
3,3'-Dichlorobenzidine	ND	U	1.9	1	03/28/08	04/07/08	KWG0802876	
Benz(a)anthracene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Chrysene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Bis(2-ethylhexyl) Phthalate	ND	U	0.95	1	03/28/08	04/07/08	KWG0802876	
Di-n-octyl Phthalate	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Benzo(b)fluoranthene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Benzo(k)fluoranthene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Benzo(a)pyrene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Dibenz(a,h)anthracene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	
Benzo(g,h,i)perylene	ND	U	0.19	1	03/28/08	04/07/08	KWG0802876	

Comments:

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0802876-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	16-122	04/07/08	Acceptable
Phenol-d6	87	25-118	04/07/08	Acceptable
Nitrobenzene-d5	83	24-131	04/07/08	Acceptable
2-Fluorobiphenyl	84	26-114	04/07/08	Acceptable
2,4,6-Tribromophenol	87	22-148	04/07/08	Acceptable
Terphenyl-d14	103	28-144	04/07/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: NPDES STORMWTR MON
Sample Matrix: Water

Service Request: K0802654

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 080442	K0802654-001	72	73	67	72	110	96
Method Blank	KWG0802876-3	82	87	83	84	87	103
Lab Control Sample	KWG0802876-1	82	84	77	74	101	95
Duplicate Lab Control Sample	KWG0802876-2	68	67	61	62	83	79

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	16-122	Sur5 = 2,4,6-Tribromophenol	22-148
Sur2 = Phenol-d6	25-118	Sur6 = Terphenyl-d14	28-144
Sur3 = Nitrobenzene-d5	24-131		
Sur4 = 2-Fluorobiphenyl	26-114		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Extracted:**	03/28/2008
Sample Matrix:	Water	**Date Analyzed:**	04/07/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0802876

	Lab Control Sample KWG0802876-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802876-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	4.32	5.00	86	2.84	5.00	57	30-125	41 *	30
Phenol	3.81	5.00	76	2.90	5.00	58	32-117	27	30
2-Chlorophenol	3.74	5.00	75	2.84	5.00	57	32-117	27	30
1,3-Dichlorobenzene	2.30	5.00	46	1.85	5.00	37	10-79	22	30
1,4-Dichlorobenzene	2.39	5.00	48	1.86	5.00	37	10-81	25	30
1,2-Dichlorobenzene	2.60	5.00	52	2.06	5.00	41	15-86	23	30
Benzyl Alcohol	3.73	5.00	75	2.90	5.00	58	33-119	25	30
Bis(2-chloroisopropyl) Ether	2.94	5.00	59	2.29	5.00	46	29-116	25	30
2-Methylphenol	3.58	5.00	72	2.74	5.00	55	29-115	27	30
Hexachloroethane	1.80	5.00	36	1.44	5.00	29	10-76	22	30
N-Nitrosodi-n-propylamine	3.32	5.00	66	2.52	5.00	50	35-119	27	30
4-Methylphenol	3.76	5.00	75	2.89	5.00	58	30-116	26	30
Nitrobenzene	3.45	5.00	69	2.70	5.00	54	34-122	24	30
Isophorone	3.51	5.00	70	2.83	5.00	57	33-121	21	30
2-Nitrophenol	3.87	5.00	77	3.04	5.00	61	33-120	24	30
2,4-Dimethylphenol	3.00	5.00	60	2.37	5.00	47	10-116	24	30
Bis(2-chloroethoxy)methane	3.73	5.00	75	2.99	5.00	60	34-119	22	30
2,4-Dichlorophenol	3.86	5.00	77	3.01	5.00	60	33-120	25	30
Benzoic Acid	1.21	15.0	8 *	0.868	15.0	6 *	10-118	33 *	30
1,2,4-Trichlorobenzene	2.82	5.00	56	2.28	5.00	46	14-88	21	30
Naphthalene	3.32	5.00	66	2.63	5.00	53	27-103	23	30
4-Chloroaniline	2.53	5.00	51	2.52	5.00	50	10-110	0	30
Hexachlorobutadiene	1.87	5.00	37	1.52	5.00	30	10-75	21	30
4-Chloro-3-methylphenol	3.83	5.00	77	3.05	5.00	61	37-120	23	30
2-Methylnaphthalene	3.18	5.00	64	2.51	5.00	50	27-99	24	30
Hexachlorocyclopentadiene	0.788	5.00	16	0.601	5.00	12	10-54	27	30
2,4,6-Trichlorophenol	3.91	5.00	78	3.19	5.00	64	34-118	20	30
2,4,5-Trichlorophenol	4.06	5.00	81	3.31	5.00	66	36-119	20	30
2-Chloronaphthalene	3.25	5.00	65	2.57	5.00	51	30-108	23	30
2-Nitroaniline	3.51	5.00	70	2.85	5.00	57	35-122	21	30
Acenaphthylene	3.42	5.00	68	2.76	5.00	55	39-116	21	30
Dimethyl Phthalate	3.73	5.00	75	3.00	5.00	60	43-116	22	30
2,6-Dinitrotoluene	4.00	5.00	80	3.20	5.00	64	42-120	22	30
Acenaphthene	3.32	5.00	66	2.64	5.00	53	36-108	23	30
3-Nitroaniline	3.62	5.00	72	2.95	5.00	59	24-115	20	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Portland, City of	**Service Request:**	K0802654
Project:	NPDES STORMWTR MON	**Date Extracted:**	03/28/2008
Sample Matrix:	Water	**Date Analyzed:**	04/07/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	8270C	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG0802876

	Lab Control Sample KWG0802876-1 Lab Control Spike			Duplicate Lab Control Sample KWG0802876-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	0.600	5.00	12	0.337	5.00	7 *	10-121	56 *	30
Dibenzofuran	3.41	5.00	68	2.75	5.00	55	36-108	21	30
4-Nitrophenol	3.15	5.00	63	2.52	5.00	50	33-136	22	30
2,4-Dinitrotoluene	4.08	5.00	82	3.29	5.00	66	43-124	21	30
Fluorene	3.42	5.00	68	2.75	5.00	55	37-113	22	30
4-Chlorophenyl Phenyl Ether	3.70	5.00	74	2.93	5.00	59	36-112	23	30
Diethyl Phthalate	3.73	5.00	75	2.96	5.00	59	42-120	23	30
4-Nitroaniline	3.67	5.00	73	3.07	5.00	61	23-120	18	30
2-Methyl-4,6-dinitrophenol	1.95	5.00	39	0.842	5.00	17 *	24-123	79 *	30
N-Nitrosodiphenylamine	3.82	5.00	76	3.00	5.00	60	30-115	24	30
4-Bromophenyl Phenyl Ether	4.02	5.00	80	3.11	5.00	62	40-113	26	30
Hexachlorobenzene	4.04	5.00	81	3.07	5.00	61	40-114	27	30
Pentachlorophenol	1.72	5.00	34	0.976	5.00	20 *	24-123	55 *	30
Phenanthrene	3.67	5.00	73	2.82	5.00	56	42-113	26	30
Anthracene	3.55	5.00	71	2.79	5.00	56	40-113	24	30
Di-n-butyl Phthalate	3.72	5.00	74	2.89	5.00	58	46-119	25	30
Fluoranthene	3.71	5.00	74	2.93	5.00	59	44-116	24	30
Pyrene	3.78	5.00	76	2.92	5.00	58	42-121	26	30
Butyl Benzyl Phthalate	3.65	5.00	73	2.84	5.00	57	43-121	25	30
3,3'-Dichlorobenzidine	ND	5.00	0 *	0.653	5.00	13	10-101		30
Benz(a)anthracene	3.90	5.00	78	3.02	5.00	60	43-121	25	30
Chrysene	3.89	5.00	78	3.05	5.00	61	45-119	24	30
Bis(2-ethylhexyl) Phthalate	3.75	5.00	75	2.94	5.00	59	34-136	24	30
Di-n-octyl Phthalate	3.73	5.00	75	2.84	5.00	57	39-123	27	30
Benzo(b)fluoranthene	3.78	5.00	76	2.91	5.00	58	42-119	26	30
Benzo(k)fluoranthene	3.83	5.00	77	2.92	5.00	58	43-120	27	30
Benzo(a)pyrene	3.68	5.00	74	2.81	5.00	56	39-116	27	30
Indeno(1,2,3-cd)pyrene	3.72	5.00	74	2.95	5.00	59	42-123	23	30
Dibenz(a,h)anthracene	3.75	5.00	75	2.97	5.00	59	38-130	23	30
Benzo(g,h,i)perylene	3.71	5.00	74	2.92	5.00	58	38-125	24	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

April 30, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 03/26/08 13:40. The following list is a summary of the Work Orders contained in this report, generated on 04/30/08 13:19.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRC0836	NPDES	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 080442	PRC0836-01	Water	03/25/08 17:33	03/26/08 13:40
FO 080358	PRC0836-02	Water	03/07/08 22:07	03/26/08 13:40

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRC0836-01 (FO 080442)		**Water**				**Sampled: 03/25/08 17:33**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**1.71**	-----	0.952	ug/l	1x	8030943	03/27/08 14:35	03/31/08 19:18	
Butyl benzyl phthalate	"	**0.988**	-----	0.952	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	0.952	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0190	"	"	"	"	03/28/08 19:41	
Acenaphthylene	"	ND	-----	0.0190	"	"	"	"	"	
Anthracene	"	ND	-----	0.0190	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0396**	-----	0.0286	"	3x	"	"	04/11/08 21:15	
Benzo (a) pyrene	"	**0.0507**	-----	0.0286	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0664**	-----	0.0286	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0686**	-----	0.0571	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0474**	-----	0.0286	"	"	"	"	"	
Chrysene	"	**0.0772**	-----	0.0286	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.0286	"	"	"	"	"	**RL1**
Fluoranthene	"	**0.126**	-----	0.0190	"	1x	"	"	03/28/08 19:41	
Fluorene	"	ND	-----	0.0190	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0389**	-----	0.0286	"	3x	"	"	04/11/08 21:15	
Naphthalene	"	**0.0555**	-----	0.0190	"	1x	"	"	03/28/08 19:41	
Phenanthrene	"	**0.0516**	-----	0.0190	"	"	"	"	"	
Pyrene	"	**0.0646**	-----	0.0571	"	3x	"	"	04/11/08 21:15	
Surrogate(s): Fluorene-d10			*77.5%*		*25 - 125 %*	*1x*			*03/28/08 19:41*	
Pyrene-d10			*52.7%*		*23 - 150 %*	*3x*			*04/11/08 21:15*	
Benzo (a) pyrene-d12			*75.0%*		*10 - 125 %*	*"*			*"*	

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **NPDES**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8030943-BLK1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	03/31/08 15:29	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	03/28/08 13:12	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 107%*			*Limits: 25-125%*	"							*03/28/08 13:12*	
Pyrene-d10		*101%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*102%*			*10-125%*	"							"	
LCS (8030943-BS1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.08	---	2.00	ug/l	2x	--	4.00	76.9%	(20-150)	--	--	03/31/08 16:03	
Butyl benzyl phthalate	"	3.53	---	2.00	"	"	--	"	88.2%	"	--	--	"	
Di-n-butyl phthalate	"	3.36	---	2.00	"	"	--	"	84.0%	"	--	--	"	
Di-n-octyl phthalate	"	2.73	---	2.00	"	"	--	"	68.3%	"	--	--	"	
Diethyl phthalate	"	3.33	---	2.00	"	"	--	"	83.3%	"	--	--	"	
Dimethyl phthalate	"	3.56	---	2.00	"	"	--	"	89.1%	"	--	--	"	
Acenaphthene	"	2.26	---	0.0400	"	"	--	2.50	90.4%	(35-120)	--	--	03/28/08 13:44	
Acenaphthylene	"	2.24	---	0.0400	"	"	--	"	89.5%	(34-116)	--	--	"	
Anthracene	"	2.36	---	0.0400	"	"	--	"	94.4%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.71	---	0.0200	"	"	--	"	108%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.20	---	0.0200	"	"	--	"	88.2%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.27	---	0.0200	"	"	--	"	91.0%	(37-131)	--	--	"	

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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **NPDES**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created:
04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8030943-BS1)									**Extracted: 03/27/08 14:35**					
Benzo (ghi) perylene	EPA 8270m	1.75	---	0.0400	ug/l	2x	--	2.50	69.9%	(26-126)	--	--	03/28/08 13:44	
Benzo (k) fluoranthene	"	2.29	---	0.0200	"	"	--	"	91.7%	(18-145)	--	--	"	
Chrysene	"	2.62	---	0.0200	"	"	--	"	105%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.81	---	0.0200	"	"	--	"	72.5%	(20-141)	--	--	"	
Fluoranthene	"	2.30	---	0.0400	"	"	--	"	92.0%	(31-125)	--	--	"	
Fluorene	"	2.32	---	0.0400	"	"	--	"	93.0%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.01	---	0.0200	"	"	--	"	80.2%	(30-135)	--	--	"	
Naphthalene	"	1.96	---	0.0400	"	"	--	"	78.5%	(30-113)	--	--	"	
Phenanthrene	"	2.27	---	0.0400	"	"	--	"	90.9%	(34-126)	--	--	"	
Pyrene	"	2.06	---	0.0400	"	"	--	"	82.5%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 78.3%*			*Limits: 25-125%*	"							*03/28/08 13:44*	
Pyrene-d10		*89.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*95.0%*			*10-125%*	"							"	
LCS Dup (8030943-BSD1)									**Extracted: 03/27/08 14:35**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	2.44	---	2.00	ug/l	2x	--	4.00	61.1%	(20-150)	23.0%	(50)	03/31/08 16:35	
Butyl benzyl phthalate	"	3.42	---	2.00	"	"	--	"	85.4%	"	3.25%	"	"	
Di-n-butyl phthalate	"	3.32	---	2.00	"	"	--	"	83.1%	"	1.12%	"	"	
Di-n-octyl phthalate	"	2.05	---	2.00	"	"	--	"	51.4%	"	28.3%	"	"	
Diethyl phthalate	"	3.37	---	2.00	"	"	--	"	84.4%	"	1.22%	"	"	
Dimethyl phthalate	"	3.57	---	2.00	"	"	--	"	89.2%	"	0.102%	"	"	
Acenaphthene	"	2.19	---	0.0400	"	"	--	2.50	87.7%	(35-120)	3.02%	(35)	03/28/08 14:14	
Acenaphthylene	"	2.21	---	0.0400	"	"	--	"	88.6%	(34-116)	1.04%	"	"	
Anthracene	"	2.10	---	0.0400	"	"	--	"	84.1%	(24-119)	11.6%	"	"	
Benzo (a) anthracene	"	2.71	---	0.0200	"	"	--	"	108%	(36-128)	0.0221%	"	"	
Benzo (a) pyrene	"	2.18	---	0.0200	"	"	--	"	87.1%	(17-128)	1.30%	"	"	
Benzo (b) fluoranthene	"	2.33	---	0.0200	"	"	--	"	93.2%	(37-131)	2.39%	"	"	
Benzo (ghi) perylene	"	1.71	---	0.0400	"	"	--	"	68.5%	(26-126)	1.96%	"	"	
Benzo (k) fluoranthene	"	1.97	---	0.0200	"	"	--	"	78.7%	(18-145)	15.2%	"	"	
Chrysene	"	2.67	---	0.0200	"	"	--	"	107%	(16-137)	1.83%	"	"	
Dibenzo (a,h) anthracene	"	1.72	---	0.0200	"	"	--	"	68.7%	(20-141)	5.27%	"	"	
Fluoranthene	"	2.24	---	0.0400	"	"	--	"	89.5%	(31-125)	2.84%	"	"	
Fluorene	"	2.79	---	0.0400	"	"	--	"	112%	(27-124)	18.2%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.96	---	0.0200	"	"	--	"	78.2%	(30-135)	2.52%	"	"	
Naphthalene	"	2.03	---	0.0400	"	"	--	"	81.1%	(30-113)	3.23%	"	"	
Phenanthrene	"	2.27	---	0.0400	"	"	--	"	90.8%	(34-126)	0.0634%	"	"	
Pyrene	"	2.07	---	0.0400	"	"	--	"	82.7%	(21-141)	0.267%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 88.2%*			*Limits: 25-125%*	"							*03/28/08 14:14*	
Pyrene-d10		*87.8%*			*23-150%*	"							"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8030943 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (8030943-BSD1)													**Extracted: 03/27/08 14:35**	
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 91.5%*			*Limits: 10-125%*	*2x*							*03/28/08 14:14*	

TestAmerica Portland

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/30/08 13:19

Notes and Definitions

Report Specific Notes:

RL1 - Reporting limit raised due to sample matrix effects.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
[illegible] 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PRC0836

CLIENT: City of Portland
REPORT TO ADDRESS: Jennifer Shackelford
PHONE: FAX
PROJECT NAME: NPDES Stormwtr Mon
PROJECT NUMBER:
SAMPLED BY:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 STD | 7 | 5 | 4 | 3 | 2 | 1 | < 1
Petroleum Hydrocarbon Analyses: 5 STD | 4 | 3 | 2 | 1 | < 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE TIME	PAH+phthalates 8270 SIM (*)	PCB 209 Congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	FC080442	3/25/08 1733	X	X	W	3		
(***) 2	FO080358	3/7/08 2207		X	W	1		
3								
4								
5								
6								
7								
8								
9								
10								

PRESERVATIVE
REQUESTED ANALYSES

RELEASED BY:	Rona Kluch		DATE: 3/26/08	RECEIVED BY: Bob F		DATE: 3/26/08
PRINT NAME:	Rona Kluch	FIRM: City of Portland	TIME: 12:25	PRINT NAME: Bobj	FIRM: TAP	TIME: 12:25
RELEASED BY:	Bob F		DATE: 3/26/08	RECEIVED BY: Jamie Ireland		DATE: 3/26/08
PRINT NAME:	Bob F	FIRM: TAP	TIME: 13:40	PRINT NAME: J. Ireland	FIRM: TAP	TIME: 13:40

ADDITIONAL REMARKS:
(*) Use custom PAH/phthalate list as for UIC project w/ LOW DLs.
(**) Please send PCB 209 Congeners to Pace Analytical. Thanks,
(***) This is a re-send of mis-placed sample @ Pace. Please notify Howard Holmes.

COC REV 09 2004

TEMP: 3.5

PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Received by: (section A)
Date: 3/24/10
Time: 12:40
Initials: JI

Unpacked by: (section B)
Date: 3/24/10
Initials: JI

Logged-in by:
Date: 3/24/10
Initials: JI

Work Order No. PRC0836
Client: City of Portland
Project: NPDES

Temperature out of range:
___Not enough Ice
___No Ice
___Ice Melted
___Win 4 Hours
___Other:

***ESI Clients (see Section C)

Cooler Temperature (IR): 3.5 C plastic glass NA (oil/air samples, ESI client) Temperature Blank: _____ C

A

Custody Seals: (#____)

Signature: Y N Dated:_____
X None

Container Type:
1 #Cooler(s)
____#Box(s)
____None (___#Other:_____)

Coolant Type:
____Gel Ice
X Loose Ice
____None

Packing Material:
____Bubble Bags
____Styrofoam Cubbies
X None (____Other _____)

Received from:
X TA Courier
____Senvoy
____UPS
____Fed Ex
____Client
____TDP
____DHL
____SDS
____Mid-Valley
____GS/TA
____GS/Senvoy
____Other:
_____

B

Sample Status:
(If N circled, see NOD)

General:
Intact? (Y) N
Containers Match COC? Y N none given
IDs Match COC? Y N

For Analyses Requested:
Correct Type & Preservation? Y N
Adequate Volume? Y N
Within Hold Time? Y N

Volatiles/ Oil Quality:
VOAs/ Syringes free of Headspace? Y N (NA)
TB on COC? not provided Y N (NA)

Metals:
HNO3 Preserved? Y N (NA)
Dissolved Metals Filtered? Y N (NA)

C

***ESI Clients Only:

Temperature Blank: ___ C not provided

All preserved bottles ecked Y N NA (voas/soils/all unp.)
All preserved accord ly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments:_____

*PM Reviewed:*_____ *(Initial/Date)*

Appendix B
Outfall 19 MS4 Program Monitoring

Part 4: FY 2008 – 2009

CITY OF PORTLAND
ENVIRONMENTAL SERVICES
Water Pollution Control Laboratory
6543 N. Burlington Avenue, Bldg 217, Portland, Oregon 97203 ▪ Dan Saltzman, Commissioner ▪ Dean Marriott, Director

September 4, 2009

Frank Wildensee
City of Portland, Bureau of Environmental Services
1120 SW 5th Avenue, Room 1000
Portland, OR 97204-1972

LAND USE STORMWATER MONITORING
FISCAL YEAR 2008-09 REPORT
STORM EVENTS

M1 Event 49: October 31 - November 2, 2008
M1 Event 50: March 14-15, 2009
M1 Event 51: March 25, 2009
OF19 Event 10: November 19, 2008
OF19 Event 11: February 23-24, 2009
OF19 Event 12: March 14-15, 2009
S45U Event 7: October 31 - November 2, 2008
S45U Event 8: February 23-24, 2009
S45U Event 9: March 14-15, 2009

INTRODUCTION

This report presents the results of the nine discrete storm sampling events conducted at three different mixed land use stations in fiscal year (FY) 2008-09 to comply with the City of Portland's (City) National Pollutant Discharge Elimination System (NPDES) municipal stormwater discharge (MS4) permit. For this project, these monitoring events represent M1 Events 49 through 51, OF19 Events 10 through 12, and S45U Events 7 through 9. Samples were also collected for additional analyses to support other City Programs and objectives:

OF19: Portland Harbor Superfund Program
S45U: evaluate TMDL and 303(d) list parameters for Johnson Creek

The Environmental Investigations Division performed the work for the Environmental Management Division's Regulatory/Policy section.

Land Use Stormwater Monitoring: FY 2008-09

BACKGROUND INFORMATION

In 1991, the City implemented a stormwater monitoring program as required by the municipal NPDES stormwater discharge permit application process. Ten stations throughout the city representing residential, commercial, industrial, state highway corridor, open space, and mixed land uses were selected for stormwater monitoring. In FY 1996-97, the monitoring plan was reduced to four land use stations so limited City resources could be allocated to other stormwater monitoring projects. Three of the four selected stations represented instream conditions, providing an overall measure of water quality in the watersheds. The fourth station, site M1, is an in-pipe monitoring point located in a subbasin pilot project area (City outfall 100 basin), which is the site of several planned stormwater treatment facilities. In FY 1999-00, one of the three instream sites was dropped in order to fund a best management practice (BMP) monitoring project in that watershed. In FY 2002-03, the two remaining instream sites were dropped from the monitoring plan leaving only the in-pipe location for continued monitoring for this project.

City of Portland stormwater outfall (OF19) was added to the monitoring program to represent industrial areas and stormwater discharges to the Lower Willamette watershed. OF19 historically has been monitored to identify potential sources of industrial stormwater pollution and to measure the effectiveness of the City's Industrial Stormwater Program. The Industrial Stormwater Program was developed in response to 40 CFR 122.26 "Storm water discharges", which requires certain municipalities to implement a program to control and monitor stormwater runoff associated with industrial activity. OF19 has been monitored for at least three events per year since FY 1998-99. The list of analyses for samples collected at OF19 has been expanded to meet the objectives of both programs.

S45U was added in FY 2006-07 as a sampling location representative of stormwater discharges to Johnson Creek. S45U was monitored previously for five storm events as part of the Johnson Creek Pesticide Source study conducted in FY 2003-04. Overviews of the current monitoring locations are shown in Figures 1 and 2A through 2C.

SAMPLING LOCATIONS, FIELD PROCEDURES, AND ANALYTICAL PARAMETERS

Sample collection and field parameter measurements are performed by the BES Field Operations section. The BES Water Pollution Control Laboratory (WPCL) provides primary analytical services. Selected analyses are performed by Test America in Beaverton, Oregon, Columbia Analytical Services (CAS) in Kelso, Washington, and Pace Analytical Services in Minneapolis, Minnesota.

Sampling Locations

The remaining monitoring site selected from the original ten land use stations is considered to best represent urban stormwater runoff quality from a mixed land use area. Site M1 (OF100), located at 5241 NE 122nd Ave., is an in-pipe sampling location receiving runoff from 144 acres of residential, commercial, industrial, and open space land uses. The sampling site is located in a 60-inch municipal separate storm sewer pipe accessed by a manhole on the west shoulder of NE 122nd Avenue. A site map is provided in Figure 3A.

OF19 is ranked by the City as one of the "Top Ten" outfalls for potential impacts on water quality and the outfall basin contains a significant number of industrial facilities. Monitoring is conducted in the 475-acre outfall 19 basin located in northwest Portland (Figure 2B). The basin is approximately 20 percent impervious due to significant industrial land use. Stormwater from this basin discharges to the Willamette River through a 42-inch outfall. The sampling manhole is located on the northwest corner of the intersection at NW Front and Kittridge Avenues (Figure 3B). Sampling and flow monitoring are performed in the 42-inch outlet pipe of this manhole.

S45U is located in the Johnson Creek watershed and represents a mix of residential, commercial, and industrial land use. The sampling manhole is located in the intersection of SE Umatilla and SE 45th Avenue, just upstream of City of Portland outfall JCF (Figure 3C). Stormwater from this basin discharges to Johnson Creek through a 48-inch outfall.

Field Procedures

Storm Criteria

In order to meet the data quality objectives of this project, monitoring is attempted for storms that are predicted to fulfill specified criteria. Currently, these criteria include a 6-hour antecedent dry period and a minimum of 0.20 inches of precipitation in a 12-hour period for the M1 and S45U sampling locations. For the OF19 site, the criteria include a 72-hour antecedent dry period and a minimum 0.20 inches of precipitation over a 3 to 24-hour sample collection period. An antecedent dry period is defined as less than 0.10 inches of precipitation in the specified period preceding the storm event.

Flow Monitoring

All three sites have uniformly shaped pipes, well suited for electronic flow quantification. Flow monitoring data are obtained through the use of a Sigma 950 Flow Meter. The flow sensor in the pipe collects level and velocity data, which are used in conjunction with pipe geometry information to calculate flow using the area-velocity method. During a sampling event, the flow meter calculates and records data at five-minute intervals.

Water Quality Sampling

Grab Samples

Grab samples are collected with a decontaminated stainless steel bailer attached to a telescoping sampling pole. The bailer is rinsed once with water from the sampling stream prior to filling the sample bottles and measuring the field parameters. Oil and grease samples are collected directly into the sample bottles.

Composite Samples

An Isco 6700 Portable Sampler is used for composite sample collection. All three sites are located in storm sewer lines where a sampler and a flow meter are secured in a manhole. Teflon-lined tubing extends from the sampler onto the pipe floor, where a stainless steel sample head is secured. For samples where low-level organics analyses are not required, reinforced vinyl tubing is used. The sampler utilizes a peristaltic pump to draw sample up the tubing and distribute it into composite bottles in the sampler base.

The flow meter is programmed to trigger the sampler every time a specified volume flows past the sensor. In an attempt to divide the storm runoff into 24 volume-proportioned aliquots, the trigger volume is calculated as one twenty-fourth of the expected runoff volume for the event. The expected runoff is calculated using the predicted rain amount for the event, basin size and a basin-specific runoff coefficient. For OF19 and S45U, the flow meters are programmed to activate the sampler when the water level rises from base flow level to the predetermined trigger level. In order to prevent the sampling program from activating during the minor level increases that often occur before the main storm arrives, a minimum of 0.5 inches is added to the base flow level when calculating trigger level. Eight 1.9-liter organics decontaminated glass composite bottles are used in the samplers. Decontaminated plastic composite bottles are used when low-level organics analyses are not required. For each trigger sent from the flow meter to the sampler, one 600-milliliter aliquot is pumped into a composite bottle. Each bottle receives three aliquots, whereupon the sampler distributor arm advances to the next bottle. Full bottles are removed and replaced with empty bottles as necessary over the course of the event. The number of aliquots collected may vary from the desired 24 as storm event rainfall totals often vary significantly from predictions. At the end of the event, a final composite is created by combining bottles that represent greater than 75 percent of the storm flow as recorded by the meter. Representative bottles are combined into a Teflon-lined churn splitter where analyte-specific sample bottles are then filled from a spigot during churn agitation.

Decontamination Procedures

All equipment that comes in contact with water samples is decontaminated in accordance with Field Operations SOP 7.01a – Decontamination of Sampling Equipment by the following procedure.

1. Wash in non-phosphate detergent (e.g., Alconox Detergent 8 or Liqui-nox).
2. Rinse in tap water.
3. Rinse in 10 percent nitric acid.
4. Rinse with deionized water.
5. Rinse with 10 percent Acetone solution.
6. Rinse with ultrapure water.

Prior to the storm event, both the peristaltic pump tubing and reinforced vinyl tubing is decontaminated by pumping through the same series of solutions listed above. Step 5 is skipped when low-level organics analyses are not required.

Analytical Constituents

Grab Samples

Grab samples are monitored in the field for conductivity, pH, and temperature using portable analytical meters. Dissolved oxygen is no longer measured. Grab samples are submitted to the laboratory for analysis of *Escherichia coli* and total oil and grease. Nonpolar oil and grease is measured if total oil and grease is greater than or equal to 10 milligrams per liter (mg/L).

Composite Samples

Composite samples are submitted to the laboratory for analysis of ammonia-nitrogen, nitrate-nitrogen, orthophosphate phosphorus, total dissolved solids, total phosphorus, total solids, total suspended solids, hardness, total metals (chromium, copper, lead, and zinc) and dissolved metals (copper, lead, and zinc). Additional samples from two of the sites were submitted for additional analyses and analytes as follows:

OF19: PAHs, SVOCs, PCB Congeners, and arsenic, silver, cadmium, and chromium
S45U: PAHs, organochlorine pesticides, and PCB Aroclors

WEATHER AND SAMPLING SUMMARY

The following section summarizes the weather and sampling information for each of the three events. Weather forecasts were obtained through the City-contracted ERF Company, Inc (ERF). Tables 1 through 3 present the complete rain gauge data as recorded by the City's Hydrological Data Retrieval and Alarm System (HYDRA) for the three storm events and the corresponding 72-hour antecedent dry periods for the three sampling locations. Rainfall data from HYDRA is reported as hourly totals. While City rain gauges provide the best available estimation of rainfall at monitoring sites they can be located several miles from study areas. Hence, rain gauge data may not accurately depict rainfall conditions at particular sites, especially during events with sporadic, localized rain activity.

Gauge 111 (NE Airport Way) is used for the M1 sample location and is located approximately one and a half miles west of the monitoring site. The previous rain gauge used for M1, Gauge 9 (PDX Business Park), was retired on September 21, 2004. Gauge 121 (Yeon) is used for monitoring site OF19 and is located within two miles of the sampling site. For monitoring conducted at OF19 for the Industrial Stormwater Program, rainfall at OF 19 was formerly estimated as an average of rainfall totals measured at Gauges 121 and 125 (Guilds Lake). Gauge 125 was retired on March 23, 2005. No additional gauges were used for rainfall estimates in the area since Gauge 121 and former Gauge 125 are the only gauges in the vicinity of the sampling site that represent the slight rain shadow caused by the West Hills in the NW industrial district. Gage 64 (2033 SE Harney St) is used for S45U and is located approximately 1.4 miles west of the monitoring location.

The river level gauge at Ankeny Pump Station is used to determine Willamette River levels in order to insure that river water has not backed up into the outfall sampling location. The river level must be below 20 feet above mean sea level to avoid potential commingling of OF19 stormwater with Willamette River water. River level data during sampling are shown in Figure 4 (note that there are five plots since two of the grab samples were collected separately from composite samples). River levels are measured approximately once per minute. All times in this report text, figures and tables are listed in 24-hour, Pacific Standard Time.

Events Summary

Summaries of antecedent, storm event, and sample collection time rainfall for the three monitoring locations are presented in Table 4. Additional information regarding each monitoring event is summarized below and includes specific comments for each event and descriptions of any deviations from proposed monitoring.

Sampling equipment including bailers and composite samplers are typically decontaminated, calibrated, and programmed during the 24 hour period prior to a predicted storm event. Sampling preparation may occur up to 72 hours prior to predicted weekend storm events. Final composite samples are prepared by combining all aliquots into a churn splitter in the laboratory and subsequently filling analyte-specific bottles through churn agitation. A Teflon churn splitter was used for all composite samples that are submitted for low-level organics analyses.

Sampling went smoothly for all events and no significant problems were encountered except as described below. Storm durations were generally captured and storms are well-represented by composite samples.

M1 Events Summary

Event 49: For some unknown reason, only half of the programmed sample volume was collected by the autosampler for the first 9 aliquots. To compensate, only half the subsequent sample volume was used when aliquots were combined at WPCL using a churn splitter.

Event 50: The first 10 out of 34 aliquots were missed due to clogged sample tubing. Following the 10 missed triggers, there was an approximate 4-hour dry period prior to relatively intense rainfall (0.18" per hour) at the beginning of the next extended pulse.

Event 51: No problems encountered.

OF19 Events Summary

Event 10: No problems encountered.

Event 11: No problems encountered. Approximately half of the aliquots were discarded due to a five-hour break in precipitation late on February 23, 2009. Based on flow and precipitation data, it appeared that two separate storm events had been captured. The last sample bottle submitted (bottle #7) included two aliquots from the first storm and one from the second. The first 7 bottles (21 aliquots) collected were submitted, therefore, this was not anticipated to impact representativeness of the composite sample.

Event 12: No problems encountered.

During sampling events, the river level must be below 20 feet in elevation to prevent commingling of river water with stormwater at the OF19 sampling location. The river level was below 10 feet in elevation during all sampling activities including both grab and composite sampling. River elevation plots during sampling efforts are shown in Figure 4.

S45U Events Summary

Events 7 through 9: No problems encountered.

A number of events were aborted for various reasons as described below. In some cases, grab samples were collected and submitted for analysis prior to the decision to abort the event. Subsequently, additional grab sample data for these aborted events are included in the various data tables attached to this report.

Date	Sample Location	Comments
10/31-11/2/08	OF19	Insufficient sample volume, grabs collected
12/12/08	M1, OF19, S45U	Insufficient rainfall, grabs collected
2/6/09	OF19	Insufficient sample volume
2/8/09	S45U	Insufficient rainfall, less than predicted
2/23/09	M1	Clogged sampler head
3/2/09	M1	Insufficient sample volume
3/12/09	M1	Missed triggers
3/23/09	M1	Insufficient rainfall, grabs collected

MONITORING AND SAMPLING RESULTS

Hydrographs summarizing flow, rainfall, and sampling information for each storm event are presented in Figures 5A through 7C. The individual sample triggers sent from the flow meters to the samplers, which represent aliquots of the composite samples, are represented by the ▲ symbol on the x-axis of the graph. The grab sample collection times are also included on the graphs.

Tables 5A through 7B present a summary of all field and laboratory analytical data for the three events. Since the PCB Congener data is not currently entered into LabWorks or Janus, the Pace laboratory reports are included as an attachment to this report. The complete Laboratory Analysis Reports and chain-of-custody records are kept on file at WPCL. Refer to the laboratory reports for information regarding the analytical methods used for all analyses and the corresponding method reporting limits. Note that in Table 6B, PAHs and phthalates are reported twice for the OF19 site with two different sets of method detection limits. PAHs were reported as part of the full EPA Method 8270 suite; however, in order to achieve lower detection limits for PAHs using the 8270 SIM method, the instrument must be calibrated for a narrower range such that only PAHs are reportable. PAH data usability issues are discussed below.

DATA VALIDATION & USABILITY

No problems were encountered with data quality except for the following:

Sample Date	Sample Location	Analysis & Issue	Actions Taken, Comments
11/2/08	S45U	(8081A) Endrin ketone (0.47 ng/l) detected in method blank slightly below MRL	Not detected in sample, no action taken
11/2/08	S45U	(8081A) LCS/LCSD RPD failures for most analytes, gamma-chlordane confirmation criteria exceeded	Gamma-chlordane only analyte detected in sample, qualified with "J" for estimated

Land Use Stormwater Monitoring: FY 2008-09

Sample Date	Sample Location	Analysis & Issue	Actions Taken, Comments
11/20/0	OF19	(8270C) Benzoic acid (0%, 4%) LCS/LCSD recoveries below acceptance criterion	To date, analyte has not been detected at this sampling location. Non-detect results qualified with "UJ" for detection limit inaccurate or imprecise.
11/20/0	OF19	(8270C) Pentachlorophenol (24%, 26%) LCS/LCSD recoveries slightly below acceptance criterion	To date, analyte has not been detected at this sampling location. Non-detect results qualified with "UJ" for reporting limit inaccurate or imprecise.
2/23/09	OF19, S45U	(8081A) Gamma-chlordane and 4,4'-DDD confirmation comparison RPD exceeded for OF19 sample, criteria exceeded for endosulfan I in S45U sample	CAS reported higher of two values, sample values qualified with "J" for estimated
2/23/09	OF19, S45U	(8081A) Method blank contamination by 4,4'-DDE (0.24 ng/l)	Value slightly above MDL, analyte not detected in associated samples, no action taken
2/23/09	OF19	(8270C) Method blank contamination by diethyl phthalate (0.045 J ug/l), di-n-butyl phthalate (0.095 J ug/l), butyl benzyl phthalate (0.052 J ug/l), bis(2-ethylhexyl) phthalate (0.33 J ug/l), and phenol (0.82 ug/l)	Most blank values below MRL, sample values <10x method blank concentration qualified with "JB" for estimated due to blank contamination (note: all qualified sample values below MRL)
2/23/09	OF19	(8270C) Extraction hold time exceeded by 2 days	For analytes detected, results from 8270-SIM analysis are used and are generally comparable. All detects qualified with "J" for estimated to indicate that 8270-SIM results should be used. Non-detect results are for analytes generally not detected at this location, non-detects qualified with "UJ" for reporting limit inaccurate or imprecise.
2/23/09	OF19	(8270C) Benzoic acid LCSD recovery (8%) and RPD (38%) outside acceptance criteria	LCS recovery acceptable, to date analyte has not been detected at this sampling location. Non-detect results qualified with "UJ" for reporting limit inaccurate or imprecise.
2/23/09	OF19	(8270C) LCS/LCSD RPD failed for 2,4-dimethylphenol (38%)	LCS/LCSD recoveries acceptable, analyte not detected, no action taken.
2/23/09	OF19	(8270C/8270-SIM) butyl benzyl phthalate split sample value RPD (56.3%) failed	8270C value already qualified due to missed extraction hold time, use 8270-SIM result
3/14/09	OF19, S45U	(8270-SIM) Batch 9030570 di-n-octyl phthalate MS result outside acceptance limits	MSD recovery and RPD acceptable, no other QC issues, analyte not detected in associated sample, no action taken
3/14/09	OF19, S45U	(8270-SIM) Batch 9030570 DEHP (-8.46%, -29.2%) MS/MSD results outside acceptance limits (sample value 7.89 ug/l, spike amount 4.21 ug/l; 7.53, 6.72 ug/l recovered), RPD failed (110%).	No other QC issues associated with this batch. Original sample value (source sample from different project) qualified with "JH" for potential high bias. No additional action taken.

Sample Date	Sample Location	Analysis & Issue	Actions Taken, Comments
3/14/09	OF19	(8270C) method blank contamination by diethyl phthalate (0.022 J ug/l), di-n-butyl phthalate (0.091 J ug/l) and butyl benzyl phthalate (0.047 J ug/l)	Most blank values below MRL, sample values <10x method blank concentration qualified with "JB" for estimated due to blank contamination (note: di-n-butyl phthalate value below MRL and was only value qualified)

All data are usable as reported or with associated qualifiers. No data were rejected though phthalate data should be used with caution. Where two values for single analytes were provided (i.e., PAHs and phthalates), EPA Method 8270-SIM results should be used due to generally lower detection limits and miscellaneous QC issues with Method 8270C analyses.

CONCLUSIONS

Grab and composite stormwater samples were collected during three storm events at each of the three sampling locations. The current MS4 monitoring plan requires at least two events at each site. Storm criteria were met during all sampling efforts except that the first event at OF19 was of slightly shorter duration than specified, and there were a number of missed triggers in the second event at the S45U site. However, all samples collected were generally representative of storm events monitored, therefore, sampling objectives for FY 2008-09 were met. All analytical data are considered usable except as noted above.

GENERAL

The Field Operations and Investigations and Monitoring Services sections of BES prepared this summary report. For any questions concerning this report, contact Aaron Wieting at 503-823-5437.

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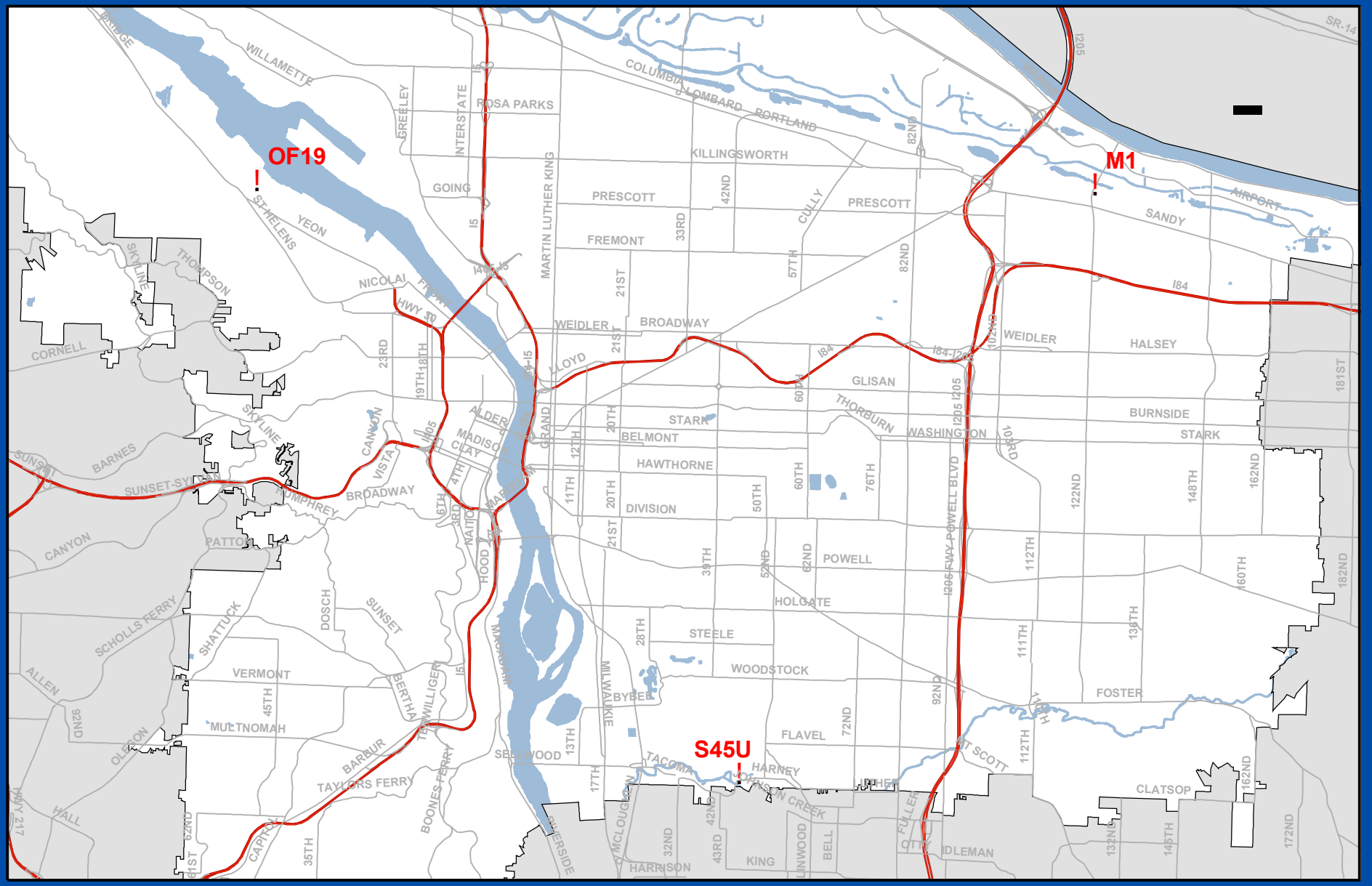
c: Linda Scheffler, Portland Harbor Program
Michael Pronold, Industrial Stormwater Program

FIGURES

Figure 1: Monitoring Location Overview
Figure 2A: M1 Vicinity Map
Figure 2B: OF19 Vicinity Map
Figure 2C: S45U Vicinity Map
Figure 3A: M1 Site Map
Figure 3B: OF19 Site Map
Figure 3C: S45U Site Map
Figure 4A: M1 Event 49 Hydrograph
Figure 4B: M1 Event 50 Hydrograph
Figure 4C: M1 Event 51 Hydrograph
Figure 5A: OF19 Event 10 Hydrograph
Figure 5B: OF19 Event 11 Hydrograph
Figure 5C: OF19 Event 12 Hydrograph
Figure 6A: S45U Event 7 Hydrograph
Figure 6B: S45U Event 8 Hydrograph
Figure 6C: S45U Event 9 Hydrograph



Monitoring Locations

City Mask

0 1 2 4 Miles

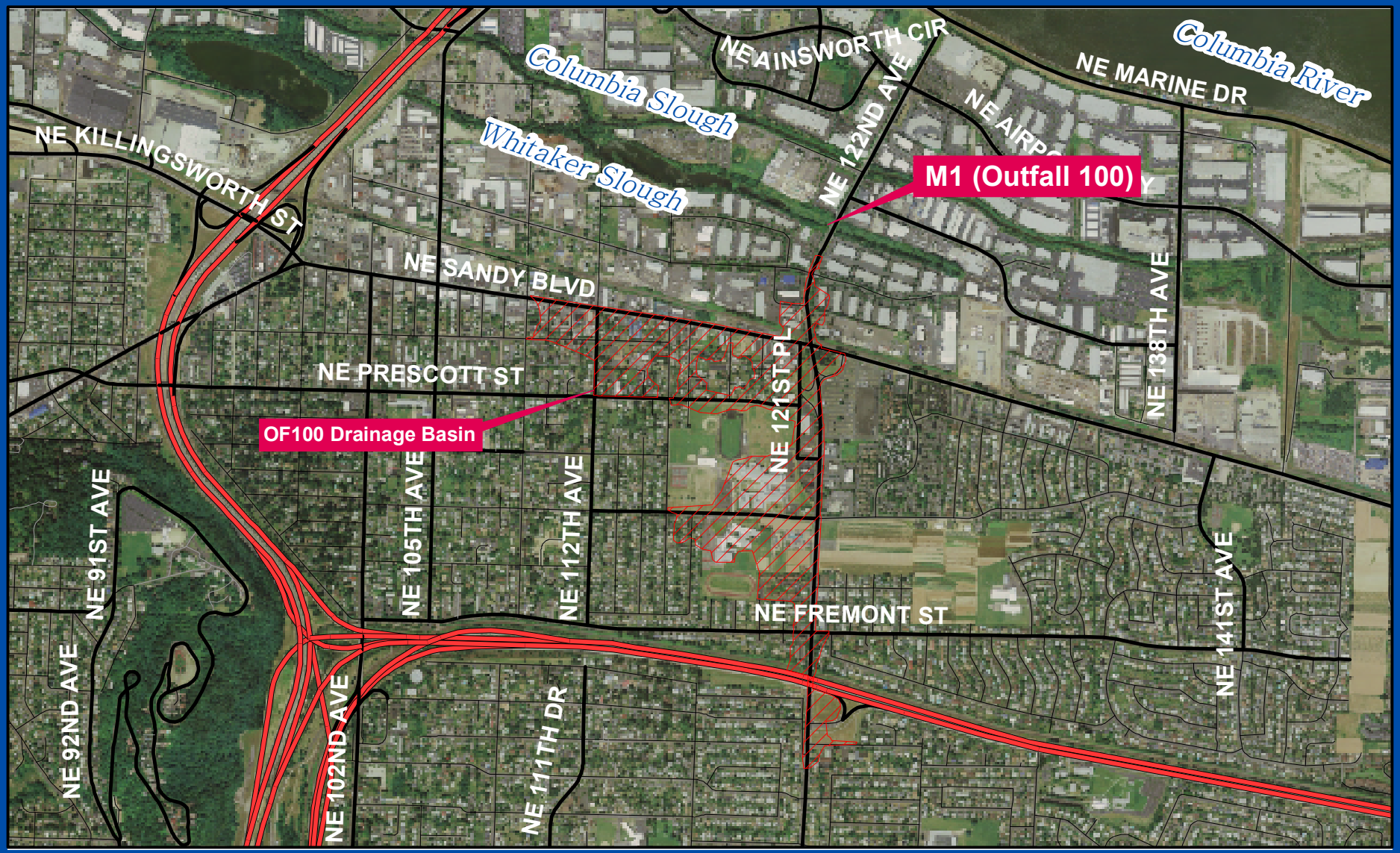
FIGURE 1
Monitoring Location Overview
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by: A. Wieting

Date Created: 9/20/2007



N
W E
S

0 1,000 2,000 4,000 Feet

FIGURE 2A
M1 Site Vicinity Map

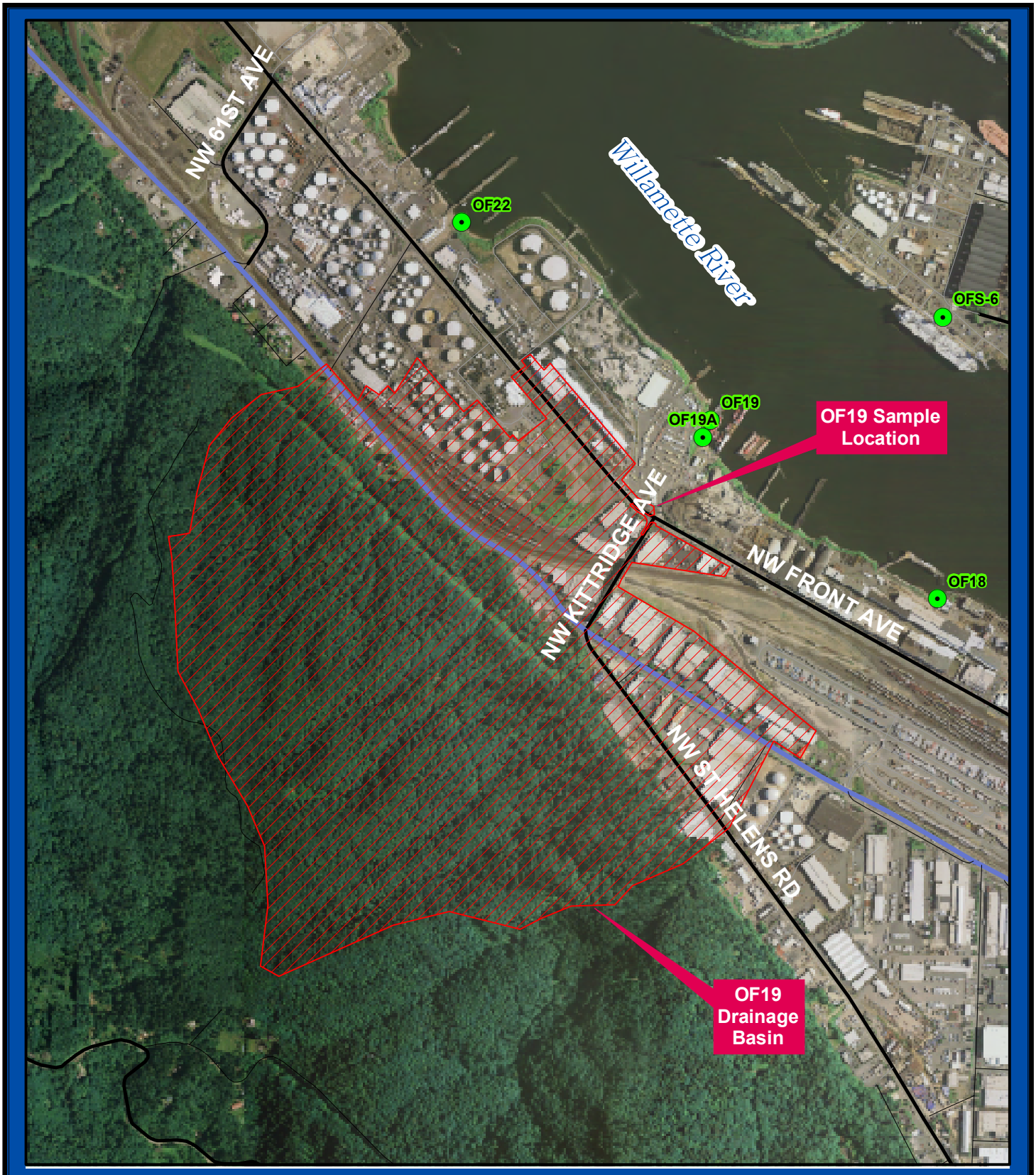
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007



N
W E
S

0 750 1,500 3,000 Feet

FIGURE 2B
OF19 Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9.2 using ArcMap

Created by:	*Date Created:*
A. Wieting	11/3/2008

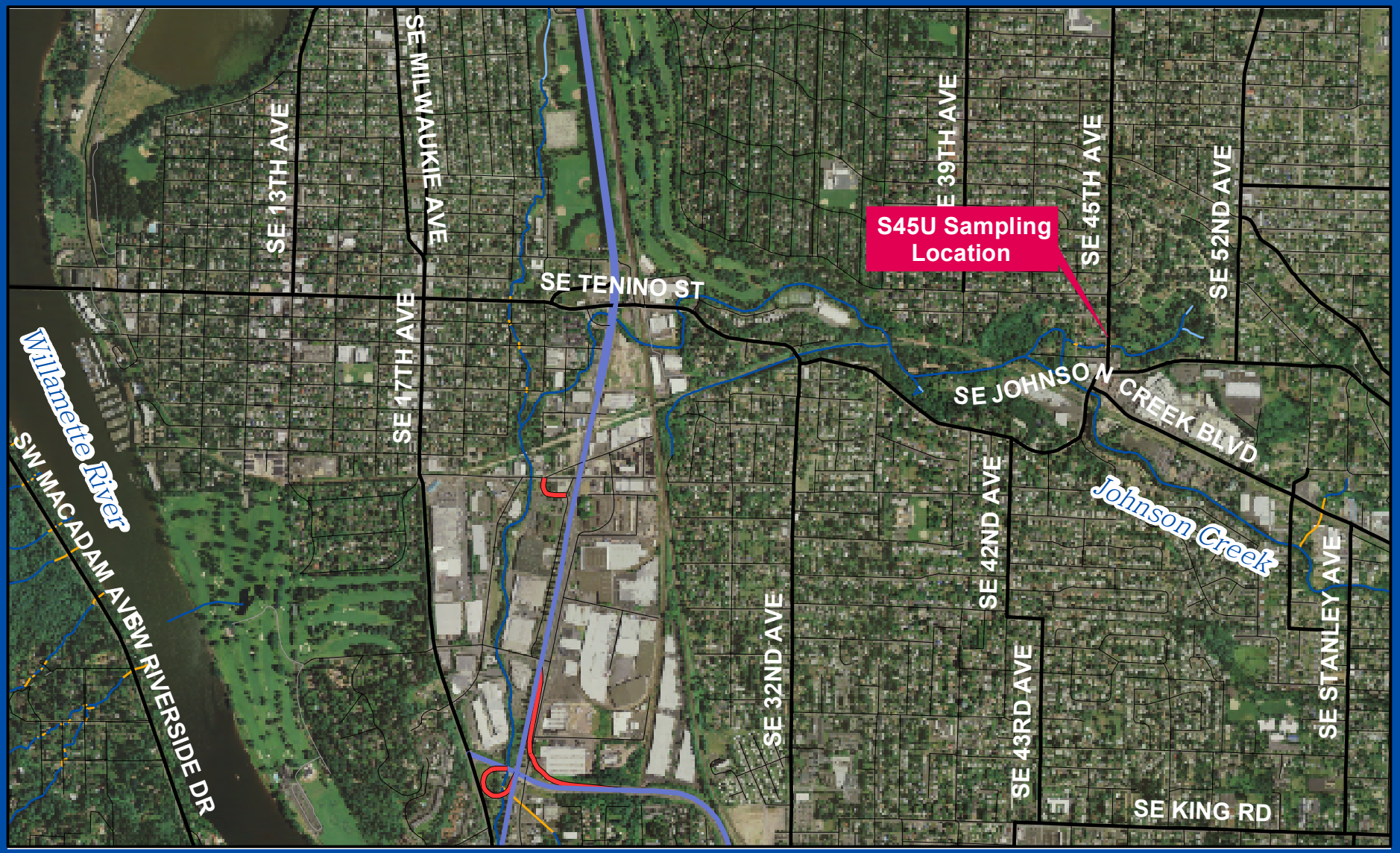


FIGURE 2C
S45U Site Vicinity Map

Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
8/27/2007

N
W E
S

0 25 50 100 Feet

FIGURE 3A
M1 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007

N
W E
S

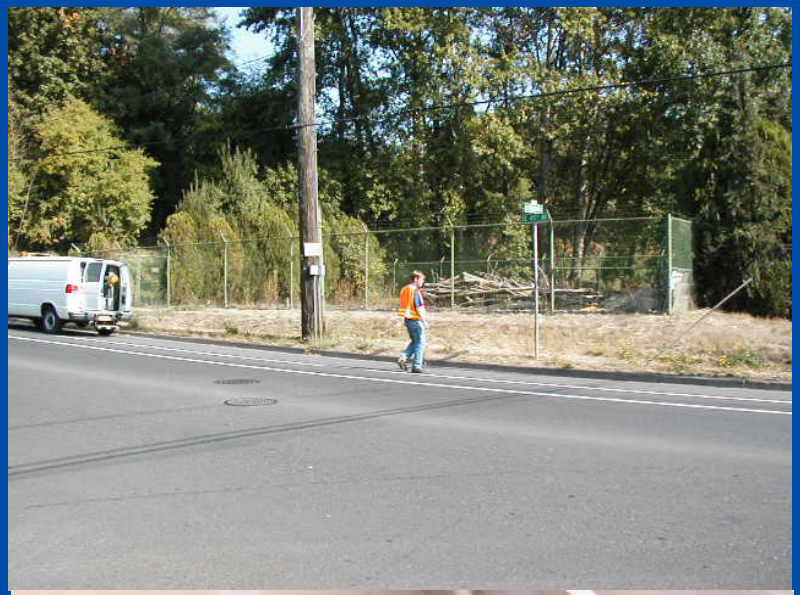
0 75 150 300 Feet

FIGURE 3B
OF19 Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Services
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:	*Date Created:*
A. Wieting	8/27/2007



N
W E
S

0 37.5 75 150 225 300 Feet

FIGURE 3C
S45U Site Map
Land Use Stormwater Monitoring

Investigations & Monitoring Service
Bureau of Environmental Services

Source: ESRI Data & Maps CD
Created in ArcGIS 9 using ArcMap

Created by:
A. Wieting

Date Created:
9/20/2007

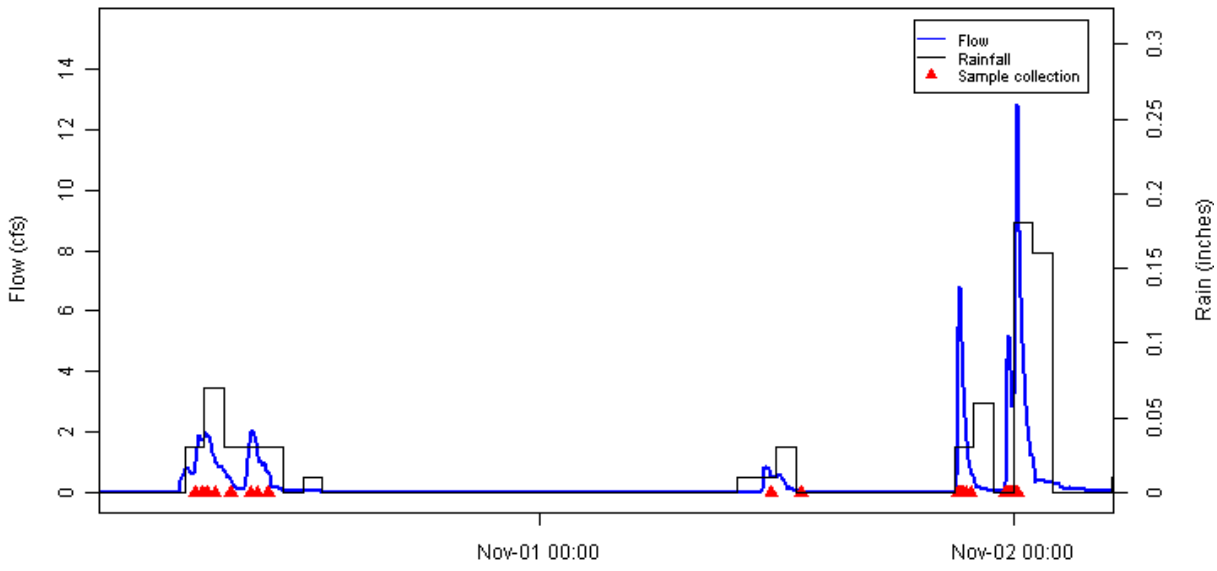


Figure 4A: M1 Event 49 Hydrograph

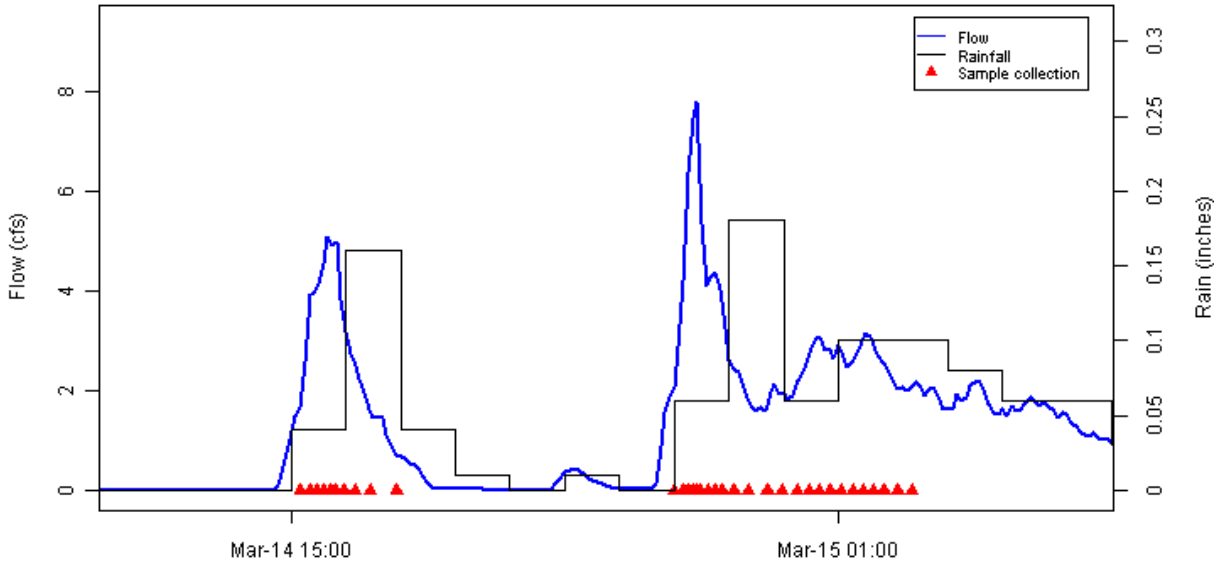


Figure 4B: M1 Event 50 Hydrograph

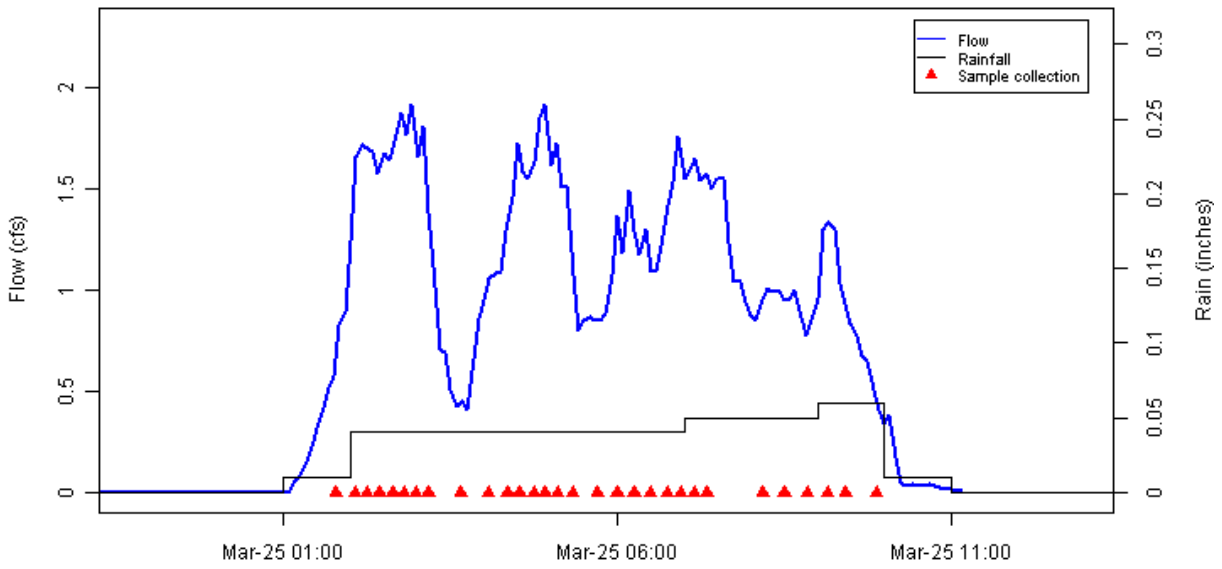


Figure 4C: M1 Event 51 Hydrograph

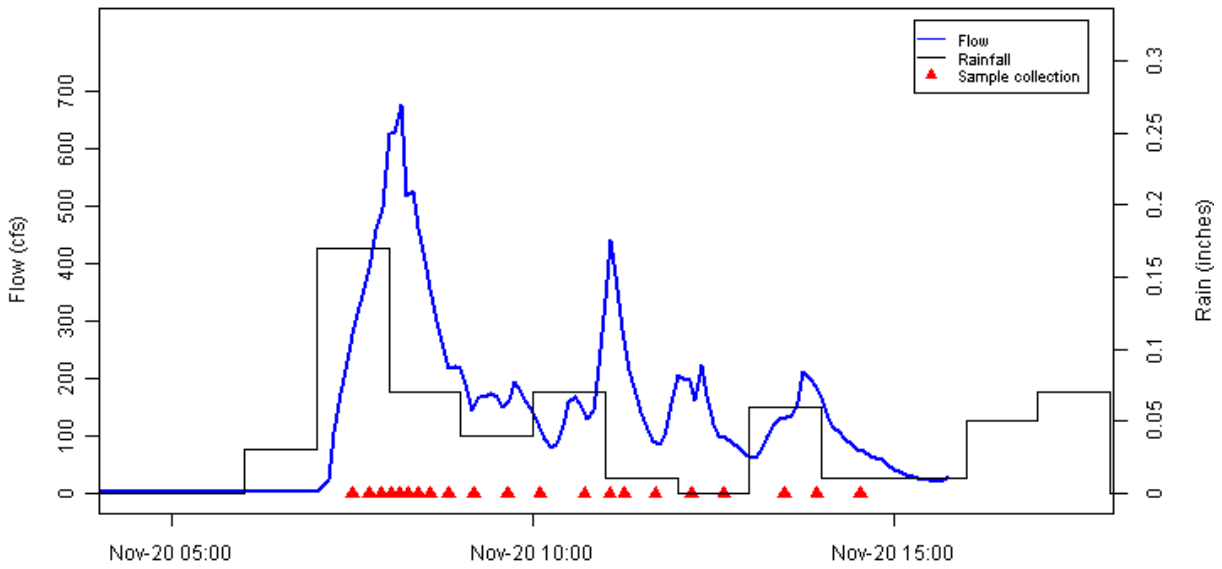


Figure 5A: OF19 Event 10 Hydrograph

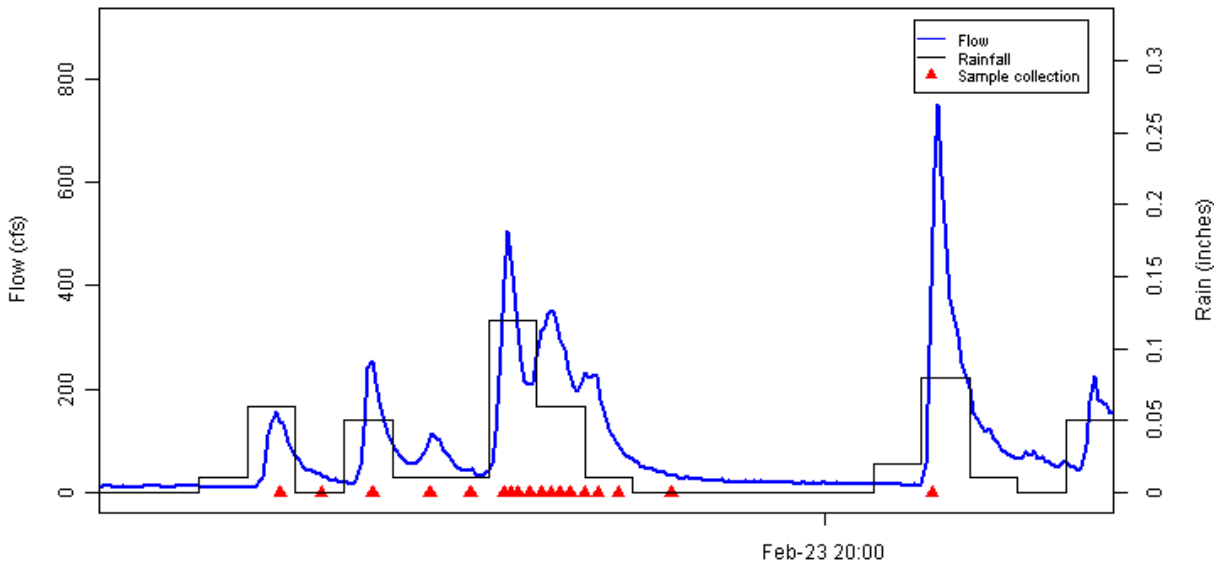


Figure 5B: OF19 Event 11 Hydrograph

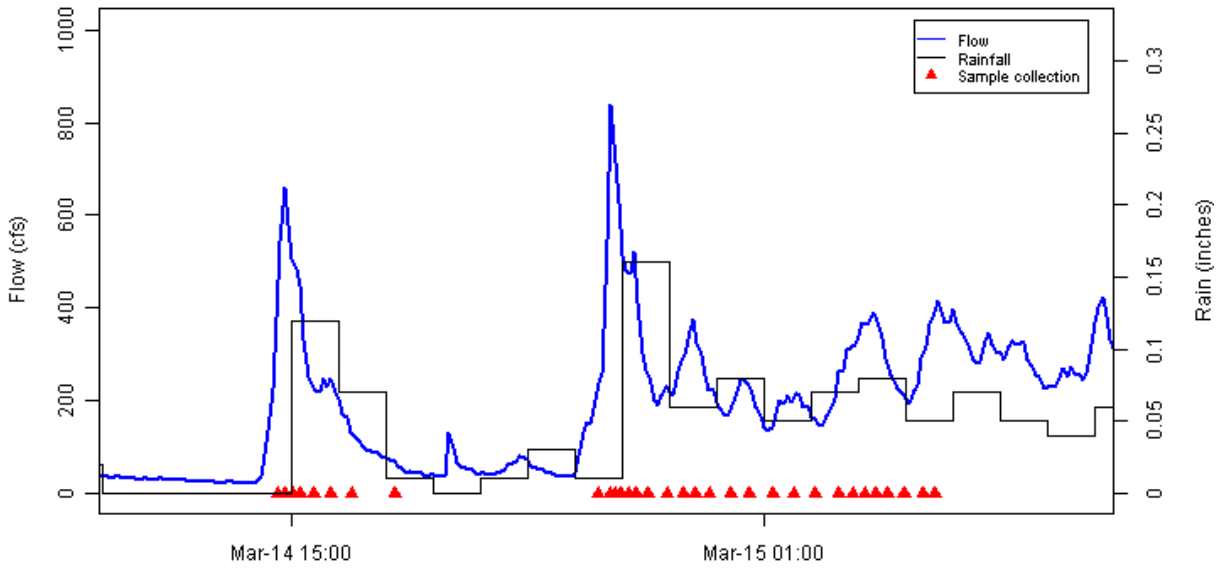


Figure 5C: OF19 Event 12 Hydrograph

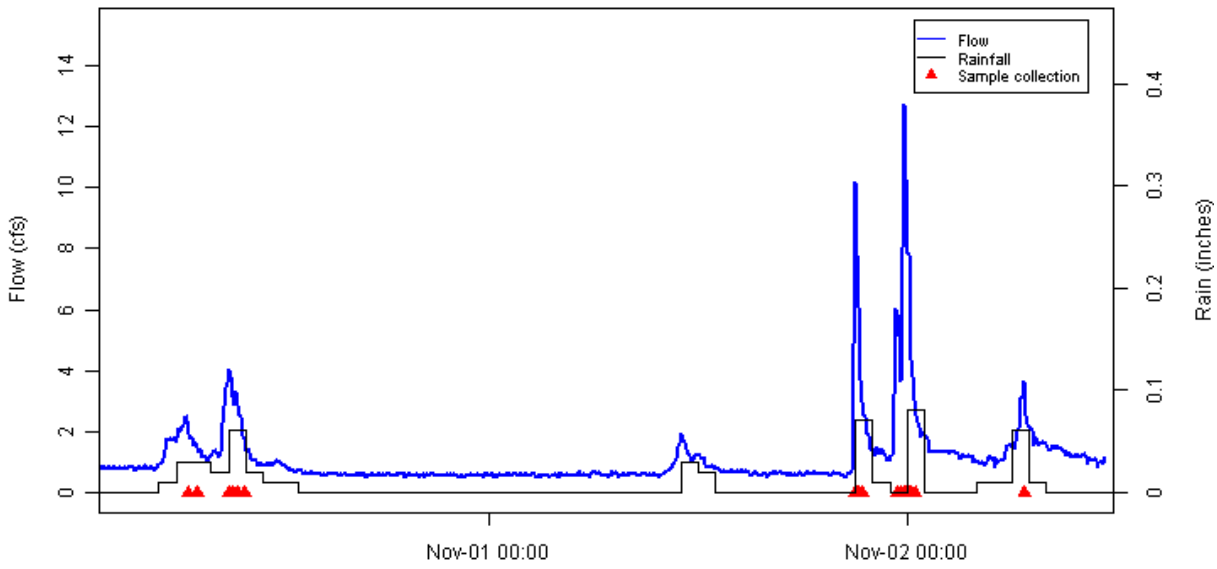


Figure 6A: S45U Event 7 Hydrograph

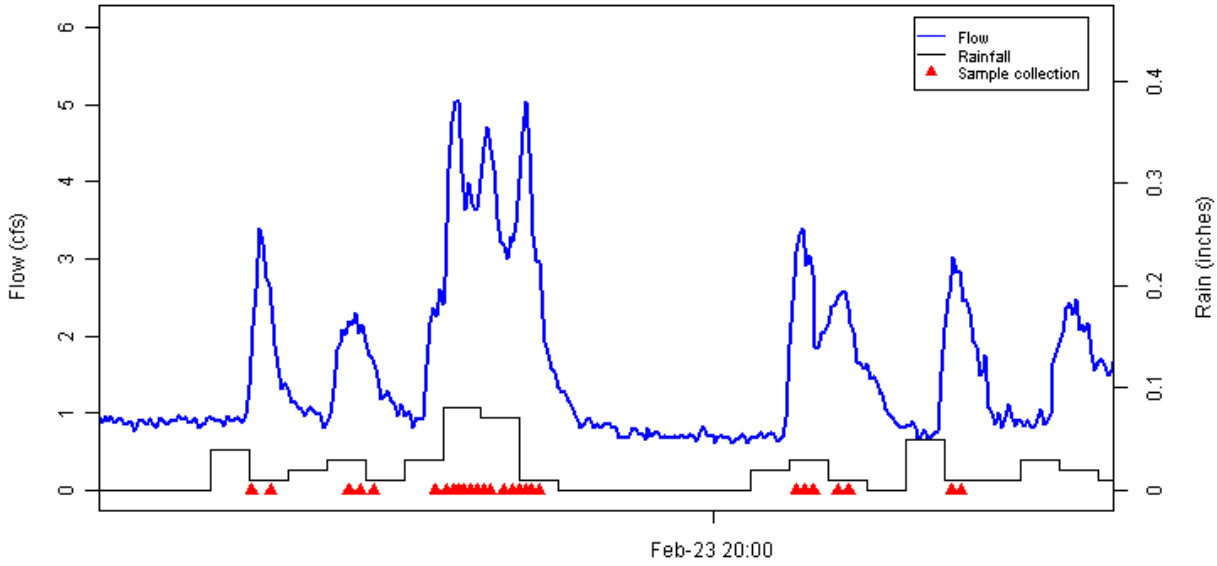


Figure 6B: S45U Event 8 Hydrograph

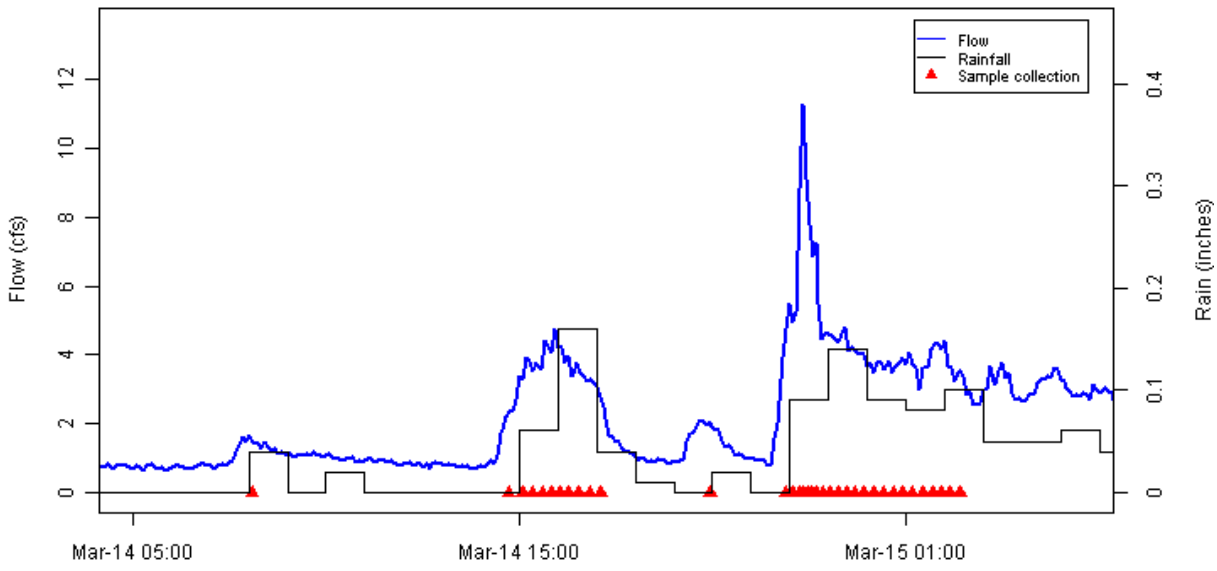


Figure 6C: S45U Event 9 Hydrograph

TABLES

Table 1: M1 Event HYDRA Rain Gauge Data
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Table 1: HYDRA Rain Gauuge Data
Land Use Stormwater Monitoring Location M1
FY 2008 - 09, Events 49 - 51

Daily Rain Report Rain Data Collected by HYDRA - City of Portland Data from gauge 111, NE Airport Way																								
																						Aborted Event Grab Sample		
																						Sample Aliquots Collected		
Event 49	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
10/28/2008																									0.00
10/29/2008																									0.00
10/30/2008																									0.00
10/31/2008							0.03	0.07	0.03	0.03	0.03		0.01												0.20
11/1/2008											0.01	0.01	0.03									0.03	0.06		0.14
11/2/2008	0.18	0.16			0.01	0.02		0.01																	0.38
Aborted Event																									
12/8/2009																									0.00
12/10/2009																									0.00
12/11/2009																									0.00
12/12/2009											0.02	0.13		0.02		0.03	0.01	0.03		0.01	0.01				0.26
Event 50																									
3/11/2009																									0.00
3/12/2009																									0.00
3/13/2009																									0.00
3/14/2009									0.04	0.01	0.01					0.04	0.16	0.04	0.01		0.01		0.06	0.18	0.56
3/15/2009	0.06	0.1	0.1	0.08	0.06	0.06	0.03	0.01	0.03	0.03	0.02														0.58
Event 51																									
3/20/2009		0.04																0.01							0.05
3/21/2009														0.01	0.02										0.03
3/22/2009						0.01			0.03	0.03		0.01	0.01	0.03											0.12
3/23/2009															0.01	0.02	0.04	0.05	0.02						0.14
3/24/2009	0.01															0.02									0.03
3/25/2009		0.01	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.01														0.38

Land Use Stormwater Monitoring: FY 2008-09

Table 2: HYDRA Rain Gauuge Data
Land Use Stormwater Monitoring Location OF19
FY 2008 - 09, Events 10 - 12

Daily Rain Report
Rain Data Collected by HYDRA - City of Portland
Data from gauge 121, NW Yeon

Aborted Event Grab Sample
Sample Aliquots Collected

Aborted Event	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
10/28/2008																									0.00
10/29/2008																									0.00
10/30/2008																									0.00
10/31/2008					0.01	0.05	0.04	0.02	0.07	0.01	0.01	0.01													0.26
Event 10																									
11/17/2008																									0.00
11/18/2008																									0.00
11/19/2008																									0.00
11/20/2008							0.03	0.17	0.07	0.04	0.07	0.01		0.06	0.01	0.01	0.05	0.07							0.59
Aborted Event																									
12/8/2009																									0.00
12/10/2009																									0.00
12/11/2009																									0.00
12/12/2009											0.07	0.1		0.04		0.04	0.05	0.12	0.01	0.02	0.01	0.05		0.02	0.53
Event 11																									
2/20/2009																									0.00
2/21/2009																									0.00
2/22/2009																									0.00
2/23/2009								0.01	0.06		0.05	0.01	0.01	0.12	0.06	0.01						0.02	0.08	0.01	0.44
2/24/2009		0.05	0.04	0.07	0.05	0.01											0.02	0.06	0.07	0.05	0.05	0.03	0.01	0.01	0.52
Event 12																									
3/11/2009																									0
3/12/2009																									0.00
3/13/2009																									0.00
3/14/2009									0.03	0.02	0.02					0.12	0.07	0.01		0.01	0.03	0.01	0.16	0.06	0.54
3/15/2009	0.08	0.05	0.07	0.08	0.05	0.07	0.05	0.04	0.06	0.02	0.01	0.01	0.01	0.02							0.02		0.01		0.65

Table 3: HYDRA Rain Gauuge Data
Land Use Stormwater Monitoring Location S45U
FY 2008 - 09, Events 7 - 9

Daily Rain Report
Rain Data Collected by HYDRA - City of Portland
Data from gauge 64, 2033 SE Harney St

Aborted Event Grab Sample
Sample Aliquots Collected

Event 7	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	total
10/28/2008																									0.00
10/29/2008																									0.00
10/30/2008																									0.00
10/31/2008						0.01	0.03	0.03	0.02	0.06	0.02	0.01	0.01												0.19
11/1/2008												0.03	0.02									0.07	0.01		0.13
11/2/2008	0.08			0.01	0.01	0.06	0.01					0.02													0.19
Aborted Event																									
12/9/2008																									0.00
12/10/2008																									0.00
12/11/2008																									0.00
12/12/2008											0.03	0.09		0.05	0.01	0.02	0.03	0.04	0.06	0.01			0.02	0.02	0.38
Event 8																									
2/20/2009																									0.00
2/21/2009																									0.00
2/22/2009															0.01		0.01		0.01						0.03
2/23/2009								0.04	0.01	0.02	0.03	0.01	0.03	0.08	0.07	0.01						0.02	0.03	0.01	0.36
2/24/2009		0.05	0.01	0.01	0.03	0.02	0.01	0.02			0.01	0.02	0.01			0.01	0.05	0.06	0.05			0.06	0.08	0.02	0.52
Event 9																									
3/11/2009																									0
3/12/2009																									0.00
3/13/2009																									0.00
3/14/2009									0.04		0.02					0.06	0.16	0.04	0.01		0.02		0.09	0.14	0.58
3/15/2009	0.09	0.08	0.1	0.05	0.05	0.06	0.04	0.02	0.05	0.06	0.01	0.01	0.07				0.01								0.70

TABLE 4
DRY PERIOD AND RAINFALL SUMMARY
NPDES Land Use Stormwater Monitoring, FY 2008-2009

Monitoring Location	Event	Sample Date(s)	Sample Collection Time	Antecedent Dry Period (hours)[a]	Antecedent Rainfall Totals			Predicted Rainfall Total[b]	Daily Rainfall Totals	Storm Intensity	Storm Rainfall Total	Total Rainfall During Sample Collection	Total Aliquots Collected
					72-Hour	24-Hour	6-Hour						
M1	49	10/31 - 11/2/2008	06:31 - 00:12	> 72	0	0	0	0.09 - 0.21 + 0.21 - 0.34 + 0.37 - 0.51 +	0.20 0.32 0.20	light to mod., pulsed	0.7	0.68	30
	n/a	12/12/2008	12:00	> 72	0.02	0.02	0.02	0.52 - 0.77 +	0.26	light, early peak	0.27	n/a	grab
	50	3/14-15/2009	22:01 - 02:22	5 (> 72)[c]	0.32 (0.06)[c]	0.32 (0.06)[c]	0.22 (0.02)[c]	0.45 - 0.57 + 0.77 - 0.92 +	0.62 0.52	moderate, pulsed	1.18	0.62	24[c]
	n/a	3/23/2009	14:39	30	0.16	0	0	0.21 - 0.32 +	0.14	light, steady	0.14	n/a	grab
	51	3/25/2009	01:48 - 09:54	33	0.3	0.03	0.01	0.23 - 0.32 +	0.38	moderate, steady	0.38	0.37	30
OF19	n/a	10/31/2008	10:33	0 (> 72)[d]	0.19 (0)[d]	0.19 (0)[d]	0.17 (0)[d]	0.09 - 0.21 +	0.22	moderate	0.22	n/a	grab
	10	11/20/2008	07:28 - 14:30	> 72	0	0	0	0.29 - 0.42 +	0.59	moderate, pulsed	0.59	0.46	21
	n/a	12/12/2008	14:53	1 (> 72)[d]	0.17 (0)[d]	0.17 (0)[d]	0.17 (0)[d]	0.52 - 0.77 +	0.53	moderate, pulsed	0.55	n/a	grab
	11	2/23/2009	08:41 - 22:13	> 72	0	0	0	0.37 - 0.48 +	0.44	moderate, several peaks	0.44	0.43	21
	12	3/14-15/2009	14:42 - 04:37	> 72	0.07	0.07	0.04	0.45 - 0.57 + 0.77 - 0.92 +	0.62 0.57	moderate, several peaks	1.09	0.87	32
S45U	7	10/31 - 11/2/2008	06:42 - 05:43	> 72	0	0	0	0.09 - 0.21 + 0.21 - 0.34 + 0.37 - 0.51 +	0.20 0.32 0.20	light to mod., pulsed	0.61	0.55	19
	n/a	12/12/2008	13:56	> 72	0	0	0	0.52 - 0.77 +	0.38	light to mod., pulsed	0.39	n/a	grab
	8	2/23 - 24/2009	10:34 - 15:30	> 72	0.03	0.03	0.03	0.37 - 0.48 + 0.31 - 0.42 +	0.36 0.52	light to mod., pulsed	0.72	0.65	18
	9	3/14 - 15/2009	08:05 - 02:25	> 72	0	0	0	0.45 - 0.57 + 0.77 - 0.92 +	0.67 0.62	moderate, two peaks	1.37	1.00	35

Notes:
All rainfall totals in inches. All rainfall data from City of Portland HYDRA network except as noted
[a] less than 0.10 inches of rain
[b] provided by Extended Range Forecasting (ERF), Inc. For delayed storms or storms lasting longer than one day, forecasts for each day are listed in chronological order.
[c] 10 aliquots missed at beginning due to clogged sample tubing, dry periods are for both prior to first successful sample collection and prior to beginning of storm event
[d] value in parentheses are dry periods and rainfall totals for period prior to the beginning of the storm event (other values are for actual time that sample was collected)

Table 5: Analytical Summary, Conventional Parameters
Land Use Stormwater Monitoring Location M1
FY 2008-09, Events 49-51

Sample Type	Parameter	Units	Event 49 10/31-11/2/2008	Aborted* 12/12/2008	Event 50 3/14-15/2009	Aborted* 3/23/09	Event 51 3/25/2009
Grab	Conductivity (field)	µmhos/cm	51	95	21	94	54
	E. coli	mpn/100 mℓ	5200	1300	860	380	< 10
	Oil & Grease, Total (Non-polar)	mg/ℓ	< 5	na	< 5	5.6 (< 5)	< 5
	pH (field)	S.U.	6.8	6.1	6.5	7.2	7
	Temperature	Deg. C	13.3	8.6	7.8	9.3	7.9
Composite	Ammonia-Nitrogen	mg/ℓ	0.3	NS	0.13	NS	0.18
	Nitrate-Nitrogen	mg/ℓ	0.34	NS	< 0.1	NS	0.12
	Orthophosphate-Phosphorus	mg/ℓ	0.049	NS	0.035	NS	< 0.02
	Total Dissolved Solids	mg/ℓ	33	NS	19	NS	24
	Total Phosphorus	mg/ℓ	0.57	NS	0.38	NS	1.01
	Total Solids	mg/ℓ	254	NS	123	NS	68
	Total Suspended Solids	mg/ℓ	195	NS	116	NS	50
	Hardness, Total	mg CaCO3/ℓ	40.8	NS	17.1	NS	23.1
	Chromium	µg/ℓ	5.86	NS	4.71	NS	2.84
	Copper	µg/ℓ	35.2	NS	13.2	NS	15.4
	Lead	µg/ℓ	28.2	NS	13.1	NS	9.44
	Zinc	µg/ℓ	281	NS	93.2	NS	195
	Copper, Dissolved	µg/ℓ	7.73	NS	1.26	NS	2.68
	Lead, Dissolved	µg/ℓ	2.62	NS	0.11	NS	0.19
	Zinc, Dissolved	µg/ℓ	50.1	NS	12.5	NS	24.2
	BOD	mg/ℓ	12	NS	< 2	NS	3

* = grab sample submitted to WPCL, but composite sampling effort subsequently aborted (see text)
µmhos/cm = microsiemens per centimeter
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< value = less than method reporting limit

Land Use Stormwater Monitoring: FY 2008-09

Table 6A: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2008-09, Events 10-12
Conventional Parameters, Pesticides

Sample Type	Parameter	Units	Aborted* 10/31/08	Event 10 11/20/08	Aborted* 12/12/2008	Event 11 2/23/2009	Event 12 3/14/-15/2009
Grab	Conductivity (field)	µmhos/cm	178	96	135	115	160
	E. coli	mpn/100 mℓ	2500	6100	3300	1400	170
	Oil & Grease, Total	mg/ℓ	< 5	< 5	NR	< 5	< 5
	pH (field)	S.U.	7.2	6.8	6.6	7.3	6.5
	Temperature	Deg. C	13.6	8.3	9.9	8.9	8.4
Composite	Ammonia-Nitrogen	mg/ℓ	NS	0.2	NS	0.22	0.11
	Nitrate-Nitrogen	mg/ℓ	NS	0.3	NS	0.41	0.32
	BOD5	mg/ℓ	NS	12	NS	11	4
	COD	mg/ℓ	NS	63	NS	110	36
	Orthophosphate-Phosphorus Dissolved	mg/ℓ	NS	0.036	NS	0.03	0.022
	Total Dissolved Solids	mg/ℓ	NS	71	NS	99	48
	Total Phosphorus	mg/ℓ	NS	0.34	NS	0.71	0.22
	Total Solids	mg/ℓ	NS	148	NS	341	140
	Total Suspended Solids	mg/ℓ	NS	89	NS	245	82
	Total Kjeldahl Nitrogen (TKN)	mg/ℓ	NS	1.15	NS	1.79	0.71
	Hardness, Total	mg CaCO3/ℓ	NS	41.1	NS	82.7	33.9
	Arsenic, Total	µg/ℓ	NS	1.62	NS	3.65	1.15
	Cadmium, Total	µg/ℓ	NS	0.41	NS	0.85	0.39
	Chromium, Total	µg/ℓ	NS	6.24	NS	28.7	6.09
	Copper, Total	µg/ℓ	NS	29	NS	49.5	16
	Lead, Total	µg/ℓ	NS	45.9	NS	55	20.2
	Silver, Total	µg/ℓ	NS	< 0.1	NS	0.21	< 0.1
	Zinc, Total	µg/ℓ	NS	282	NS	486	197
	Arsenic, Dissolved	µg/ℓ	NS	0.58	NS	0.74	0.42
	Cadmium, Dissolved	µg/ℓ	NS	< 0.1	NS	0.11	< 0.1
	Chromium, Dissolved	µg/ℓ	NS	0.57	NS	0.54	0.52
	Copper, Dissolved	µg/ℓ	NS	4.73	NS	6.08	2.67
	Lead, Dissolved	µg/ℓ	NS	1.07	NS	0.37	0.41
	Silver, Dissolved	µg/ℓ	NS	< 0.1	NS	< 0.1	< 0.1
	Zinc, Dissolved	µg/ℓ	NS	89.2	NS	78.6	73.9
Pesticides ** (composite)	4,4'-DDD	ng/ℓ	NS	NS	NS	J 14	NS
	4,4'-DDE	ng/ℓ	NS	NS	NS	< ND	NS
	4,4'-DDT	ng/ℓ	NS	NS	NS	< ND	NS
	Aldrin	ng/ℓ	NS	NS	NS	J 3.7	NS
	alpha-BHC	ng/ℓ	NS	NS	NS	< ND	NS
	alpha-Chlordane	ng/ℓ	NS	NS	NS	7.7	NS
	beta-BHC	ng/ℓ	NS	NS	NS	< ND	NS
	delta-BHC	ng/ℓ	NS	NS	NS	< ND	NS
	Dieldrin	ng/ℓ	NS	NS	NS	< ND	NS
	Endosulfan I	ng/ℓ	NS	NS	NS	< ND	NS
	Endosulfan II	ng/ℓ	NS	NS	NS	< ND	NS
	Endosulfan Sulfate	ng/ℓ	NS	NS	NS	9.7	NS
	Endrin	ng/ℓ	NS	NS	NS	< ND	NS
	Endrin Aldehyde	ng/ℓ	NS	NS	NS	< ND	NS
	Endrin Ketone	ng/ℓ	NS	NS	NS	< ND	NS
	gamma-BHC (Lindane)	ng/ℓ	NS	NS	NS	< ND	NS
	gamma-Chlordane	ng/ℓ	NS	NS	NS	J 27	NS
	Heptachlor	ng/ℓ	NS	NS	NS	6.1	NS
	Heptachlor Epoxide	ng/ℓ	NS	NS	NS	< ND	NS
	Methoxychlor	ng/ℓ	NS	NS	NS	17	NS
	Toxaphene	ng/ℓ	NS	NS	NS	< ND	NS

* = grab sample submitted to WPCL, but composite sampling effort subsequently aborted (see text)
** = samples incorrectly analyzed for pesticides by CAS, data reported here for informational purposes
µmhos/cm = microsiemens per centimeter
NR = not reported due to laboratory QC failure (i.e., significant blank contamination)
NS = not sampled
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< value = less than method reporting limit
ng/ℓ = nanograms per liter

Table 6B: Analytical Summary
Land Use Stormwater Monitoring Location OF19
FY 2008-09, Events 10-12
SVOCs and PAHs + Phthalates

Parameter	Event 10 11/20/2008		Event 11 2/23/2009		Event 12 3/14-15/2009	
	8270C	8270-SIM	8270C	8270-SIM	8270C	8270-SIM
1,2,4-Trichlorobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
1,2-Dichlorobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
1,3-Dichlorobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
1,4-Dichlorobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
2,4,5-Trichlorophenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
2,4,6-Trichlorophenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
2,4-Dichlorophenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
2,4-Dimethylphenol	< 21	NA	UJ 21	NA	< 40	NA
2,4-Dinitrophenol	< 21	NA	UJ 21	NA	< 40	NA
2,4-Dinitrotoluene	< 1.1	NA	UJ 1.1	NA	< 2	NA
2,6-Dinitrotoluene	< 1.1	NA	UJ 1.1	NA	< 2	NA
2-Chloronaphthalene	< 1.1	NA	UJ 1.1	NA	< 2	NA
2-Chlorophenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
2-Methylnaphthalene	< 1.1	NA	UJ 1.1	NA	< 2	NA
2-Methylphenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
2-Nitroaniline	< 1.1	NA	UJ 1.1	NA	< 2	NA
2-Nitrophenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
3,3'-Dichlorobenzidine	< 11	NA	UJ 11	NA	< 20	NA
3-Nitroaniline	< 5.2	NA	UJ 5.2	NA	< 10	NA
4,6-Dinitro-2-methylphenol	< 11	NA	UJ 11	NA	< 20	NA
4-Bromophenylphenyl ether	< 1.1	NA	UJ 1.1	NA	< 2	NA
4-Chloro-3-methylphenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
4-Chloroaniline	< 1.1	NA	UJ 1.1	NA	< 2	NA
4-Chlorophenylphenyl ether	< 1.1	NA	UJ 1.1	NA	< 2	NA
4-Methylphenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
4-Nitroaniline	< 5.2	NA	UJ 5.2	NA	< 10	NA
4-Nitrophenol	< 11	NA	UJ 11	NA	< 20	NA
Acenaphthene	< 1.1	0.0197	UJ 1.1	< 0.0392	< 2	< 0.0196
Acenaphthylene	< 1.1	< 0.0194	UJ 1.1	< 0.0392	< 2	< 0.0196
Anthracene	< 1.1	0.0205	UJ 1.1	0.0408	< 2	< 0.0196
Benzo(a)anthracene	< 1.1	0.0332	UJ 1.1	0.0891	< 2	0.043
Benzo(a)pyrene	< 1.1	0.0339	UJ 1.1	0.095	< 2	0.0488
Benzo(b)fluoranthene	< 1.1	0.0424	UJ 1.1	0.119	< 2	0.0613
Benzo(g,h,i)perylene	< 1.1	0.0387	UJ 1.1	0.123	< 2	0.0631
Benzo(k)fluoranthene	< 1.1	0.0286	UJ 1.1	0.0954	< 2	0.0425
Benzoic acid	UJ 26	NA	UJ 26	NA	< 50	NA
Benzyl alcohol	< 2.6	NA	UJ 26	NA	< 5	NA
Bis(2-chloroethoxy) methane	< 1.1	NA	UJ 1.1	NA	< 2	NA
Bis(2-chloroethyl) ether	< 1.1	NA	UJ 1.1	NA	< 2	NA
Bis(2-chloroisopropyl) ether	< 1.1	NA	UJ 1.1	NA	< 2	NA
Bis(2-ethylhexyl) phthalate	< 5.2	1	UJ 5.2	3.48	< 10	2.16
Butyl benzyl phthalate	< 1.1	< 0.971	J 1.2	2.14	< 2	1.28
Chrysene	< 1.1	0.068	UJ 1.1	0.212	< 2	0.0968
Dibenzo(a,h)anthracene	< 1.1	0.0166	UJ 1.1	0.0301	< 2	0.0123
Dibenzofuran	< 1.1	NA	UJ 1.1	NA	< 2	NA
Diethyl phthalate	< 1.1	< 0.971	UJ 1.1	< 1.96	< 2	< 0.98
Dimethyl phthalate	7.6	5.68	J 11	14.3	< 2	1.07
Di-n-butyl phthalate	< 1.1	< 0.971	UJ 1.1	< 1.96	< 2	< 0.98
Di-n-octyl phthalate	< 1.1	< 0.971	UJ 1.1	< 1.96	< 2	< 0.98
Fluoranthene	< 1.1	0.117	UJ 1.1	0.358	< 2	0.148
Fluorene	< 1.1	0.0236	UJ 1.1	< 0.0392	< 2	< 0.0196
Hexachlorobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
Hexachlorobutadiene	< 1.1	NA	UJ 1.1	NA	< 2	NA
Hexachlorocyclopentadiene	< 5.2	NA	UJ 5.2	NA	< 10	NA
Hexachloroethane	< 1.1	NA	UJ 1.1	NA	< 2	NA
Indeno(1,2,3-cd)pyrene	< 1.1	0.03	UJ 1.1	0.0721	< 2	0.0373
Isophorone	< 1.1	NA	UJ 1.1	NA	< 2	NA
Naphthalene	< 1.1	0.0323	UJ 1.1	0.0566	< 2	< 0.0196
Nitrobenzene	< 1.1	NA	UJ 1.1	NA	< 2	NA
N-Nitrosodi-n-propylamine	< 1.1	NA	UJ 1.1	NA	< 2	NA
N-Nitrosodiphenylamine	< 1.1	NA	UJ 1.1	NA	< 2	NA
Pentachlorophenol	UJ 5.2	NA	UJ 5.2	NA	< 10	NA
Phenanthrene	< 1.1	0.122	UJ 1.1	0.272	< 2	0.101
Phenol	< 2.6	NA	UJ 2.6	NA	< 5	NA
Pyrene	< 1.1	0.0845	UJ 1.1	0.225	< 2	0.133

all units in micrograms per liter (µg/ℓ)
NA = not analyzed
J = estimated concentration (see text)
UJ = estimated concentration, detection limit inaccurate or imprecise (see text)
< = less than method detection limit

Table 7A: Analytical Summary, Conventional Parameters
Land Use Stormwater Monitoring Location S45U
FY 2008-09, Events 7-9

Sample Type	Parameter	Units	Event 7 11/2/2008	Aborted* 12/12/2008	Event 8 2/23/2009	Event 9 3/14/2009
Grab	Conductivity (field)	µmhos/cm	89	56	77	181
	E. coli	mpn/100 mℓ	2900	1000	2900	560
	Oil & Grease, Total	mg/ℓ	< 5	NR	< 5	< 5
	pH (field)	S.U.	6.8	6.5	7	6.8
	Temperature	Deg. C	13	9	10.3	10.3
Composite	Ammonia-Nitrogen	mg/ℓ	0.12	NA	0.29	0.39
	Nitrate-Nitrogen	mg/ℓ	1.4	NA	2.6	3.7
	Orthophosphate-Phosphorus	mg/ℓ	0.03	NA	0.035	0.038
	Total Dissolved Solids	mg/ℓ	49	NA	73	73
	Total Phosphorus	mg/ℓ	0.69	NA	0.44	0.41
	Total Solids	mg/ℓ	307	NA	228	196
	Total Suspended Solids	mg/ℓ	251	NA	162	132
	Hardness, Total	mg CaCO3/ℓ	40.4	NA	49.7	40.1
	Chromium, Total	µg/ℓ	24.2	NA	11.2	9.97
	Copper, Total	µg/ℓ	63.5	NA	27	27.3
	Lead, Total	µg/ℓ	29.8	NA	15.5	13.7
	Zinc, Total	µg/ℓ	297	NA	257	176
	Copper, Dissolved	µg/ℓ	6.86	NA	4.9	5.01
	Lead, Dissolved	µg/ℓ	0.22	NA	0.16	0.14
	Zinc, Dissolved	µg/ℓ	87.8	NA	96.2	67.3

* = grab sample submitted to WPCL, but composite sampling effort subsequently aborted (see text)
µmhos/cm = microsiemens per centimeter
mpn/100mℓ = most probable number per 100 milliliters
S.U. = standard units
mg/ℓ = milligrams per liter
NR = not reported due to QC failure
mg CaCO3/ℓ = milligrams calcium carbonate per liter
µg/ℓ = micrograms per liter
< = less than method reporting limit

Table 7B: Analytical Summary
Land Use Stormwater Monitoring Location S45U
FY 2008-09, Events 7 - 9
PCB Aroclors, Pesticides, and PAHs

Analysis	Parameter	Event 7 11/2/08	Event 8 2/23/2009	Event 9 3/14/2009
PCBs (µg/ℓ)	Aroclor 1016/1242	< 0.025	< 0.025	< 0.025
	Aroclor 1221	< 0.05	< 0.05	< 0.05
	Aroclor 1232	< 0.025	< 0.025	< 0.025
	Aroclor 1248	< 0.025	< 0.025	< 0.025
	Aroclor 1254	0.256	0.11	0.095
	Aroclor 1260	< 0.025	< 0.025	< 0.025
	Aroclor 1262	< 0.025	< 0.025	< 0.025
	Aroclor 1268	< 0.025	< 0.025	< 0.025
Pesticides (ng/ℓ)	4,4'-DDD	< 0.5	< 2.7	< 2.7
	4,4'-DDE	< 0.5	< 4.9	< 2.7
	4,4'-DDT	< 31	< 2.7	< 2.7
	Aldrin	< 3.7	< 2.7	< 2.7
	Alpha-BHC	< 0.5	< 2.7	< 2.7
	Alpha-Chlordane	< 0.5	< 2.7	< 2.7
	Beta-BHC	< 0.5	< 2.7	< 2.7
	Delta-BHC	< 7.2	< 2.7	< 2.7
	Dieldrin	< 0.5	< 2.7	< 2.7
	Endosulfan I	< 0.93	J 3.7	< 2.7
	Endosulfan II	< 0.5	< 2.7	< 2.7
	Endosulfan Sulfate	< 0.5	< 2.7	< 2.7
	Endrin	< 0.5	< 2.7	< 2.7
	Endrin Aldehyde	< 0.5	< 2.7	< 2.7
	Endrin Ketone	< 2.4	< 2.7	< 2.7
	Gamma-BHC(Lindane)	< 0.5	< 2.7	< 2.7
	Gamma-Chlordane	J 3.8	8.6	< 6.4
	Heptachlor	< 0.5	< 2.7	< 2.7
	Heptachlor Epoxide	< 1.1	< 2.7	< 2.7
	Methoxychlor	< 0.5	< 2.7	< 2.7
	Toxaphene	< 25	< 140	< 140
PAHs (µg/ℓ)	Acenaphthene	< 0.0196	< 0.0385	< 0.211
	Acenaphthylene	< 0.0196	< 0.0385	< 0.211
	Anthracene	< 0.0196	< 0.0385	< 0.211
	Benzo(a)anthracene	0.0213	0.0329	0.029
	Benzo(a)pyrene	0.021	0.0324	0.0318
	Benzo(b)fluoranthene	0.027	0.0393	0.0379
	Benzo(ghi)perylene	0.0299	0.0541	0.0459
	Benzo(k)fluoranthene	0.0151	0.0292	0.0289
	Bis(2-ethylhexyl) phthalate	< 0.98	2.53	2.53
	Butyl benzyl phthalate	< 0.98	3.38	1.53
	Chrysene	0.0487	0.0823	0.0693
	Dibenzo(a,h)anthracene	< 0.0098	< 0.0192	0.0107
	Diethyl phthalate	< 0.98	< 1.92	< 1.05
	Dimethyl phthalate	< 0.98	< 1.92	< 1.05
	Di-n-butyl phthalate	< 0.98	< 1.92	< 1.05
	Di-n-octyl phthalate	< 0.98	< 1.92	< 1.05
	Fluoranthene	0.0666	0.0935	0.0796
	Fluorene	< 0.0196	< 0.0385	< 0.0211
	Indeno(1,2,3-cd)pyrene	0.0163	0.0282	0.0253
	Naphthalene	0.0484	< 0.0385	0.0358
	Phenanthrene	0.0838	0.104	0.063
	Pyrene	0.0644	0.0801	0.0829

µg/ℓ = micrograms per liter
ng/ℓ = nanograms per liter
NR = not reported
JB = analyte detected in method blank, sample concentration < 10x blank concentration
J = estimated concentration
< = less than method detection limit

ATTACHMENTS

Field Documentation
OF 19 Pace Analytical Services PCB Congener Reports

City of Portland
Environmental Services

Trigger Volume Calculation Worksheet

Project Nam NPDES Strmwtr WQ & FM **Project #:** 4010.011 **Storm Event Date:** 2/22/2009

Monitoring Site	Average Flow to Rainfall Ratio (cubic feet/inch)
S45U	232329.345
S45U	232329.345

STORM EVENT

Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
0.4	232329	92932	8	3	3872
0.5	232329	116165	8	3	4840

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 5

Project UPDES Event 2 Project No. 4010.001

Location M1 5454 OF 19 Date 2/20/09

Subject Set up notes. By PTB / AJA

1130 On site at M1 to set up for predicted storm. Set pacing at 2835 cf (0.5" storm) as per ERF forecast of 0.4 - 0.7" storm. (Fri 2/20 forecast). Renewed all plastic comp bottles, removed Lids, iced Sampler, started program (ensured sampler arm was positioned at Bottle 1). Sampler and Meter both running upon departure.

1315 (44)
1400 On site at 5454 to set up for predicted storm. Set pacing at 4840 cf (0.5" storm) Renewed all Deconed glass comp bottles removed Lids, iced sampler, ensured sampler arm was in Bottle 1 position, and started program. Base flow was at 3.6", so the low level set point was 4.2". Program was running but disabled upon our departure.

1445 OF 19 On site. Baseflow = 1.9" Low point delay set = 2.6". Set pacing at 7351 cf (for 0.5" storm). Renewed all Glass bottles, removed Lids, and ran programs on Sampler and Meter. Sample LCD Program Disabled upon departure.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ FM
Location NE, NW, SE Portland
Subject Event 2

Project No. 4010.001
Date 2/23/09
By JTM, AJA

0820 MJS, JKB arrive @ OF19 to reprogram flow meter to capture ~0.25" storm event forecasted for today. Setup on 2/20/09 was a failure as no significant rainfall materialized (Veon rain gage reported 0.0").
Arrival baseflow ~7.0", yet sampler had not yet collected any aliquots.

0844 Re-programmed meter w/ pacing volume of 3675 cf.

0858 Arrive @ MI. Rain has stopped since leaving WPCL. Meter level currently 2.1", so flow is somewhat elevated.
Meter collected two aliquots, but since they represent different storms,
1558 2/22
0847 2/23
they are to be discarded.
Replaced bottle w/ clean bottle, restarted sampler.

0908 Exacted TM flow meter time. Reset pacing to 1415 cf to reflect ~0.25" storm event. (Meter set to 0.5" storm on 2/22/09).
Departure level 1.6".

0915 Departed site.

0940 Arrive @ SASV. Increasing showers, radar shows storms approaching. Baseflow level currently 3.9", which is elevated from baseflow on 2/20/09.
Sampler LCD "disabled", low level setpoint of 4.2" not yet activated.
Sampling report, sampler collected 2 aliquots this morning.

0951 Re-set pacing for ~0.25" storm to 2470 cf.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 3 of 5

Project NPDES Stormwtr WQ/FM | Project No. 4010.001
Location Portland - SA50, MI, OF19 | Date 2/23/09
Subject Event 2 FY08-09 | By AJA, JDM

0956 Showers turning to rain. Replaced all 9 bottles w/ fresh decond glass. Returned meter/sampler to manhole, departed site. Denoted properly decond bottles with a * adjacent to number.

1040 Arrive @ OF19. Rain/showers have ceased. Meter indicates that sampler has collected some aliquots since MJS, JXB visit earlier this morning.
Baseflow currently 7.0" about the same as it was during visit earlier this morning to reduce pacing volume.

Trigger times: OF19

Batt 1, 1 841
2 842
3 932
Batt 2 1 1036

} all on 2/23/09

Replaced all unused bottles w/ properly decond (+ acetone, + meth) labels. Previous bottles (including 1 : 2) may not have gone through complete decontamination as some labels were missing the "+ acetone, + Methanol" labeling.

1100 Departed site.

1330 Arrive @ MJ. Ample rain in last 30 min. Sampler LCD indicates additional aliquots. After opening sampler, only ~ 200 ml in one bottle collected. Pulled grab sample w/ sampler no liquid pulled. It appears sample head may be clogged, ragged (?). Did not enter due to time constraints. This event aborted, failed.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stmwtr WQ/FM
Location SE (SA5U) & NW (OF19) PDX
Subject FY08-09 Event 2

Project No. 4010.001
Date 2/23/09
By WM, AJA

1414 Arrive @ SA5U after ~30min of heavy rain. Ample curb runoff. Sampler now on 5th bottle. Recorded trigger times
1420 Collected grab samples + field parameters. Restarted sampler on bottle 1
1430 Departed site.

1515 Arrive @ OF19 after ~0.27" of rain

Bott. number	Sample #	Time
		1147
		1238
		1320
	4	1328
		1337
		1352
	5	1407
		1418
		1429
	6	1442
		1500
		1517

grabs @ 1530 and parameters.
1538 Meter level currently 5.2". Re-set sampler to begin on bottle 7*.
1545 Departed site

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES
Location 545U / OF 19
Subject NPDES Event 2 Cont.

Project No. 4010.001
Date 2/24/09
By AJA / RCB

1130 ~~OF~~ (A) Arrive at 545U to remove bottles which captured storm that ended around 2331 on 2/23/09. Four (4) full bottles plus one (1) add'l aliquot were collected. Site file looked good with clear storm capture and sampler trigger indications.

1230 Arrived at OF19. Uploaded flow file which looked good. Sampler Programming complete: All Eight+ bottles are completely full. Will need to look more closely at storm capture

1400 Preparations for Churning occuring Outfall 19 Sample will use

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. 08-09 Event 2

Project NPDES Stormwater WQ/FM **Site** S45U **Project No.** 4010.001

Setup: Date 2/23/09 Arrival Time (PST) 0940 Personnel JJM, AJA

First Check: Date 2/23/09 Arrival Time (PST) 1414 Personnel JJM, AJA

Second Check: Date 2/24/09 Arrival Time (PST) 1130 Personnel RCB AJA

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date Time (PST)	Missed? Codes
	*1	1	0803 2/23	
		2	0833	
		3	———	swapped
	2	4	1034	
		5	1052	
		6	1113	
	3	7	1249	
		8	1306	
		9	1317	
	4	10	1325	
		11	1333	
		12	1344	
	5	13	1355	
		14	1405	
		15	1414	
	6	16	1435	
		17	1448	
		18	1500	
	7	19	1509	
		20	1518	
		21	1530	
	8	22	2211	
		23	2224	
		24	2237	Continued

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1		
2		
3		
4		
5		
6		
7		
8		

Notes * Bottle 1 aliquots represent 4840 cf pacing volume as setup on 2/20/09. All other aliquots represent 2420 cf pacing volume.

Composite Notes: Churn splitter used? ☒ Discarded bottle 1, composited bottles 2-7. Major break in rainfall between aliquots 21 + 22, hence the decision to omit bottles 8-10.

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. 08-09 Event 2

Project NPDES FY0809 Event 2 **Site** SCISU **Project No.**

X Check: Date 2/24/09 (Cont) Arrival Time (PST) 1130 Personnel RCB AJA

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date Time (PST)	Missed? Codes	Swap	Bottle No.	Aliquot No.	Date Time (PST)	Missed? Codes
	9	25	2315				37		
		26	2331				38		
		27	0212 2/24				39		
	10	28	0226				40		
		29					41		
		30					42		
		31					43		
		32					44		
		33					45		
		34					46		
		35					47		
		36					48		

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
9		
10		
11		
12		
13		
14		
15		
16		

Notes ____

Composite Notes: Churn splitter used? ☐ ____

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event Date:** 3/14/2009

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.35	0.0292	486	21170160	617463	0.2	123493	8	3	5146

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 4

Project NPDES Land Use
Location OF-19
Subject 3/14/09

Project No. 4010.001
Date 3/12/09
By MJS, RAP

1100 (PST): on site @ OF-19 to set up for event anticipated for Saturday, (3/16) early AM. Current level is 2.4", programmed a low level set point for 3.4" and programmed the trigger value for 5146 cf, which corresponds to a 0.35" storm. De-conned sample tubing, installed new glass bottles (de-conned w/ organics + nitric), tested sample volume and started flowmeter and sampler programs. Sampler was disabled upon departure.

1320 - on-site @ S45D to set-up for event on Saturday. Current level is 3.3", set low level set point for 4.3" and set the trigger value for 3388 cf, which corresponds to a 0.35" storm.

1439 - on site @ M1 - Replaced batteries on flowmeter sampler and modem. Changed trigger volume to 1985 cf which reflects a 0.35" storm.

1806: On-site @ OF19. Uploaded data file - 8 triggers upon arrival. Flow is still slightly elevated - will take grabs. Current wx = light rain. Installed 3 new bottles.

1938: On-site @ S45U. Uploaded data file -

Attachments

Project NPDES Land Use

Location

Subject

Project No. 4010.001

Date 3-14-09

By MJS, LAP

(S45U cont.) 11 triggers upon arrival. Flow is elevated. Current weather = light → moderate rain. Swapped bottles - installed (4) new bottles. Flow is increasing w/ recent rainfall. Took grabs @ 1950 hrs. Upon departure program had re-enabled from most recent rain.

2023: On-site @ MI. Although 10 triggers were registered, no samples were collected. Could not manually pump sample. Made an entry to investigate and found ~18" of tubing was packed w/ sediment, completely blocking it. Attempted to clear tubing by pumping and purging w/ water while hammering on obstruction. Eventually cleared blockage. Cut tubing end off (~3" from invert) in hopes of avoiding drawing more sediment in. Will need to install a sample strainer for future events. Re-started program. Did not collect grab samples.

3/15/09 0705 - uploaded data from MI. Appears that flow increased an hour or so after last night's visit and samples were collected through ~0230 this morning when all bottles were filled. Appears that ~0.75"

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES stormwater | Project No. 4010.001
Location M1, OF-19, S45U | Date
Subject | By MJS

fell since visit last night. It appears that we captured the peak and a bulk of the remainder of this discrete pulse.

0826: On-site @ M1. All bottles full. Uploaded data file.

0844: Took M1 grabs.

0921: On-site @ S45U. All bottles full. Uploaded data file.

1003: On-site @ OF19. Uploaded data file.

1210: Back at WPCL. Will relinquish grab samples and check in field meter

Composite Notes:
M1 - has 8 full bottles, will composite all 8 in large (8gal) poly churn and fill analyte bottles

OF-19 collected 32 aliquots total and have 10 2/3 bottles of sample, which will not fit in teflon churn which has a capacity of 14L. Will target a final composite size of 13 L, which will be enough for analytes and won't overfill the teflon churn. So, target volume of 14,000 ml. Each trigger will be represented in churn by 437.5 ml.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwater
Project No. 4010.001
Location M-1, OF-19, S45U
Date 3/15/09
Subject event 2/3
By MJS, LAP

will first churn bottles 1 - 6 (17 aliquots - bottle 3 has only 2 aliquots) and will retain 17 • 437.5 = 7437.5 ml
Then bottles 7 - 11 (15 aliquots) and will retain 6562.5 ml
Due to difficulty in measuring the graduations on the large beaker will target 7.4L for bottles 1-6 and 6.6L for bottles 7-11.

S45U - 35 aliquots total; target 13L; 371.4ml per trigger
bottles 1-6 = 17 triggers = 6,314ml ≈ 6.3L
bottles 7-12 = 18 triggers = 6,685ml ≈ 6.7L

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. 08/09 Event # 3

Project NPDES Stormwater **Site** OF-19 **Project No.** 4010.001

Setup: Date 3/12/09 Arrival Time (PST) 1100 — Personnel MJS, RAP

First Check: Date 3/14/09 Arrival Time (PST) 1812 Personnel MJS, LAP

Second Check: Date 3.15.09 Arrival Time (PST) 1003 Personnel MJS, LAP

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	3/14/09	1442	
		2		1452	
		3		1501	
	2	4		1511	
		5		1528	
		6		1550	
	3	7		1616	
		8		1711	
	4	9	3/14	2129	
		10		2144	
		11		2151	
	5	12		2158	
	5	13	3/14	2208	
		14		2218	
	6	15		2233	
		16		2257	
		17		2318	
	7	18		2333	
		19		2351	
		20	3/15	0018	
	8	21		0041	
		22		0111	
		23		0138	
	9	24		0205	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	very turbid	3 triggers
2	turbid	3 triggers
3	turbid	2 triggers
4	very turbid	
5	very turbid	
6	turbid	
7	slightly turbid	
8	slightly turbid	

Notes Volumes

Composite Notes: Churn splitter used? ☑ Volume of all comp. samples exceeds capacity of 14L teflon churn (req'd for organics analysis). So will churn bottles 1-6 and retain 7437.5 ml in a large glass beaker. Then churn bottles 7-11 and retain 6562.5 ml. Then will recombine into churn to fill analyte bottles

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 3

Project NPDES Stormwater WQ **Site** OF19 **Project No.** 4010.001

_____ Check: Date _____ Arrival Time (PST) _____ Personnel _____

_____ Check: Date _____ Arrival Time (PST) _____ Personnel _____

_____ Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes	Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	9	25	3/15	0235				37			
		26	↓	0253				38			
		27		0308				39			
	10	28		0322				40			
		29		0337				41			
		30		0358				42			
	11	31		0422				43			
		32	↓	0437				44			
		33						45			
		34						46			
		35						47			
		36						48			

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
9	slightly turbid	
10	↓	
11		
12		
13		
14		
15		
16		

Notes _____

Composite Notes: Churn splitter used? ❑ _____

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event Date:** 2/22/2009

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.5	0.0417	486	21170160	882090	0.2	176418	8	3	7351

3675

Monitoring Site	Forecasted Rainfall Amount	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.4	0.0333	486	21170160	705672	0.2	141134	8	3	5881
OF-19	0.7	0.0583	486	21170160	1234926	0.2	246985	8	3	10291

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Event 2
Location M1 5454 OF 19
Subject Set up notes.

Project No. 4010.001
Date 2/20/09
By PTB / AJA

1130 On site at M1 to set up for predicted storm. Set pacing at 2835 cf (0.5" storm) as per ERF forecast of 0.4 - 0.7" storm (Fri. 2/20 forecast). Renewed all plastic comp bottles removed Lids, iced Sampler, started program (ensured Sampler arm was positioned at Bottle 1). Sampler and Meter both running upon departure.

1315 (EA)
1400 On site at 5454 to set up for predicted storm. Set pacing at 4840 cf (0.5" storm) Renewed all Decomed glass comp bottles removed Lids, iced sampler, ensured Sampler arm was in Bottle 1 position, and started program. Base flow was at 3.6", so the low level set point was 4.2". Program was running but disabled upon our departure.

[redacted] On site. Baseflow = 1.9" Low point delay set = 2.6". Set pacing at 7351 cf (for 0.5" storm). Renewed all Glass bottles, removed Lids, and ran Programs on Sampler and Meter. Sample LCD Program Disabled upon departure.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ FM
Location NE, NW, SE Portland
Subject Event 2

Project No. 4010.001
Date 2/23/09
By JTM, AJA

0820 MJS, JKB arrive @ [redacted] to reprogram flow meter to capture ~0.25" storm event forecasted for today. Setup on 2/20/09 was a failure as no significant rainfall materialized (Yeon rain gage reported 0.0").
Arrival baseflow ~7.0", yet sampler had not yet collected any aliquots.
0844 Re-programmed meter w/ pacing volume of 3675 cf.

0858 Arrive @ MI. Rain has stopped since leaving WPCL. Meter level currently 2.1", so flow is somewhat elevated.
Meter collected two aliquots, but since they represent different storms,
1558 2/22
0847 2/23
they are to be discarded.
Replaced bottle w/ clean bottle, restarted sampler.
0908 Exacted TM flow meter time. Reset pacing to 1415 cf to reflect ~0.25" storm event. (Meter set to 0.5" storm on 2/22/09).
Departure level 1.6".
0915 Departed site.

0940 Arrive @ S45U. Increasing showers, radar shows storms approaching.
Baseflow level currently 3.9", which is elevated from baseflow on 2/20/09.
Sampler LCD "disabled", low level setpoint of 4.2" not yet activated.
Sampling report, sampler collected 2 aliquots this morning.
0951 Re-set pacing for ~0.25" storm to 2420 cf.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ/FM | Project No. 4010.001
Location Portland - 5450, MI, OF19 | Date 2/23/09
Subject Event 2 FY08-09 | By AJA, JDM

0956 Showers turning to rain. Replaced all 9 bottles w/ fresh decond glass. Returned meter/sampler to manhole, departed site. Denoted properly decond bottles with a * adjacent to number.

1040 Arrive @ OF19. Rain/showers have ceased. Meter indicates that sampler has collected some aliquots since MJS, JXB visit earlier this morning.
Baseflow currently 7.0" about the same as it was during visit earlier this morning to reduce pacing volume.

Trigger times: OF19

Bott 1, 1 841
2 842
3 932
Bott 2, 1 1036

} all on 2/23/09

Replaced all unused bottles w/ properly decond (+ acetone, + meth) labels. Previous bottles (including 1 : 2) may not have gone through complete decontamination as some labels were missing the "+ acetone, + Methanol" labeling.

1100 Departed site.

1330 Arrive @ MI. Ample rain in last 30 min. Sampler LCD indicates additional aliquots. After opening sampler only ~ 200 ml in one bottle collected. Pulled grab sample w/ sampler no liquid pulled. It appears sample head may be clogged, ragged (?). Did not enter due to time constraints. This event aborted, failed.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ/FM
Location SE (SA5U) & NW (OF19) PDX
Subject FY08-09 Event 2

Project No. 4010.001
Date 2/23/09
By JM, AJA

1414 Arrive @ SA5U after ~30min of heavy rain. Ample curb runoff. Sampler now on 5th bottle. Recorded trigger times
1420 Collected grab samples + field parameters. Restarted sampler on bottle 1
1430 Departed site.

1515 Arrive @ OF19 after ~0.27" of rain.

Bott. #	sample number	
1		1147
	3	1238
		1320
		1328
	4	1337
		1352
		1407
	5	1418
		1429
		1442
	6	1500
		1517

grabs @ 1530 and parameters.
1538 Meter level currently 5.2". Re-set sampler to begin on bottle 7*.
1545 Departed site

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES
Location 545W / OF 19
Subject NPDES Event 2 Cont.

Project No. 4010.001
Date 2/24/09
By AJA / RCB

1130 ~~OF~~ (A) Arrive at 545W to remove bottles which captured storm that ended around 2331 on 2/23/09. Four (4) full bottles plus one (1) add'l aliquot were collected. Site file looked good with clear storm capture and sampler trigger indications.

~~1330~~ Arrived at OF19. Uploaded flow file which looked good. Sampler Programming complete: All Eight bottles are completely full. Will need to look more closely at storm capture.

1400 Preparations for Churning occuring Outfall 19 Sample will use

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 2

Project NPDES Stormwtr WQ/FM **Site** OF19 **Project No.** 4010.001

Setup: Date 2/20/09 Arrival Time (PST) 1445 Personnel AJA, PTB

First Check: Date 2/23/09 Arrival Time (PST) 0820 Personnel MJS, JXB
(→ : 2nd Setup)

Second Check: Date 2/23/09 Arrival Time (PST) 1040 Personnel AJA, JJM

Third Check: Date 2/23/09 Arrival Time (PST) 1515 Personnel AJA, JJM

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	2/23/09	0841	
		2		0842	
		3		0932	
	2	4		1036	
		5		—	swap
		6		—	
	3*	7		1147	
		8		1238	
		9		1320	
	4*	10		1328	
		11		1357	
		12		1352	
	5*	13	2/25/09	1407	
		14		1418	
		15		1429	
	6*	16		1442	
		17		1500	
		18		1517	
	7*	19		1542	
Discrete Storm ↑		20		1648	
		21		2213	
Discrete Storm ↓		22		2220	
		23		2224	
		24		2231	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1		
2		
3		
4		
5		
6		
7		
8		

Notes Bottles 1 & 2 may have not had complete (Acetone + Methanol) decon, all other bottles (*) have proper solvent rinse steps peformed. Composited bottles 1-7 (Major break in precip between aliquots 20 & 21, hence, the decision to only use bottles 1-7. Bottle 7 did have one aliquot from the 2nd discrete storm peak.

Composite Notes: Churn splitter used? ☒ Composited before 545H. 2/24/09

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 2

Project NPDES Comp. **Site** OF19 **Project No.** _____

x Check: Date 2/24/09 Arrival Time (PST) 1230 Personnel RCB/AJA

_____ Check: Date _____ Arrival Time (PST) _____ Personnel _____

_____ Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
		25	2/23/09	2240	
		26		2251	
		27		2309	
		28		2341	
		29	2/24/09	0032	
		30		0132	
		31		0151	
		32		0216	
		33		0233	
		34		0248	
		35		0308	
		36		0330	
		37		0345	
		38		0356	
		39		0404	
		40		0411	
		41		0420	
		42		0432	
		43			
		44			
		45			
		46			
		47			
		48			

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
9		
10		
11		
12		
13		
14		
15		
16		

Notes _____

Composite Notes: Churn splitter used? ☐ _____

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Name: NPDES Stormwater Mon **Project #:** 4010.001 **Storm Event D:** 11/20/2008

Monitoring Site	Forecasted Rainfall Amount (inches)	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
OF-19	0.3	0.0250	486	21170160	529254	0.2	105851	8	3	4410

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwater
Location OF 19
Subject Storm setup FY08-09 Event 1

Project No. 4010.001
Date 11/19/08
By RCB, ECH

* All times PST

1100 Arrived on site to set up for NPDES storm at OF 19. ERF predicted approx 0.3-0.47" of rain to fall overnight and continuing until about noon tomorrow. Heaviest rain should hit Portland around 0300-0600.

1105 Entered MH. Placed fresh bottles in sampler and added ice. Checked sensor and compared manual measurements to meter meter reading ~0.2-0.5" too low at base flow, but responded well and became accurate when dammed to a level of 2.0". Decon'd sampler tubing w/ Soapy → Tap → Nitric → DI → Acetone → Methanol → DI → UPDI. Calibrated sampler aliquot size w/ DI water.

Entered trigger volume of 4410 cF (0.3" storm), and set low level set point @ 1.5" on meter

Checked sampler programming. The "Flow Between Sample Events" option was set at [3] pulses and the instructions say to set it at [1] pulse. I changed the programming to [1] pulse.

Double checked flow level in pipe and the meter responded well when flow was dammed at 2.0", but was still about 0.3" too low on meter during baseflow. NO level adjustments made. Started meter, started sampler program.

1215: Offsite

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ: FM
Location NEW PDX - NW Ridge : NW Front
Subject FY08-09 Event 1

Project No. 4010.001
Date 11/20/08
By JJM

0810 Arrive @ OF19 to heavy rain. Meter flow rate >500 cfm, meter says sampler has collected 5 samples.
0826 Collected grab samples
1127 Submitted grab samples to WPCL.

1310 Arrive @ OF19 after substantial rain today ~0.37". Sampler has collected 6 bottles.
Swapped bottles 1-6 w/ 7-12 and continued program as hydrograph is still elevated, so will allow program to continue.
1350 Return to WPCL.

1540 Return to OF19. Sampler filled bottle 7. Hydrograph has returned close to baseflow. Storm complete, successful.

1620 Composited all bottles 1-7 in decon'd Teflon lined churn splitter where analyte specific bottles were filled.

FO 081427

Submitted samples to WPCL 1630

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 1

Project NPDES Stormwater WQ/FM **Site** OF19 **Project No.** 4010.001

Setup: Date 11/19/08 Arrival Time (PST) 1100 Personnel RCB, ECH

First Check: Date 11/20/08 Arrival Time (PST) 0810 Personnel JJM

Second Check: Date 11/20/08 Arrival Time (PST) 1310 Personnel JJM, RJS

Third Check: Date 11/20/08 Arrival Time (PST) 1545 Personnel JJM, AJA

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed?	Codes
	1	1	11/20/08	0728		
		2		0742		
		3		0752		"No liquid detected" JM
	2	4		0800		
		5		0807		
		6		0814		
	3	7		0823		
		8		0833		
		9		0848		
	4	10		0909		
		11		0937		
		12		1004		
	5	13		1041		
		14		1102		
		15		1114		
	6	16		1140 ~~1237~~ JM		
		17		1210		
		18		1237		
	7	19		1327		
		20		1354		
		21		1430		
		22				
		23				
		24				

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	highly turbid, 1800 mL	
2	very turbid, 1800 mL	
3	" " "	
4	highly turbid "	
5	highly turbid "	
6	very turbid "	
7	" " "	
8		

Notes

Composite Notes: Churn splitter used? ☑

FO 081427 11/20/08 @ 1630

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr Mon. Project No. 4010.001
Location NEPDX, SEPDX, NWPDX Date 10/30/08
Subject FY08-09 Event 1 By GTJM, ECH

PST 1100 Arrive @ M1. Uploaded flow meter, file name 10301106.FEV. Hydrograph appears as expected, no significant storm events since install on 10/6. Decon'd tubing w/ Soapy, tap, nitric, DI, VPDI per SOP.
- Very minimal baseflow upon arrival. Meter reading 0", 0 fps, 0 cfs as expected. Confirmed time in PST. Setpoint sampling set to 0.75".
- Programmed flow meter for an approximate 0.35" storm event that is expected to last through Saturday. Trigger volume determined to be 1985 cf. Started meter running
- Sync meter & sampler time to PST. ✓
- Started sampler, "Program Disabled"

1208 Departed site.

1227 Arrive @ S45U, setup traffic control. No need to upload meter, no significant storm events since install on 10/6/08.
- Meter level currently 3.7" which is in agreement with manual confirmations on 10/6/08.
- Decon'd tubing (w/ organics) via Soapy, tap, nitric, DI, acetone (5%), methanol (5%) DI, VPDI.
- sync meter w/ sampler time ✓
- Programmed FM w/ setpoint sampling enable @ 4.0".
- Programmed sampler pacing/trigger volume as 3388 cf based on an anticipated 0.35" storm event predicted to run through Sat. AM
- Started meter, sampler display "Program Disabled"

1300 departed site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES SW Mon
Location NE PDX, SE PDX, NW PDX
Subject FY 08-09 Event

Project No. 4010.001
Date 10/30/08
By JJM, ECH

1331 Arrived at NW Front + Lt Hridge → OF 19. No meter upload because there has been no significant stormwater events since install on 10/6/08.

1346 McCann entered MH after Permit Hire entry and setup. After scrubbing sender of iron bacteria meter and manual measurements in agreement

	Manual	Meter
velocity	0.3 fps (est)	0.5 fps
level	0.9"	0.9"

1403 Calibrated meter and began decon of tubing - soapy tap, nitric, DI, acetone, methanol, DI, UHDI.

1431 Synced meter w/ sampler time. Programmed FM with setpoint sampling enable @ 1.5". Programmed sampler pacing/trigger volume as 6175 ml based on an anticipated storm event of 0.35" to run through AM of 11/1/08. Started meter, sampler display "program disabled".

Attachments 1454 Departed site for WPCL

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Storm Grabs + Comps
Location M1, 545U, OF19
Subject NPDES Grabs daily Log

Project No. 4010.001
Date 10-31-08
By AJA CAP

0920 (clock time) on site at M1, Very light rain on and off for the previous 3 hours. Light run off in street gutters. Good flow in pipe. Sampler has triggered 4 times, (Bott. 2, Samp 2, on display). Flow meter reading 1.5" lev., 1.3 f/s vel.

0930 Leaving site for 545U

1011 On Site at 545U, T.C. has been set up, sampling to begin in a minute. Meter reading: 5.3" lev + 3.8 f/s vel. Rain is light but steady. Good runoff in street gutters. Oily sheen visible on surface of samples. Sampler is on bottle two, sample 1 of 3. No odor present.

1032 TC taken down, off to do some IND Samp sets, Then OF 19. Still raining very lightly.

1129 On Site at OF 19. Grab samples and parameters taken. Still lightly sprinkling, but sky is getting brighter and clouds thinner.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwtr WQ/FM
Location OF 19
Subject FY08-09 Event 1

Project No. 4010.001
Date 10/31/08
By AJA, LAP

OF 19 cont Meter shows 2.1" hgt, 1.4 f/s vel. at 1150. (pdt). Entry made to check sampler, 2 of 3 samples for Bottle 1 (one) taken. This site of all three visited seems to be the least affected by the morning's storm.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwater WQ: FM
Location NE PDX
Subject FY08-09 Event1

Project No. 4010.001
Date 11/1/08
By JJM, AJA

1257 Arrive @ M.1. Approximately 0.24" of rain since setup on 10/30/08. Sampler LCD reads 1, 3 bottle 4 Sampler collected 3 bottles, yet only bottles 1 & 2 are full? Checked base of sampler, alignment is correct. No missed trigger error codes in sampler report? ~~Event aborted due to unknown sampler error. Bring sampler back to WPCL for testing.~~
Decided to perform field test by halfing trigger volume to 1000 cf, which is approximately equivalent to a 0.2" storm event. Rain is forecasted for later this evening / tomorrow, so we will try and shoot for a second attempt.
Started sampler at bottle 1.
1329 Departed site.

1413 Arrive @ S45U. Sampler LCD says Program Disabled, meter level at 3.0".
Sampler successfully collected to full bottles. Recorded trigger times. Replaced bottles 1 & 2. Restarted sampler.
1440 Departed site.

1454 Arrive at OF19. No significant wet weather since ~1230. Sampler has collected only 2 aliquots, storms since setup have not been intense enough to create decent runoff.
Removed bottle 1, re-started program.
1509 Departed site. Substantial rain during departure.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 2 of 2

Project NPDES Stormwtr Mon
Location SE PDX, NE PDX, NW PDX
Subject FY08-09 Event 1

Project No. 4010.001
Date 11/2/08
By JJM, MTS

~~0922~~ 1022 Arrive @ S45U. Sampler LCD "Program Disabled", Meter level now reading 2.7" baseflow which is mysteriously lower than historic conditions (ie sensor install on 10/6, storm setup on 10/30). Velocity considerably higher as well
Sampler collected additional 4 + 1/3 bottles since visit on 11/1
Uploaded FM, recorded trigger times.
Sampler loaded w/ 8 clean/decon'd capped glass bottles
1040 Departed site.
1100 Arrive @ M1. Sampler LCD reads "Program ~~Done~~ Complete". Meter level/velocity 0 as expected, currently not raining.
Sampler collected 8 full bottles, but missed small storm event this morning at ≈ 0600.
Recorded trigger times, removed batteries.
1130 Departed site.
1146 Arrive @ OF19. Uploaded FM.
Sampler collected additional 1 + 1/3 which indicates that pacing volumes may be high/runoff coefficient may not account for ample vegetation still present on trees. Rain has also not been very intense which may also account for slow pacing.
Hydrograph looks great, pacing sampler well.
Will continue event through tomorrow to capture more volume.
1206 Left site.

Attachments

City of Portland
Environmental Services

Trigger Volume Calculation Worksheet

Project Nam NPDES Strmwtr WQ & FM **Project #:** 4010.011 **Storm Event Date:** 10/30 - 11/2/08

Monitoring Site	Average Flow to Rainfall Ratio (cubic feet/inch)
S45U	232329.345

STORM EVENT

Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
0.35	232329	81315	8	3	3388

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 1

Project NPDES Stormwtr **Site** S45U **Project No.** 4010.001

Setup: Date 10/30/08 Arrival Time (PST) _____ Personnel JJM, ECH

First Check: Date 10-31-08 Arrival Time (PST) 0911 Personnel AJA LAP

Second Check: Date 11/1/08 Arrival Time (PST) 1413 Personnel JJM, ATA

Third Check: Date 11/2/08 Arrival Time (PST) ~~0922~~ 1022 Personnel JJM

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	10/31	0642	
		2		0714	
		3		0900	
	2	4		0914	
		5		0933	
X		6		0957	
	3	7	11/1	2058	
		8		2104	
		9		2112	
	4	10		2124	
		11		2326	
		12		2338	
	5	13		2348	
		14		2358	
		15		2358	
	6	16	11/2	0005	
		17		0013	
		18		0027	
	7	19		0543	
		20			
		21			
		22			
		23			
		24			

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	turbid	
2	less turbid	
3	very, very turbid	
4	less turbid	
5	very turbid	
6	turbid	
7	slightly turbid	only 1 aliquot in bottle 7
8		

Notes

Composite Notes: Churn splitter used? ☑ composited all bottles in teflon churn splitter, filled analyte-specific bottles directly from churn splitter.

FO 081266

submitted samples to lab 11/2/08 @ 1242

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Nam NPDES Stormwater **Project #:** 4010.001 **Storm Event D** 10/30-11/1/08

Monitoring Si	Forecast ed Rainfall Amount	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
M1 - 5241 NE	0.35	0.0292	163	7100280	207092	0.23	47631	8	3	1985

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09 Event 1

Project NPDES Stormwater WQ/Hydro **Site** M1 - NE 122nd **Project No.** 4010.001

Setup: Date 10/30/08 Arrival Time (PST) _____ Personnel JJM, ECH

First Check: Date _____ Arrival Time (PST) _____ Personnel AJA, LAP

Second Check: Date 11/1/08 Arrival Time (PST) 1257 Personnel JJM, AJA

Third Check: Date 11/2/08 Arrival Time (PST) 1106 Personnel JJM, MJS

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	10/31	0631	
		2		0652	
		3		0709	
	2	4		0732	
		5		0819	
		6		0920	
	3	7		0939	No sample, no code?
		8	10/31	1014	No sample, no code?
x		9	11/1	1143	No sample, no code?
	(1) 4	10	11/1	2111	
		11		2114	
		12		2116	
	(2) 5	13	11/1	2118	
		14		2121	
		15		2124	
	(3) 6	16		2129	
		17		2136	
		18		2151	
	(4) 7	19		2335	
		20		2339	
		21		2342	
	(5) 8	22		2345	
		23		2349	
		24		2355	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1		
2		
3		
4		
5		
6		
7		
8		

Notes Bottles 1-3 were set at trigger/pacing 1985 cf. During site visit/2nd check, pacing was reduced to 1000 cf in an effort to get a second shot at completing Event 1. Bottles 1-2 were considered insufficient and coupled with bottle 3 missed aliquots, storm event on 10/31 was not adequately represented/captured.

Composite Notes: Churn splitter used? ☑ Bottles 1-2 + 1/2 of total volume from bottles 4-11 composited in churn splitter. Analyte-specific bottles filled directly from churn splitter.

FO 081267

samples relinquished to WPCL
11/2/08 @ 1258

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Nam NPDES Stormwater **Project #:** 4010.001 **Storm Event D** 3_23_09

Monitoring Si	Forecast ed Rainfall Amount	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
M1 - 5241 NE	0.2	0.0167	163	7100280	118338	0.23	27218	8	3	1134

City of Portland
Environmental Services

DAILY FIELD REPORT

Page 1 of 1

Project NPDES Stormwater
Location MI
Subject 3/20/09 Storm Set-up

Project No. 4010.001
Date 3/19/09
By MIS, PTB, RAP

1045 ARRIVE & SET UP TRAFFIC CONTROL.

1055 PULL SAMPLER, FLOW METER & MODEM OUT. INSTALL NEW BATTERIES. SET-UP FOR ENTRY TO DO TUBING DECON & PUT NEW SAMPLE HEAD ON IN HOPES OF REDUCING PLUGGING OF LINE DUE TO HIGH SOLIDS.

1125 DECON FINISHED, NEW SAMPLE HEAD INSTALLED, GW FLOW DAMMED TO TEST ALIQUOT ~~SEEAMOUNT~~ AND LEVEL READING. BOTH CONFIRMED ACCURATE.

1135 PLACED BOTTLES, ICE IN SAMPLER. SET FLOW METER PROGRAMMING, THEN REVIEWED SAMPLER PROGRAMMING. SET TRIGGER VOLUME @ 1,134 cubic feet for forecasted rainfall amount of 0.2in.

1155 STRUCK TC

3/20/09 1030 unable to communicate w/ meter using modem. Reported to site, after changing battery, reset modem, and messing w/ antenna was able to communicate.

1120
Sampler had collected 1 aliquot at 3/20/09 @ 0155. Dumped this sample out and restarted program from the beginning (b/c nearly 12 hours of dry weather has passed since this sample). Will target any rainfall that occurs this afternoon or tonight.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page _____ of _____

Project NPDES Stormwtr WQ ; FM
Location M1 NE 122nd Ave
Subject _____

Project No. 4010.001
Date 3/21/09
By VTM, JXB

1328 Arrive @ M1 after brief ~~rain~~/showers. Meter level ~ 1.5".
Sampler LCD indicates that no triggers have been collected.
Attempted grabs, but OG bottle broke. Will return for grabs later.
1348 Wireless unit currently not working. Disconnected antenna, reconnected.
Attempted to communicate w/ wireless unit via laptop, all
attempts unsuccessful. Change battery on wireless unit, still
unable to communicate.
1353 Communication successful! New battery swap was successful.
1420 Departed site.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Page _____ of _____

Project NPDES Stormwtr WQ & FM
Location NE PDX - M1
Subject FY08-09 Event 3

Project No. A010.001
Date 3/25/09
By JJM, MJS

0745 PST Arrive @ M1. Sampler LCD "Program Complete". Review of rain gage earlier this morning approximated 0.25" of rain since setup on 3/24/09. Meter appears to have paced sampler well.

0752 Recorded aliquot times for bottles 1-8. Replaced bottles w/ 9-16. Restarted sampler. Changed sampler battery.

0800 Collected grab samples, parameters.

0810 Departed site.

1111 PST Return to M1 after prolonged break in rain. Sampler LCD indicates additional 2 bottles collected. Meter level currently 0.3", sampler disabled.
Uploaded meter, file name 03251111.FEV. Hydrograph looks great. Event 3 successful.

1129 Removed all equipment from node, departed site.

1320 Relinquished analyte specific bottles to WPCL after churn splitting all bottles (1-10).

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09, Event 3

Project NPDES Stormwtr WQ/FM **Site** M1 - NE 122nd Ave **Project No.** 4010.001

Setup: Date 3/24/09 Arrival Time (PST) 1403 Personnel MTS, AJA

First Check: Date 3/25/09 Arrival Time (PST) 0745 Personnel JJM, MTS

Second Check: Date 3/25/09 Arrival Time (PST) 1111 Personnel JJM, MTS

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	3/25/09	0148	
		2		0205	
		3		0216	
	2	4		0227	
		5		0239	
		6		0249	
	3	7		0300	
		8		0311	
		9		0340	
	4	10		0405	
		11		0422	
		12		0433	
	5	13	3/25/09	0446	
		14		0456	
		15		0507	
	6	16		0521	
		17		0543	
		18		0601	
	7	19		0616	
		20		0631	
		21		0646	
	8	22		0658	
		23		0710	
		24		0722	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	Slightly turbid, 1800mL	
2	" "	
3	" "	
4	" "	
5	" "	
6	" "	
7	turbid "	
8	turbid "	

Notes All bottles (1-10) composite in churn splitter where analyte specific bottles were filled.

Composite Notes: Churn splitter used? ☑

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY08-09, Event 3

Project NPDES **Site** MI-NE 122nd Ave **Project No.** 4010.001

2nd Check: Date 3/25/09 Arrival Time (PST) 1111 Personnel JTM, MWS

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed?	Codes	Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed?	Codes
	9	25	3/25/09	0812					37				
		26		0831					38				
		27		0852					39				
	10	28	3/25/09	0910					40				
		29		0926					41				
		30		0954					42				
		31							43				
		32							44				
		33							45				
		34							46				
		35							47				
		36							48				

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
9	Slightly turbid, 1800mL	
10	" "	
11		
12		
13		
14		
15		
16		

Notes ____

Composite Notes: Churn splitter used? ☑

City of Portland
Environmental Services
Field Operations

Trigger Volume Calculation Worksheet

(for a basin of known area)

Project Nam NPDES Stormwater **Project #:** 4010.001 **Storm Event D** 3_14_09

Monitoring Si	Forecasted Rainfall Amount	Forecasted Rainfall Amount (feet)	Basin Size (acres)	Basin Size (square feet)	Basin Rainfall Volume (cubic feet)	Estimated Runoff Coefficient	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
M1 - 5241 NE	0.35	0.0292	163	7100280	207092	0.23	47631	8	3	1985

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Land Use
Location OF-19
Subject 3/14/09

Project No. 4010-001
Date 3/12/09
By MJS, RAP

1100 (pst): on site @ OF-19 to set up for event anticipated for Saturday (3/16) early AM. Current level is 2.4", programmed a low level set point for 3.4" and programmed the trigger value for 5146 cf, which corresponds to a 0.35" storm. De-conned sample tubing, installed new glass bottles (de-conned w/ organics + nitric), tested sample volume and started flowmeter and sampler programs. Sampler was disabled upon departure.

1320 - on-site @ S45D to set-up for event on Saturday. Current level is 3.3". set low level set point for 4.3" and set the trigger value for 3388 cf, which corresponds to a 0.35" storm.

1439 - on site @ M1 - Replaced batteries on flowmeter sampler and modem. Changed trigger volume to 1985 cf which reflects a 0.35" storm.

1806: On-site @ OF19. Uploaded data file - 8 triggers upon arrival. Flow is still slightly elevated - will take grabs. Current wx = light rain. Installed 3 new bottles.

1938: On-site @ S45U. Uploaded data file -

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Land Use
Location
Subject

Project No. 4010-001
Date 3-14-09
By MJS, LAP

(S45U cont.) 11 triggers upon arrival. Flow is elevated. Current weather = light → moderate rain. Swapped bottles – installed (4) new bottles. Flow is increasing w/ recent rainfall. Took grabs @ 1952 hrs. Upon departure program had re-enabled from most recent rain.

2023: ~~On site @ MH~~ Although 10 triggers were registered, no samples were collected. Could not manually pump sample. Made an entry to investigate and found ~18" of tubing was packed w/ sediment, completely blocking it. Attempted to clear tubing by pumping and purging w/ water while hammering on obstruction. Eventually cleared blockage. Cut tubing end off (~3" from invert) in hopes of avoiding drawing more sediment in. Will need to install a sample strainer for future events. Re-started program. Did not collect grab samples.

3/15/09 0705 – uploaded data from MH. Appears that Flow increased an hour or so after last night's visit and samples were collected through ~0230 this morning when all bottles were filled. Appears that ~0.75"

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES stormwater | Project No. 4010.001
Location M1, OF-19, S45U | Date
Subject | By

fell since visit last night. It appears that we captured the peak and a bulk of the remainder of this discrete pulse.

0826: On-site @ M1. All bottles full. Uploaded data file.

0844: Took M1 grabs.

0921: On-site @ S45U. All bottles full. Uploaded data file.

1003: On-site @ OF19. Uploaded data file.

1210: Back at WPCL. Will relinquish grab samples and check in field meter.

Composite Notes:

~~M1 — has 8 full bottles, will composite all 8 in large (8gal) poly churn and fill analyte bottles~~

OF-19 collected 32 aliquots total and have 10 3/3 bottles of sample, which will not fit in teflon churn which has a capacity of 14L. Will target a final composite size of 13L, which will be enough for analytes and won't overfill the teflon churn. So, target volume of 14,000 ml. Each trigger will be represented in churn by 437.5 ml.

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY 08/09 Event 2

Project NPDES Stormwater **Site** M1 **Project No.** 4010.001

Setup: Date 3.12.09 Arrival Time (PST) 1439 Personnel MJS, RAP

First Check: Date 3.14.09 Arrival Time (PST) 2023 Personnel MJS, LAP

Second Check: Date _____ Arrival Time (PST) _____ Personnel _____

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	3.14.09	1511	No more liquid
		2		1522	
		3		1530	
	2	4		1537	
		5		1541	
		6		1550	
	3	7		1559	
		8		1611	
		9		1628	
	~~4~~	10		1657	
	~~4~~	11			
		12			

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
		13			
		14			
		15			
		16			
		17			
		18			
		19			
		20			
		21			
		22			
		23			
		24			

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	empty - no sample	missed 3 triggers
2		" " "
3		" "
4		missed 1 trigger
5		
6		
7		
8		

Notes Upon arrival all bottles were empty, and sampler reported "no more liquid" code for all 10 samples. Entry revealed packed sediment in the tubing line. Removed sediment and cut tubing end to move ~3" from invert in hopes of preventing further plugging. Will re-start program.

Composite Notes: Churn splitter used? ☐

Aborted

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY 08/09 Event 2

Project NPDES stormwater **Site** M1 **Project No.** 4010.001

Setup: Date 3/12/09 Arrival Time (PST) 1439 Personnel MJS, RAD

First Check: Date 3/14/09 Arrival Time (PST) 2023 Personnel MJS, LAP

Second Check: Date 3/15/09 Arrival Time (PST) 0826 Personnel MJS, LAP

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	3-14-09	2201	
		2		2211	
		3		2216	
	2	4		2221	
		5		2225	
		6		2230	
	3	7		2238	
		8		2246	
		9		2254	
	4	10		2307	
		11		2322	
		12	↓	2343	
	5	13	3-14-09	2359	
		14	3-15-09	0016	
		15		0029	
	6	16		0040	
		17		0052	
		18		0104	
	7	19		0117	
		20		0128	
		21		0139	
	8	22		0151	
		23		0206	
		24	↓	0222	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	full, turbid	
2	full, turbid	
3	full, slightly turbid	
4		
5		
6		
7		
8		

Notes first ~~4~~ MJS 10 triggers missed (see previous sheet)

Composite Notes: Churn splitter used? ☑ composited all 8 bottles into large (8 gallon) polyethylene churn

City of Portland
Environmental Services

Trigger Volume Calculation Worksheet

Project Nam NPDES Strmwtr WQ & FM **Project #:** 4010.01 **Storm Event Date:** 3/14/2009

Monitoring Site	Average Flow to Rainfall Ratio (cubic feet/inch)
S45U	232329.345

STORM EVENT					
Forecasted Rainfall Amount (inches)	Flow to Rainfall Ratio (cubic feet/inch)	Anticipated Runoff Volume (cubic feet)	Number of Sample Bottles in Sampler Configuration	Number of Aliquots per Bottle	Trigger Volume per Aliquot (cubic feet)
0.35	232329	81315	8	3	3388

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Land Use
Location OF-19
Subject 3/14/09

Project No. 4010-001
Date 3/12/09
By MJS, RAP

1100 (pst): on site @ OF-19 to set up for event anticipated for Saturday, (3/16) early AM. Current level is 2.4", programmed a low level set point for 3.4" and programmed the trigger value for 5146 cf, which corresponds to a 0.35" storm. De-conned sample tubing, installed new glass bottles (de-ironned w/ organics + nitric), tested sample volume and started flowmeter and sampler programs. Sampler was disabled upon departure.

1320 - on site @ SA5D to set-up for event on Saturday. Current level is 3.3", set low level set point for 4.3" and set the trigger value for 3388 cf, which corresponds to a 0.35" storm.

1439 - on site @ M1 - Replaced batteries on flowmeter sampler and modem. Changed trigger volume to 1985 cf which reflects a 0.35" storm.

1800: On-site @ OF19. Uploaded data file - 8 triggers upon arrival. Flow is still slightly elevated - will take grabs. Current wx = light rain. Installed 3 new bottles.

1930 - On site @ SA5D Uploaded data file -

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Land Use
Location
Subject

Project No. 4010-001
Date 3-14-09
By MJS, LAP

~~(Cont)~~ 11 triggers upon arrival. Flow is elevated. Current weather = light → moderate rain. Swapped bottles - installed (4) new bottles. Flow is increasing w/ recent rainfall. Took grabs @ 1952 hrs. Upon departure program had re-enabled from most recent rain.

2023: On-site @ M1. Although 10 triggers were registered, no samples were collected. Could not manually pump sample. Made an entry to investigate and found ~18" of tubing was packed w/ sediment, completely blocking it. Attempted to clear tubing by pumping and purging w/ water while hammering on obstruction. Eventually cleared blockage. Cut tubing end off (~3" from inverted) in hopes of avoiding drawing more sediment in. Will need to install a sample strainer for future events. Re-started program. Did not collect grab samples.

3/15/09 0705 - uploaded data from M1. Appears that flow increased an hour or so after last night's visit and samples were collected through ~0230 this morning when all bottles were filled. Appears that ~0.75"

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project NPDES Stormwater
Location M-1, OF-19, 545U
Subject event 2/3

Project No. 4010.001
Date 3/15/09
By MJS, LAP

will first churn bottles 1 – 6 (17 aliquots - bottle 3 has only 2 aliquots) and will retain 17 · 437.5 = 7437.5 ml
Then bottles 7 – 11 (15 aliquots) and will retain 6562.5 ml
Due to difficulty in measuring the graduations on the large beaker will target 7.4L for bottles 1-6 and 6.6L for bottles 7-11.

545U – 35 aliquots total; target 13L; 371.4ml per trigger
bottles 1-6 = 17 triggers = 6,314ml ≈ 6.3L
bottles 7-12 = 18 triggers = 6,685ml ≈ 6.7L

Attachments

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY 08/09 Event # 3

Project NPDES Stormwater **Site** S45V **Project No.** 4010.001

Setup: Date 3.12.09 Arrival Time (PST) 1320 Personnel MJS, RAP

First Check: Date 3-14-09 Arrival Time (PST) 1938 Personnel MJS, LAP

Second Check: Date 3.15.09 Arrival Time (PST) 0921 Personnel MJS, LAP

Third Check: Date _____ Arrival Time (PST) _____ Personnel _____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	1	1	3.14.09	0805	
		2		1414	
		3		1505	
	2	4		1520	
		5		1536	
		6		1550	
	3	7		1603	
		8		1617	
		9		1632	
	4	10		1649	
		11		1707	
	5	12	3.14.09	1956	

Swap	Bottle No.	Aliquot No.	Date	Time (PST)	Missed? Codes
	5	13	3.14.09	2153	
		14		2205	
	6	15		2215	
		16		2221	
		17		2227	
	7	18		2233	
		19		2241	
		20		2251	
	8	21		2303	
		22		2316	
		23		2328	
	9	24		2341	

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
1	Very turbid	3 triggers
2	↓	" "
3	↓	" "
4	slightly turbid	2 triggers
5	full, moderately turbid	
6	full, extremely turbid	
7	full, moderately turbid	
8	full, slightly turbid	

Notes

bottle #	aliquot	date	time (pst)
9	25	3.14.09	2355
9	26	3.15.09	0010
10	27		0025
	28		0041
	29		0056
11	30		0110
	31		0127
	32		0142
12	33		0155
	34		0209
	35	↓	0225

Composite Notes: Churn splitter used? ☐

See next page

COMPOSITE BOTTLE DATA SHEET

City of Portland - Environmental Services
Field Operations

Fiscal Year and Event No. FY 08-09 Event #3

Project NPDES Stormwater WQ/FM **Site** 545U **Project No.** 4010.001

2nd Check: Date 3/15/09 Arrival Time (PST) 0921 Personnel MJS, LAP

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

____ Check: Date ____ Arrival Time (PST) ____ Personnel ____

Aliquot Data

Swap	Bottle No.	Aliquot No.	Date Time (PST)	Missed? Codes	Swap	Bottle No.	Aliquot No.	Date Time (PST)	Missed? Codes
	9	25	3/14/09 2355				37		
	9	26	3/15/09 0010				38		
	10	27	0025				39		
		28	0041				40		
		29	0056				41		
	11	30	0110				42		
		31	0127				43		
		32	0142				44		
	12	33	0155				45		
		34	0209				46		
		35	0225				47		
		36					48		

Bottle Data

Bottle No.	Sample characteristics (turbidity, volume., etc.)	Missed aliquots, comments
9		
10		
11		
12		
13		
14		
15		
16		

Notes ____

Composite Notes: Churn splitter used? ☑ used teflon churn. Churned bottles 1-6 (17 triggers) and retained 6.3 L, churned 7-12 (18 triggers) and retained 6.7 L in large glass graduated beakers. Recombined into churn and split into analyte bottles

Pace Analytical™

www.pacelabs.com

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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

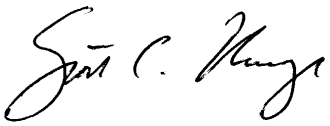
Pace Project #: 1086449
Sample Receipt Date: 12/17/2008
Client Project #: PRK0812
Client Sub PO #: N/A
State Cert #: MN200001-005

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Report Prepared Date:
January 20, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analysis performed on one sample submitted by a representative of Test America - Portland. The sample was analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 parts-per-trillion and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 63-166%. With one exception, the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. This indicates that the analytical process did not introduce significant levels of PCB congeners to the sample extract.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds in the lab spikes were recovered at 87-116% with relative percent differences of 11.9-18.8%. These results indicate high degrees of accuracy and precsion for these determinations. Matrix spikes were not prepared with the sample set.

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Appendix A

Sample Management

1123

SUBCONTRACT ORDER

TestAmerica Portland

PRK0812

1086449

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location:
Receipt Temperature: 0.4 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: PRK0812-01	**Water**		Sampled: **11/20/08 07:28**	001
1668 Coplanar PCBs - SUB	ug/l	~~12/15/08~~ 12/31/08	05/19/09 07:28	***209 Congeners***
Containers Supplied:				
1L Amber - Unpres. (B) ~~1L Amber - Unpres. (C)~~				FO 081427

Scott—
You have already tested this sample for 1668 Coplanar PCBs.
However, they made a mistake on the COC & really needed the "209" Congener list.
Please contact me if you have any questions.

Thanks
HZ
503-906-9231

Peggy Kingsley 12/16/08 1500 — Released By / Date/Time
Received By — Date/Time
T= 0.4°C
Released By — Date/Time
Received By PACE 12/17/08 11:11 — Date/Time

Sample Condition Upon Receipt

Pace Analytical

Client Name: TEST AMERICA Project # 1086449

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace [ ] Other _____

Tracking #: 9796 8711 8387

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: [X] yes [ ] no Seals intact: [X] yes [ ] no

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other _____ Temp Blank: Yes ____ No [X]

Thermometer Used ~~80344042~~, 179425 Type of Ice: (Wet) Blue None [ ] Samples on ice, cooling process has begun

Cooler Temperature 0.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 12/17/08 [illegible]

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	[X]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[X]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[X]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC:	[ ]Yes [X]No [ ]N/A	4.
Samples Arrived within Hold Time:	[X]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [ ]No [X]N/A	6.
Rush Turn Around Time Requested:	[ ]Yes [X]No [ ]N/A	7.
Sufficient Volume:	[X]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[X]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[ ]Yes [X]No [ ]N/A	
Containers Intact:	[X]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [ ]No [X]N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	[X]Yes [ ]No [ ]N/A	12.
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	[ ]Yes [ ]No [X]N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [X]N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	[ ]Yes [X]No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	[ ]Yes [ ]No [X]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [ ]No [X]N/A	15.
Trip Blank Present:	[ ]Yes [X]No [ ]N/A	16.
Trip Blank Custody Seals Present	[ ]Yes [ ]No [X]N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 12/17/08

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PRK0812-01;FO 081427		
Lab Sample ID	1086449001		
Filename	P90116C_09		
Injected By	BAL		
Total Amount Extracted	968 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/20/2008
ICAL ID	P90116C04	Received	12/17/2008
CCal Filename(s)	P90116C_03	Extracted	01/05/2009
Method Blank ID	BLANK-18669	Analyzed	01/17/2009 02:02

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery	
Labeled Analytes							
13C-2-MoCB	1	7.109	3.13	2.0	1.55	77	
13C-4-MoCB	3	10.153	3.20	2.0	1.59	79	
13C-2,2'-DiCB	4	10.477	1.57	2.0	1.75	88	
13C-4,4'-DiCB	15	18.397	1.54	2.0	1.65	82	
13C-2,2',6-TrCB	19	14.754	1.06	2.0	1.83	92	
13C-3,4,4'-TrCB	37	26.705	1.07	2.0	1.67	84	
13C-2,2',6,6'-TeCB	54	18.706	0.79	2.0	1.80	90	
13C-3,4,4',5-TeCB	81	34.083	0.78	2.0	1.42	71	
13C-3,3',4,4'-TeCB	77	34.670	0.78	2.0	1.54	77	
13C-2,2',4,6,6'-PeCB	104	25.296	1.58	2.0	1.98	99	
13C-2,3,3',4,4'-PeCB	105	38.326	1.54	2.0	1.38	69	
13C-2,3,4,4',5-PeCB	114	37.672	1.53	2.0	1.38	69	
13C-2,3',4,4',5-PeCB	118	37.135	1.57	2.0	1.41	71	
13C-2,3',4,4',5'-PeCB	123	36.783	1.57	2.0	1.36	68	
13C-3,3',4,4',5-PeCB	126	41.563	1.60	2.0	1.26	63	
13C-2,2',4,4',6,6'-HxCB	155	31.618	1.26	2.0	2.36	118	
13C-HxCB (156/157)	156/157	44.631	1.24	4.0	2.86	71	
13C-2,3',4,4',5,5'-HxCB	167	43.491	1.23	2.0	1.50	75	
13C-3,3',4,4',5,5'-HxCB	169	47.968	1.26	2.0	1.38	69	
13C-2,2',3,4',5,6,6'-HpCB	188	37.655	1.05	2.0	3.32	166	P
13C-2,3,3',4,4',5,5'-HpCB	189	50.509	1.05	2.0	1.93	96	
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.189	0.91	2.0	2.86	143	
13C-2,3,3',4,4',5,5',6-OcCB	205	53.096	0.92	2.0	1.59	79	
13C-2,2',3,3',4,4',5,5',6-NoCB	206	54.841	0.78	2.0	1.96	98	
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.971	0.81	2.0	2.12	106	
13C--DeCB	209	56.415	0.68	2.0	1.91	96	
Cleanup Standards							
13C-2,4,4'-TrCB	28	22.110	1.05	2.0	1.68	84	
13C-2,3,3',5,5'-PeCB	111	34.771	1.59	2.0	1.68	84	
13C-2,2',3,3',5,5',6-HpCB	178	40.825	1.04	2.0	2.08	104	
Recovery Standards							
13C-2,5-DiCB	9	13.281	1.55	2.0	NA	NA	
13C-2,2',5,5'-TeCB	52	24.257	0.79	2.0	NA	NA	
13C-2,2',4,5,5'-PeCB	101	31.870	1.60	2.0	NA	NA	
13C-2,2',3,4,4',5'-HxCB	138	40.355	1.28	2.0	NA	NA	
13C-2,2',3,3',4,4',5,5'-OcCB	194	52.622	0.88	2.0	NA	NA	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRK0812-01;FO 081427
Lab Sample ID 1086449001
Filename P90116C_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.516
2		---	---	ND	---	0.516
3		---	---	ND	---	0.516
4		---	---	ND	---	0.516
5		---	---	ND	---	0.516
6		---	---	ND	---	0.516
7		---	---	ND	---	0.516
8		---	---	ND	---	0.516
9		---	---	ND	---	0.516
10		---	---	ND	---	0.516
11		---	---	ND	---	0.620
12	12/13	---	---	ND	---	0.516
13	12/13	---	---	ND	---	0.516
14		---	---	ND	---	0.516
15		---	---	ND	---	0.516
16		---	---	ND	---	0.516
17		---	---	ND	---	0.516
18	18/30	---	---	ND	---	0.516
19		---	---	ND	---	0.516
20	20/28	22.144	1.00	0.622	---	0.620
21	21/33	---	---	ND	---	0.516
22		---	---	ND	---	0.516
23		---	---	ND	---	0.516
24		---	---	ND	---	0.516
25		---	---	ND	---	0.516
26	26/29	---	---	ND	---	0.516
27		---	---	ND	---	0.516
28	20/28	22.144	1.00	(0.622)	---	0.620
29	26/29	---	---	ND	---	0.516
30	18/30	---	---	ND	---	0.516
31		---	---	ND	---	0.516
32		---	---	ND	---	0.516
33	21/33	---	---	ND	---	0.516
34		---	---	ND	---	0.516
35		---	---	ND	---	0.516
36		---	---	ND	---	0.516
37		---	---	ND	---	0.516
38		---	---	ND	---	0.516
39		---	---	ND	---	0.516
40	40/41/71	---	---	ND	---	0.516
41	40/41/71	---	---	ND	---	0.516
42		---	---	ND	---	0.516
43		---	---	ND	---	0.516
44	44/47/65	25.397	0.76	0.806	---	0.620
45	45/51	---	---	ND	---	0.516
46		---	---	ND	---	0.516
47	44/47/65	25.397	0.76	(0.806)	---	0.620
48		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRK0812-01;FO 081427
Lab Sample ID 1086449001
Filename P90116C_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	0.516
50	50/53	---	---	ND	---	0.516
51	45/51	---	---	ND	---	0.516
52		24.290	0.77	1.03	---	0.516
53	50/53	---	---	ND	---	0.516
54		---	---	ND	---	0.516
55		---	---	ND	---	0.516
56		---	---	ND	---	0.516
57		---	---	ND	---	0.516
58		---	---	ND	---	0.516
59	59/62/75	---	---	ND	---	0.516
60		---	---	ND	---	0.516
61	61/70/74/76	29.656	0.75	1.39	---	0.516
62	59/62/75	---	---	ND	---	0.516
63		---	---	ND	---	0.516
64		---	---	ND	---	0.516
65	44/47/65	25.397	0.76	(0.806)	---	0.620
66		29.991	0.76	0.675	---	0.516
67		---	---	ND	---	0.516
68		---	---	ND	---	0.516
69	49/69	---	---	ND	---	0.516
70	61/70/74/76	29.656	0.75	(1.39)	---	0.516
71	40/41/71	---	---	ND	---	0.516
72		---	---	ND	---	0.516
73		---	---	ND	---	0.516
74	61/70/74/76	29.656	0.75	(1.39)	---	0.516
75	59/62/75	---	---	ND	---	0.516
76	61/70/74/76	29.656	0.75	(1.39)	---	0.516
77		---	---	ND	---	0.516
78		---	---	ND	---	0.516
79		---	---	ND	---	0.516
80		---	---	ND	---	0.516
81		---	---	ND	---	0.516
82		---	---	ND	---	0.516
83		---	---	ND	---	0.516
84		---	---	ND	---	0.516
85	85/116/117	---	---	ND	---	0.620
86	86/87/97/108/119/125	33.077	1.59	1.47	---	1.03
87	86/87/97/108/119/125	33.077	1.59	(1.47)	---	1.03
88	88/91	---	---	ND	---	0.516
89		---	---	ND	---	0.516
90	90/101/113	31.903	1.54	1.95	---	0.516
91	88/91	---	---	ND	---	0.516
92		---	---	ND	---	0.516
93	93/98/100/102	---	---	ND	---	0.775
94		---	---	ND	---	0.516
95		28.650	1.59	1.42	---	0.516
96		---	---	ND	---	0.516

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRK0812-01;FO 081427
Lab Sample ID 1086449001
Filename P90116C_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	33.077	1.59	(1.47)	---	1.03
98	93/98/100/102	---	---	ND	---	0.775
99		32.507	1.53	0.862	---	0.516
100	93/98/100/102	---	---	ND	---	0.775
101	90/101/113	31.903	1.54	(1.95)	---	0.516
102	93/98/100/102	---	---	ND	---	0.775
103		---	---	ND	---	0.516
104		---	---	ND	---	0.516
105		38.360	1.51	0.824	---	0.516
106		---	---	ND	---	0.516
107	107/124	---	---	ND	---	0.516
108	86/87/97/108/119/125	33.077	1.59	(1.47)	---	1.03
109		---	---	ND	---	0.516
110	110/115	33.966	1.57	2.59	---	0.516
111		---	---	ND	---	0.516
112		---	---	ND	---	0.516
113	90/101/113	31.903	1.54	(1.95)	---	0.516
114		---	---	ND	---	0.516
115	110/115	33.966	1.57	(2.59)	---	0.516
116	85/116/117	---	---	ND	---	0.620
117	85/116/117	---	---	ND	---	0.620
118		37.169	1.47	1.81	---	0.516
119	86/87/97/108/119/125	33.077	1.59	(1.47)	---	1.03
120		---	---	ND	---	0.516
121		---	---	ND	---	0.516
122		---	---	ND	---	0.516
123		---	---	ND	---	0.516
124	107/124	---	---	ND	---	0.516
125	86/87/97/108/119/125	33.077	1.59	(1.47)	---	1.03
126		---	---	ND	---	0.516
127		---	---	ND	---	0.516
128	128/166	---	---	ND	---	1.03
129	129/138/163	40.389	1.25	3.43	---	0.516
130		---	---	ND	---	0.516
131		---	---	ND	---	0.516
132		37.202	1.22	1.10	---	0.516
133		---	---	ND	---	0.516
134	134/143	---	---	ND	---	0.516
135	135/151	34.955	1.26	0.960	---	0.527
136		---	---	ND	---	0.516
137		---	---	ND	---	0.516
138	129/138/163	40.389	1.25	(3.43)	---	0.516
139	139/140	---	---	ND	---	0.516
140	139/140	---	---	ND	---	0.516
141		39.299	1.27	0.520	---	0.516
142		---	---	ND	---	0.516
143	134/143	---	---	ND	---	0.516
144		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRK0812-01;FO 081427
Lab Sample ID 1086449001
Filename P90116C_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.516
146		---	---	ND	---	0.516
147	147/149	35.928	1.29	2.44	---	0.516
148		---	---	ND	---	0.516
149	147/149	35.928	1.29	(2.44)	---	0.516
150		---	---	ND	---	0.516
151	135/151	34.955	1.26	(0.960)	---	0.527
152		---	---	ND	---	0.516
153	153/168	39.114	1.24	2.74	---	0.620
154		---	---	ND	---	0.516
155		---	---	ND	---	0.516
156	156/157	---	---	ND	---	1.03
157	156/157	---	---	ND	---	1.03
158		---	---	ND	---	0.516
159		---	---	ND	---	0.516
160		---	---	ND	---	0.516
161		---	---	ND	---	0.516
162		---	---	ND	---	0.516
163	129/138/163	40.389	1.25	(3.43)	---	0.516
164		---	---	ND	---	0.516
165		---	---	ND	---	0.516
166	128/166	---	---	ND	---	1.03
167		---	---	ND	---	0.516
168	153/168	39.114	1.24	(2.74)	---	0.620
169		---	---	ND	---	0.516
170		47.331	0.99	0.691	---	0.516
171	171/173	---	---	ND	---	0.516
172		---	---	ND	---	0.516
173	171/173	---	---	ND	---	0.516
174		42.636	1.03	0.716	---	0.516
175		---	---	ND	---	0.516
176		---	---	ND	---	0.516
177		---	---	ND	---	0.516
178		---	---	ND	---	0.516
179		---	---	ND	---	0.516
180	180/193	46.090	1.03	1.54	---	0.516
181		---	---	ND	---	0.516
182		---	---	ND	---	0.516
183	183/185	42.418	1.06	0.545	---	0.516
184		---	---	ND	---	0.516
185	183/185	42.418	1.06	(0.545)	---	0.516
186		---	---	ND	---	0.516
187		41.781	1.04	0.944	---	0.516
188		---	---	ND	---	0.516
189		---	---	ND	---	0.516
190		---	---	ND	---	0.516
191		---	---	ND	---	0.516
192		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PRK0812-01;FO 081427
Lab Sample ID 1086449001
Filename P90116C_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	46.090	1.03	(1.54)	---	0.516
194		---	---	ND	---	0.516
195		---	---	ND	---	0.516
196		---	---	ND	---	0.723
197	197/200	---	---	ND	---	2.58
198	198/199	---	---	ND	---	0.516
199	198/199	---	---	ND	---	0.516
200	197/200	---	---	ND	---	2.58
201		---	---	ND	---	0.516
202		---	---	ND	---	0.516
203		---	---	ND	---	0.516
204		---	---	ND	---	0.516
205		---	---	ND	---	0.516
206		---	---	ND	---	0.516
207		---	---	ND	---	0.516
208		---	---	ND	---	0.516
209		---	---	ND	---	0.516

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PRK0812-01;FO 081427
Lab Sample ID	1086449001
Filename	P90116C_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	0.622
Total Tetrachloro Biphenyls	3.90
Total Pentachloro Biphenyls	10.9
Total Hexachloro Biphenyls	11.2
Total Heptachloro Biphenyls	4.43
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	31.1

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-18669		
Filename	P90116C_08		
Injected By	BAL	Matrix	Water
Total Amount Extracted	960 mL	Extracted	01/05/2009
ICAL ID	P90116C04	Analyzed	01/17/2009 01:00
CCal Filename(s)	P90116C_03	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	7.109	3.03	2.0	1.22	61
13C-4-MoCB	3	10.141	3.20	2.0	1.22	61
13C-2,2'-DiCB	4	10.464	1.53	2.0	1.40	70
13C-4,4'-DiCB	15	18.384	1.57	2.0	1.15	58
13C-2,2',6-TrCB	19	14.730	1.08	2.0	1.37	69
13C-3,4,4'-TrCB	37	26.687	1.11	2.0	1.25	62
13C-2,2',6,6'-TeCB	54	18.688	0.81	2.0	1.26	63
13C-3,4,4',5-TeCB	81	34.032	0.78	2.0	1.21	60
13C-3,3',4,4'-TeCB	77	34.619	0.77	2.0	1.36	68
13C-2,2',4,6,6'-PeCB	104	25.262	1.59	2.0	1.45	72
13C-2,3,3',4,4'-PeCB	105	38.275	1.57	2.0	1.43	72
13C-2,3,4,4',5-PeCB	114	37.621	1.50	2.0	1.31	66
13C-2,3',4,4',5-PeCB	118	37.084	1.56	2.0	1.39	69
13C-2,3',4,4',5'-PeCB	123	36.732	1.57	2.0	1.30	65
13C-3,3',4,4',5-PeCB	126	41.495	1.52	2.0	1.40	70
13C-2,2',4,4',6,6'-HxCB	155	31.584	1.25	2.0	1.71	85
13C-HxCB (156/157)	156/157	44.564	1.26	4.0	3.29	82
13C-2,3',4,4',5,5'-HxCB	167	43.423	1.29	2.0	1.69	84
13C-3,3',4,4',5,5'-HxCB	169	47.884	1.28	2.0	1.71	85
13C-2,2',3,4',5,6,6'-HpCB	188	37.604	1.04	2.0	1.94	97
13C-2,3,3',4,4',5,5'-HpCB	189	50.423	1.05	2.0	1.85	93
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.121	0.93	2.0	2.05	102
13C-2,3,3',4,4',5,5',6-OcCB	205	53.010	0.86	2.0	1.61	80
13C-2,2',3,3',4,4',5,5',6-NoCB	206	54.734	0.83	2.0	1.79	90
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.906	0.82	2.0	1.86	93
13C--DeCB	209	56.329	0.72	2.0	1.83	92
Cleanup Standards						
13C-2,4,4'-TrCB	28	22.092	1.06	2.0	1.27	64
13C-2,3,3',5,5'-PeCB	111	34.720	1.59	2.0	1.48	74
13C-2,2',3,3',5,5',6-HpCB	178	40.774	1.03	2.0	1.98	99
Recovery Standards						
13C-2,5-DiCB	9	13.268	1.54	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	24.222	0.80	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.819	1.59	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.287	1.28	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	52.514	0.94	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-18669
Filename P90116C_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.521
2		---	---	ND	---	0.521
3		---	---	ND	---	0.521
4		---	---	ND	---	0.521
5		---	---	ND	---	0.521
6		---	---	ND	---	0.521
7		---	---	ND	---	0.521
8		---	---	ND	---	0.521
9		---	---	ND	---	0.521
10		---	---	ND	---	0.521
11		---	---	ND	---	0.625
12	12/13	---	---	ND	---	0.521
13	12/13	---	---	ND	---	0.521
14		---	---	ND	---	0.521
15		---	---	ND	---	0.521
16		---	---	ND	---	0.521
17		---	---	ND	---	0.521
18	18/30	---	---	ND	---	0.521
19		---	---	ND	---	0.521
20	20/28	---	---	ND	---	0.625
21	21/33	---	---	ND	---	0.521
22		---	---	ND	---	0.521
23		---	---	ND	---	0.521
24		---	---	ND	---	0.521
25		---	---	ND	---	0.521
26	26/29	---	---	ND	---	0.521
27		---	---	ND	---	0.521
28	20/28	---	---	ND	---	0.625
29	26/29	---	---	ND	---	0.521
30	18/30	---	---	ND	---	0.521
31		---	---	ND	---	0.521
32		---	---	ND	---	0.521
33	21/33	---	---	ND	---	0.521
34		---	---	ND	---	0.521
35		---	---	ND	---	0.521
36		---	---	ND	---	0.521
37		---	---	ND	---	0.521
38		---	---	ND	---	0.521
39		---	---	ND	---	0.521
40	40/41/71	---	---	ND	---	0.521
41	40/41/71	---	---	ND	---	0.521
42		---	---	ND	---	0.521
43		---	---	ND	---	0.521
44	44/47/65	---	---	ND	---	0.625
45	45/51	---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-18669
Filename P90116C_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.521
47	44/47/65	---	---	ND	---	0.625
48		---	---	ND	---	0.521
49	49/69	---	---	ND	---	0.521
50	50/53	---	---	ND	---	0.521
51	45/51	---	---	ND	---	0.521
52		---	---	ND	---	0.521
53	50/53	---	---	ND	---	0.521
54		---	---	ND	---	0.521
55		---	---	ND	---	0.521
56		---	---	ND	---	0.521
57		---	---	ND	---	0.521
58		---	---	ND	---	0.521
59	59/62/75	---	---	ND	---	0.521
60		---	---	ND	---	0.521
61	61/70/74/76	---	---	ND	---	0.521
62	59/62/75	---	---	ND	---	0.521
63		---	---	ND	---	0.521
64		---	---	ND	---	0.521
65	44/47/65	---	---	ND	---	0.625
66		---	---	ND	---	0.521
67		---	---	ND	---	0.521
68		---	---	ND	---	0.521
69	49/69	---	---	ND	---	0.521
70	61/70/74/76	---	---	ND	---	0.521
71	40/41/71	---	---	ND	---	0.521
72		---	---	ND	---	0.521
73		---	---	ND	---	0.521
74	61/70/74/76	---	---	ND	---	0.521
75	59/62/75	---	---	ND	---	0.521
76	61/70/74/76	---	---	ND	---	0.521
77		---	---	ND	---	0.521
78		---	---	ND	---	0.521
79		---	---	ND	---	0.521
80		---	---	ND	---	0.521
81		---	---	ND	---	0.521
82		---	---	ND	---	0.521
83		---	---	ND	---	0.521
84		---	---	ND	---	0.521
85	85/116/117	---	---	ND	---	0.625
86	86/87/97/108/119/125	---	---	ND	---	1.04
87	86/87/97/108/119/125	---	---	ND	---	1.04
88	88/91	---	---	ND	---	0.521
89		---	---	ND	---	0.521
90	90/101/113	---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-18669
Filename P90116C_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.521
92		---	---	ND	---	0.521
93	93/98/100/102	---	---	ND	---	0.782
94		---	---	ND	---	0.521
95		---	---	ND	---	0.521
96		---	---	ND	---	0.521
97	86/87/97/108/119/125	---	---	ND	---	1.04
98	93/98/100/102	---	---	ND	---	0.782
99		---	---	ND	---	0.521
100	93/98/100/102	---	---	ND	---	0.782
101	90/101/113	---	---	ND	---	0.521
102	93/98/100/102	---	---	ND	---	0.782
103		---	---	ND	---	0.521
104		---	---	ND	---	0.521
105		---	---	ND	---	0.521
106		---	---	ND	---	0.521
107	107/124	---	---	ND	---	0.521
108	86/87/97/108/119/125	---	---	ND	---	1.04
109		---	---	ND	---	0.521
110	110/115	---	---	ND	---	0.521
111		---	---	ND	---	0.521
112		---	---	ND	---	0.521
113	90/101/113	---	---	ND	---	0.521
114		---	---	ND	---	0.521
115	110/115	---	---	ND	---	0.521
116	85/116/117	---	---	ND	---	0.625
117	85/116/117	---	---	ND	---	0.625
118		---	---	ND	---	0.521
119	86/87/97/108/119/125	---	---	ND	---	1.04
120		---	---	ND	---	0.521
121		---	---	ND	---	0.521
122		---	---	ND	---	0.521
123		---	---	ND	---	0.521
124	107/124	---	---	ND	---	0.521
125	86/87/97/108/119/125	---	---	ND	---	1.04
126		---	---	ND	---	0.521
127		---	---	ND	---	0.521
128	128/166	---	---	ND	---	1.04
129	129/138/163	---	---	ND	---	0.521
130		---	---	ND	---	0.521
131		---	---	ND	---	0.521
132		---	---	ND	---	0.521
133		---	---	ND	---	0.521
134	134/143	---	---	ND	---	0.521
135	135/151	---	---	ND	---	0.532

Conc = Concentration
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ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
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*! = See Discussion
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Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-18669
Filename P90116C_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.521
137		---	---	ND	---	0.521
138	129/138/163	---	---	ND	---	0.521
139	139/140	---	---	ND	---	0.521
140	139/140	---	---	ND	---	0.521
141		---	---	ND	---	0.521
142		---	---	ND	---	0.521
143	134/143	---	---	ND	---	0.521
144		---	---	ND	---	0.521
145		---	---	ND	---	0.521
146		---	---	ND	---	0.521
147	147/149	---	---	ND	---	0.521
148		---	---	ND	---	0.521
149	147/149	---	---	ND	---	0.521
150		---	---	ND	---	0.521
151	135/151	---	---	ND	---	0.532
152		---	---	ND	---	0.521
153	153/168	---	---	ND	---	0.625
154		---	---	ND	---	0.521
155		---	---	ND	---	0.521
156	156/157	---	---	ND	---	1.04
157	156/157	---	---	ND	---	1.04
158		---	---	ND	---	0.521
159		---	---	ND	---	0.521
160		---	---	ND	---	0.521
161		---	---	ND	---	0.521
162		---	---	ND	---	0.521
163	129/138/163	---	---	ND	---	0.521
164		---	---	ND	---	0.521
165		---	---	ND	---	0.521
166	128/166	---	---	ND	---	1.04
167		---	---	ND	---	0.521
168	153/168	---	---	ND	---	0.625
169		---	---	ND	---	0.521
170		---	---	ND	---	0.521
171	171/173	---	---	ND	---	0.521
172		---	---	ND	---	0.521
173	171/173	---	---	ND	---	0.521
174		---	---	ND	---	0.521
175		---	---	ND	---	0.521
176		---	---	ND	---	0.521
177		---	---	ND	---	0.521
178		---	---	ND	---	0.521
179		---	---	ND	---	0.521
180	180/193	---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
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Tel: 612-607-1700
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-18669
Filename P90116C_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.521
182		---	---	ND	---	0.521
183	183/185	---	---	ND	---	0.521
184		---	---	ND	---	0.521
185	183/185	---	---	ND	---	0.521
186		---	---	ND	---	0.521
187		---	---	ND	---	0.521
188		---	---	ND	---	0.521
189		---	---	ND	---	0.521
190		---	---	ND	---	0.521
191		---	---	ND	---	0.521
192		---	---	ND	---	0.521
193	180/193	---	---	ND	---	0.521
194		---	---	ND	---	0.521
195		---	---	ND	---	0.521
196		---	---	ND	---	0.730
197	197/200	---	---	ND	---	2.61
198	198/199	---	---	ND	---	0.521
199	198/199	---	---	ND	---	0.521
200	197/200	---	---	ND	---	2.61
201		---	---	ND	---	0.521
202		---	---	ND	---	0.521
203		---	---	ND	---	0.521
204		---	---	ND	---	0.521
205		---	---	ND	---	0.521
206		---	---	ND	---	0.521
207		---	---	ND	---	0.521
208		---	---	ND	---	0.521
209		---	---	ND	---	0.521

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	DFBLKEB
Lab Sample ID	BLANK-18669
Filename	P90116C_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-18670		
Filename	P90116C_05	Matrix	Water
Total Amount Extracted	903 mL	Dilution	NA
ICAL ID	P90116C04	Extracted	01/05/2009
CCal Filename(s)	P90116C_03	Analyzed	01/16/2009 21:56
Method Blank ID	BLANK-18669	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.09	109	2.0	1.55	77
3	1.0	1.15	115	2.0	1.55	78
4	1.0	1.07	107	2.0	1.74	87
15	1.0	1.16	116	2.0	1.54	77
19	1.0	1.05	105	2.0	1.64	82
37	1.0	1.15	115	2.0	1.56	78
54	1.0	1.02	102	2.0	1.64	82
81	1.0	1.10	110	2.0	1.44	72
77	1.0	1.05	105	2.0	1.60	80
104	1.0	1.05	105	2.0	1.82	91
105	1.0	1.11	111	2.0	1.50	75
114	1.0	1.14	114	2.0	1.41	70
118	1.0	1.12	112	2.0	1.54	77
123	1.0	1.13	113	2.0	1.42	71
126	1.0	1.07	107	2.0	1.49	75
155	1.0	1.07	107	2.0	1.95	97
156/157	2.0	2.22	111	4.0	3.34	83
167	1.0	1.10	110	2.0	1.74	87
169	1.0	1.14	114	2.0	1.75	88
188	1.0	1.05	105	2.0	2.11	106
189	1.0	1.13	113	2.0	1.99	99
202	1.0	1.06	106	2.0	2.12	106
205	1.0	1.09	109	2.0	1.71	86
206	1.0	1.03	103	2.0	1.87	94
208	1.0	1.07	107	2.0	1.96	98
209	1.0	1.04	104	2.0	1.92	96

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-18671		
Filename	P90116C_06	Matrix	Water
Total Amount Extracted	947 mL	Dilution	NA
ICAL ID	P90116C04	Extracted	01/05/2009
CCal Filename(s)	P90116C_03	Analyzed	01/16/2009 22:57
Method Blank ID	BLANK-18669	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.963	96	2.0	1.68	84
3	1.0	0.994	99	2.0	1.68	84
4	1.0	0.919	92	2.0	1.94	97
15	1.0	1.03	103	2.0	1.65	82
19	1.0	0.870	87	2.0	1.91	95
37	1.0	1.01	101	2.0	1.70	85
54	1.0	0.889	89	2.0	1.78	89
81	1.0	0.962	96	2.0	1.60	80
77	1.0	0.921	92	2.0	1.79	90
104	1.0	0.913	91	2.0	2.12	106
105	1.0	0.952	95	2.0	1.76	88
114	1.0	0.995	100	2.0	1.66	83
118	1.0	0.992	99	2.0	1.79	90
123	1.0	0.960	96	2.0	1.64	82
126	1.0	0.932	93	2.0	1.75	88
155	1.0	0.919	92	2.0	2.17	108
156/157	2.0	1.96	98	4.0	3.72	93
167	1.0	0.961	96	2.0	1.93	96
169	1.0	0.986	99	2.0	1.93	96
188	1.0	0.923	92	2.0	2.48	124
189	1.0	0.991	99	2.0	2.24	112
202	1.0	0.892	89	2.0	2.49	124
205	1.0	0.932	93	2.0	1.93	97
206	1.0	0.894	89	2.0	2.07	103
208	1.0	0.922	92	2.0	2.24	112
209	1.0	0.900	90	2.0	2.18	109

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-18670	Spike 2 ID	LCSD-18671
Spike 1 Filename	P90116C_05	Spike 2 Filename	P90116C_06

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	109	96	12.7
4-MoCB	3	115	99	15.0
2,2'-DiCB	4	107	92	15.1
4,4'-DiCB	15	116	103	11.9
2,2',6-TrCB	19	105	87	18.8
3,4,4'-TrCB	37	115	101	13.0
2,2',6,6'-TeCB	54	102	89	13.6
3,3',4,4'-TeCB	77	105	92	13.2
3,4,4',5-TeCB	81	110	96	13.6
2,2',4,6,6'-PeCB	104	105	91	14.3
2,3,3',4,4'-PeCB	105	111	95	15.5
2,3,4,4',5-PeCB	114	114	100	13.1
2,3',4,4',5-PeCB	118	112	99	12.3
2,3',4,4',5'-PeCB	123	113	96	16.3
3,3',4,4',5-PeCB	126	107	93	14.0
2,2',4,4',6,6'-HxCB	155	107	92	15.1
(156/157)	156/157	111	98	12.4
2,3',4,4',5,5'-HxCB	167	110	96	13.6
3,3',4,4',5,5'-HxCB	169	114	99	14.1
2,2',3,4',5,6,6'-HpCB	188	105	92	13.2
2,3,3',4,4',5,5'-HpCB	189	113	99	13.2
2,2',3,3',5,5',6,6'-OcCB	202	106	89	17.4
2,3,3',4,4',5,5',6-OcCB	205	109	93	15.8
2,2',3,3',4,4',5,5',6-NoCB	206	103	89	14.6
2,2',3,3',4,5,5',6,6'-NoCB	208	107	92	15.1
Decachlorobiphenyl	209	104	90	14.4

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

Pace Project #: 1090118
Sample Receipt Date: 02/27/2009
Client Project #: PSB0768
Client Sub PO #: N/A
State Cert #: MN200001-005

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
March 17, 2009

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Test America - Portland. The sample was analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.5 parts-per-trillion and were adjusted for sample volume.

The isotopically-labeled PCB internal standards in the sample extracts were recovered at 59-109%. All of the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In one case, an incorrect isotope ratio was obtained for a labeled PCB congener. The affected value was flagged "I" on the results table.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. This indicates that the analytical process did not introduce significant levels of PCB congeners to the sample extract.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds in the lab spikes were recovered at 80-109% with relative percent differences of 0.0-6.6%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample set.

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Appendix A

Sample Management

1113

SUBCONTRACT ORDER

TestAmerica Portland

PSB0768

1090118

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location: OR - OREGON
Receipt Temperature: _____ °C Ice: Y / N

needs Excel EDD

Analysis	Units	Due	Expires	Comments
Sample ID: PSB0768-01	**Water**		Sampled: **02/23/09 22:13**	
1668 Coplanar PCBs - SUB	ug/l	03/12/09	08/22/09 22:13	***209 Congeners*** to Pace
Containers Supplied:				
1L Amber - Unpres. (A)				FO 095243

Released By _____ Date/Time 2/26/09 @ 1410 Received By T=3.4c° Date/Time 2/27/09 0827

Released By _____ Date/Time _____ Received By _____ Date/Time _____

Sample Condition Upon Receipt

Pace Analytical

Client Name: Test America

Project # 1090118

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7796-8712-1497

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ☑ No _____

Thermometer Used 80344042, 179425 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.4 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 2/27/09

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☐Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☑N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed — Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: (W) Date: 02/27/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

02-27-09

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PSB0768-01 FO 095243		
Lab Sample ID	1090118001		
Filename	P90314A_09		
Injected By	BAL		
Total Amount Extracted	971 mL	Matrix	Water
% Moisture	NA	Dilution	3
Dry Weight Extracted	NA	Collected	02/23/2009
ICAL ID	P90314A01	Received	02/27/2009
CCal Filename(s)	P90314A_02	Extracted	03/13/2009
Method Blank ID	BLANK-19214	Analyzed	03/14/2009 15:13

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	6.635	2.78	2.0	1.67	83
13C-4-MoCB	3	9.511	3.02	2.0	1.52	76
13C-2,2'-DiCB	4	9.822	1.55	2.0	2.19	109
13C-4,4'-DiCB	15	17.635	1.40	2.0	1.42	71
13C-2,2',6-TrCB	19	14.028	1.11	2.0	1.98	99
13C-3,4,4'-TrCB	37	25.908	1.01	2.0	1.18	59
13C-2,2',6,6'-TeCB	54	17.941	0.73	2.0	1.47	74
13C-3,4,4',5-TeCB	81	33.255	0.75	2.0	1.26	63
13C-3,3',4,4'-TeCB	77	33.858	0.71	2.0	1.31	65
13C-2,2',4,6,6'-PeCB	104	24.483	1.61	2.0	1.68	84
13C-2,3,3',4,4'-PeCB	105	37.498	1.45	2.0	1.33	67
13C-2,3,4,4',5-PeCB	114	36.827	1.52	2.0	1.23	61
13C-2,3',4,4',5-PeCB	118	36.307	1.41	2.0	1.30	65
13C-2,3',4,4',5'-PeCB	123	35.972	1.47	2.0	1.26	63
13C-3,3',4,4',5-PeCB	126	40.718	1.55	2.0	1.26	63
13C-2,2',4,4',6,6'-HxCB	155	30.789	1.24	2.0	1.72	86
13C-HxCB (156/157)	156/157	43.804	1.20	4.0	2.47	62
13C-2,3',4,4',5,5'-HxCB	167	42.647	1.27	2.0	1.30	65
13C-3,3',4,4',5,5'-HxCB	169	47.142	1.23	2.0	1.32	66
13C-2,2',3,4',5,6,6'-HpCB	188	36.827	1.06	2.0	2.06	103
13C-2,3,3',4,4',5,5'-HpCB	189	49.664	1.01	2.0	1.46	73
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.345	0.94	2.0	1.93	97
13C-2,3,3',4,4',5,5',6-OcCB	205	52.251	0.91	2.0	1.51	75
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.976	0.80	2.0	1.62	81
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.125	0.74	2.0	1.75	88
13C--DeCB	209	55.571	0.72	2.0	1.51	76
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.313	0.99	2.0	1.27	64
13C-2,3,3',5,5'-PeCB	111	33.942	1.62	2.0	1.74	87
13C-2,2',3,3',5,5',6-HpCB	178	39.997	1.05	2.0	1.86	93
Recovery Standards						
13C-2,5-DiCB	9	12.578	1.52	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.459	0.76	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.057	1.55	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	39.511	1.21	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.777	0.85	2.0	NA	NA

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference
ng's = Nanograms

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PSB0768-01 FO 095243
Lab Sample ID 1090118001
Filename P90314A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.772
2		---	---	ND	---	0.772
3		---	---	ND	---	0.772
4		---	---	ND	---	0.772
5		---	---	ND	---	0.772
6		---	---	ND	---	0.772
7		---	---	ND	---	0.772
8		---	---	ND	---	0.772
9		---	---	ND	---	0.772
10		---	---	ND	---	0.772
11		---	---	ND	---	4.63
12	12/13	---	---	ND	---	1.54
13	12/13	---	---	ND	---	1.54
14		---	---	ND	---	0.772
15		---	---	ND	---	0.772
16		---	---	ND	---	0.772
17		---	---	ND	---	0.772
18	18/30	---	---	ND	---	1.54
19		---	---	ND	---	0.772
20	20/28	21.346	0.99	2.33	---	1.54
21	21/33	---	---	ND	---	1.54
22		22.050	0.88	1.02	---	0.772
23		---	---	ND	---	0.772
24		---	---	ND	---	0.772
25		---	---	ND	---	0.772
26	26/29	---	---	ND	---	1.54
27		---	---	ND	---	0.772
28	20/28	21.346	0.99	(2.33)	---	1.54
29	26/29	---	---	ND	---	1.54
30	18/30	---	---	ND	---	1.54
31		21.011	0.90	1.91	---	0.772
32		---	---	ND	---	0.772
33	21/33	---	---	ND	---	1.54
34		---	---	ND	---	0.772
35		---	---	ND	---	0.772
36		---	---	ND	---	0.772
37		25.942	0.96	0.787	---	0.772
38		---	---	ND	---	0.772
39		---	---	ND	---	0.772
40	40/41/71	---	---	ND	---	4.63
41	40/41/71	---	---	ND	---	4.63
42		---	---	ND	---	1.54
43		---	---	ND	---	1.54
44	44/47/65	---	---	ND	---	4.63
45	45/51	---	---	ND	---	3.09
46		---	---	ND	---	1.54
47	44/47/65	---	---	ND	---	4.63
48		---	---	ND	---	1.54

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*= See Discussion
! = Outside QC Limits
RT = Retention Time
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PSB0768-01 FO 095243
Lab Sample ID 1090118001
Filename P90314A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	3.09
50	50/53	---	---	ND	---	3.09
51	45/51	---	---	ND	---	3.09
52		23.493	0.79	2.39	---	1.54
53	50/53	---	---	ND	---	3.09
54		---	---	ND	---	1.54
55		---	---	ND	---	1.54
56		---	---	ND	---	1.54
57		---	---	ND	---	1.54
58		---	---	ND	---	1.54
59	59/62/75	---	---	ND	---	4.63
60		---	---	ND	---	1.54
61	61/70/74/76	---	---	ND	---	6.18
62	59/62/75	---	---	ND	---	4.63
63		---	---	ND	---	1.54
64		---	---	ND	---	1.54
65	44/47/65	---	---	ND	---	4.63
66		29.179	0.76	1.87	---	1.54
67		---	---	ND	---	1.54
68		---	---	ND	---	1.54
69	49/69	---	---	ND	---	3.09
70	61/70/74/76	---	---	ND	---	6.18
71	40/41/71	---	---	ND	---	4.63
72		---	---	ND	---	1.54
73		---	---	ND	---	1.54
74	61/70/74/76	---	---	ND	---	6.18
75	59/62/75	---	---	ND	---	4.63
76	61/70/74/76	---	---	ND	---	6.18
77		---	---	ND	---	1.54
78		---	---	ND	---	1.54
79		---	---	ND	---	1.54
80		---	---	ND	---	1.54
81		---	---	ND	---	1.54
82		---	---	ND	---	1.54
83		---	---	ND	---	1.54
84		---	---	ND	---	1.54
85	85/116/117	---	---	ND	---	4.63
86	86/87/97/108/119/125	---	---	ND	---	9.27
87	86/87/97/108/119/125	---	---	ND	---	9.27
88	88/91	---	---	ND	---	3.09
89		---	---	ND	---	1.54
90	90/101/113	---	---	ND	---	4.63
91	88/91	---	---	ND	---	3.09
92		---	---	ND	---	1.54
93	93/98/100/102	---	---	ND	---	6.18
94		---	---	ND	---	1.54
95		27.837	1.61	3.15	---	1.54
96		---	---	ND	---	1.54

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PSB0768-01 FO 095243
Lab Sample ID 1090118001
Filename P90314A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	9.27
98	93/98/100/102	---	---	ND	---	6.18
99		31.695	1.45	1.89	---	1.54
100	93/98/100/102	---	---	ND	---	6.18
101	90/101/113	---	---	ND	---	4.63
102	93/98/100/102	---	---	ND	---	6.18
103		---	---	ND	---	1.54
104		---	---	ND	---	1.54
105		37.515	1.41	1.61	---	1.54
106		---	---	ND	---	1.54
107	107/124	---	---	ND	---	3.09
108	86/87/97/108/119/125	---	---	ND	---	9.27
109		---	---	ND	---	1.54
110	110/115	33.137	1.60	6.65	---	3.09
111		---	---	ND	---	1.54
112		---	---	ND	---	1.54
113	90/101/113	---	---	ND	---	4.63
114		---	---	ND	---	1.54
115	110/115	33.137	1.60	(6.65)	---	3.09
116	85/116/117	---	---	ND	---	4.63
117	85/116/117	---	---	ND	---	4.63
118		36.341	1.47	3.92	---	1.54
119	86/87/97/108/119/125	---	---	ND	---	9.27
120		---	---	ND	---	1.54
121		---	---	ND	---	1.54
122		---	---	ND	---	1.54
123		---	---	ND	---	1.54
124	107/124	---	---	ND	---	3.09
125	86/87/97/108/119/125	---	---	ND	---	9.27
126		---	---	ND	---	1.54
127		---	---	ND	---	1.54
128	128/166	---	---	ND	---	3.09
129	129/138/163	39.544	1.22	14.6	---	4.63
130		---	---	ND	---	1.54
131		---	---	ND	---	1.54
132		36.374	1.18	4.60	---	1.54
133		---	---	ND	---	1.54
134	134/143	---	---	ND	---	3.09
135	135/151	34.144	1.34	3.88	---	3.09
136		---	---	ND	---	1.54
137		---	---	ND	---	1.54
138	129/138/163	39.544	1.22	(14.6)	---	4.63
139	139/140	---	---	ND	---	3.09
140	139/140	---	---	ND	---	3.09
141		38.471	1.24	2.80	---	1.54
142		---	---	ND	---	1.54
143	134/143	---	---	ND	---	3.09
144		---	---	ND	---	1.54

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
Nn = Value obtained from additional analyses

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*= See Discussion
! = Outside QC Limits
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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PSB0768-01 FO 095243
Lab Sample ID 1090118001
Filename P90314A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	1.54
146		37.666	1.17	1.65	---	1.54
147	147/149	35.100	1.24	10.7	---	3.09
148		---	---	ND	---	1.54
149	147/149	35.100	1.24	(10.7)	---	3.09
150		---	---	ND	---	1.54
151	135/151	34.144	1.34	(3.88)	---	3.09
152		---	---	ND	---	1.54
153	153/168	38.286	1.25	13.5	---	3.09
154		---	---	ND	---	1.54
155		---	---	ND	---	1.54
156	156/157	---	---	ND	---	3.09
157	156/157	---	---	ND	---	3.09
158		---	---	ND	---	1.54
159		---	---	ND	---	1.54
160		---	---	ND	---	1.54
161		---	---	ND	---	1.54
162		---	---	ND	---	1.54
163	129/138/163	39.544	1.22	(14.6)	---	4.63
164		---	---	ND	---	1.54
165		---	---	ND	---	1.54
166	128/166	---	---	ND	---	3.09
167		---	---	ND	---	1.54
168	153/168	38.286	1.25	(13.5)	---	3.09
169		---	---	ND	---	1.54
170		46.488	1.05	4.63	---	1.54
171	171/173	---	---	ND	---	3.09
172		---	---	ND	---	1.54
173	171/173	---	---	ND	---	3.09
174		41.792	1.08	4.85	---	1.54
175		---	---	ND	---	1.54
176		---	---	ND	---	1.54
177		42.244	0.94	3.02	---	1.54
178		---	---	ND	---	1.54
179		37.163	0.99	1.85	---	1.54
180	180/193	45.247	1.00	10.2	---	3.09
181		---	---	ND	---	1.54
182		---	---	ND	---	1.54
183	183/185	41.590	0.95	3.88	---	3.09
184		---	---	ND	---	1.54
185	183/185	41.590	0.95	(3.88)	---	3.09
186		---	---	ND	---	1.54
187		40.953	1.03	5.53	---	1.54
188		---	---	ND	---	1.54
189		---	---	ND	---	1.54
190		---	---	ND	---	1.54
191		---	---	ND	---	1.54
192		---	---	ND	---	1.54

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PSB0768-01 FO 095243
Lab Sample ID 1090118001
Filename P90314A_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	45.247	1.00	(10.2)	---	3.09
194		---	---	ND	---	2.32
195		---	---	ND	---	2.32
196		---	---	ND	---	2.32
197	197/200	---	---	ND	---	4.63
198	198/199	---	---	ND	---	4.63
199	198/199	---	---	ND	---	4.63
200	197/200	---	---	ND	---	4.63
201		---	---	ND	---	2.32
202		---	---	ND	---	2.32
203		---	---	ND	---	2.32
204		---	---	ND	---	2.32
205		---	---	ND	---	2.32
206		---	---	ND	---	2.32
207		---	---	ND	---	2.32
208		---	---	ND	---	2.32
209		---	---	ND	---	2.32

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PSB0768-01 FO 095243
Lab Sample ID	1090118001
Filename	P90314A_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	6.04
Total Tetrachloro Biphenyls	4.26
Total Pentachloro Biphenyls	17.2
Total Hexachloro Biphenyls	51.8
Total Heptachloro Biphenyls	34.0
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	113

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-19214		
Filename	P90314A_08		
Injected By	BAL	Matrix	Water
Total Amount Extracted	1020 mL	Extracted	03/13/2009
ICAL ID	P90314A01	Analyzed	03/14/2009 14:12
CCal Filename(s)	P90314A_02	Dilution	NA

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	6.635	3.06	2.0	1.45	73
13C-4-MoCB	3	9.511	2.70	2.0	1.37	68
13C-2,2'-DiCB	4	9.835	1.62	2.0	1.80	90
13C-4,4'-DiCB	15	17.636	1.46	2.0	1.27	64
13C-2,2',6-TrCB	19	14.029	1.03	2.0	1.65	82
13C-3,4,4'-TrCB	37	25.893	1.02	2.0	1.20	60
13C-2,2',6,6'-TeCB	54	17.926	0.81	2.0	1.32	66
13C-3,4,4',5-TeCB	81	33.239	0.78	2.0	1.36	68
13C-3,3',4,4'-TeCB	77	33.826	0.75	2.0	1.50	75
13C-2,2',4,6,6'-PeCB	104	24.484	1.55	2.0	1.49	74
13C-2,3,3',4,4'-PeCB	105	37.466	1.48	2.0	1.19	60
13C-2,3,4,4',5-PeCB	114	36.811	1.53	2.0	1.15	57
13C-2,3',4,4',5-PeCB	118	36.275	1.50	2.0	1.15	57
13C-2,3',4,4',5'-PeCB	123	35.939	1.51	2.0	1.16	58
13C-3,3',4,4',5-PeCB	126	40.686	1.47	2.0	1.11	56
13C-2,2',4,4',6,6'-HxCB	155	30.773	1.34	2.0	1.81	91
13C-HxCB (156/157)	156/157	43.755	1.18	4.0	2.55	64
13C-2,3',4,4',5,5'-HxCB	167	42.598	1.12	2.0	1.26	63
13C-3,3',4,4',5,5'-HxCB	169	47.076	1.22	2.0	1.34	67
13C-2,2',3,4',5,6,6'-HpCB	188	36.795	1.05	2.0	2.02	101
13C-2,3,3',4,4',5,5'-HpCB	189	49.601	1.00	2.0	1.45	73
13C-2,2',3,3',5,5',6,6'-OcCB	202	42.313	0.93	2.0	1.89	95
13C-2,3,3',4,4',5,5',6-OcCB	205	52.188	0.89	2.0	1.45	73
13C-2,2',3,3',4,4',5,5',6-NoCB	206	53.913	0.79	2.0	1.56	78
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	49.084	0.81	2.0	1.73	86
13C--DeCB	209	55.508	0.72	2.0	1.51	75
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.314	0.95	2.0	1.23	62
13C-2,3,3',5,5'-PeCB	111	33.927	1.56	2.0	1.65	83
13C-2,2',3,3',5,5',6-HpCB	178	39.965	1.02	2.0	1.87	94
Recovery Standards						
13C-2,5-DiCB	9	12.579	1.50	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.444	0.77	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.025	1.65	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	39.478	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	51.714	0.92	2.0	NA	NA

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19214
Filename P90314A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.245
2		---	---	ND	---	0.245
3		---	---	ND	---	0.245
4		---	---	ND	---	0.245
5		---	---	ND	---	0.245
6		---	---	ND	---	0.245
7		---	---	ND	---	0.245
8		---	---	ND	---	0.245
9		---	---	ND	---	0.245
10		---	---	ND	---	0.245
11		---	---	ND	---	1.47
12	12/13	---	---	ND	---	0.489
13	12/13	---	---	ND	---	0.489
14		---	---	ND	---	0.245
15		---	---	ND	---	0.245
16		---	---	ND	---	0.245
17		---	---	ND	---	0.245
18	18/30	---	---	ND	---	0.489
19		---	---	ND	---	0.245
20	20/28	---	---	ND	---	0.489
21	21/33	---	---	ND	---	0.489
22		---	---	ND	---	0.245
23		---	---	ND	---	0.245
24		---	---	ND	---	0.245
25		---	---	ND	---	0.245
26	26/29	---	---	ND	---	0.489
27		---	---	ND	---	0.245
28	20/28	---	---	ND	---	0.489
29	26/29	---	---	ND	---	0.489
30	18/30	---	---	ND	---	0.489
31		---	---	ND	---	0.245
32		---	---	ND	---	0.245
33	21/33	---	---	ND	---	0.489
34		---	---	ND	---	0.245
35		---	---	ND	---	0.245
36		---	---	ND	---	0.245
37		---	---	ND	---	0.245
38		---	---	ND	---	0.245
39		---	---	ND	---	0.245
40	40/41/71	---	---	ND	---	1.47
41	40/41/71	---	---	ND	---	1.47
42		---	---	ND	---	0.489
43		---	---	ND	---	0.489
44	44/47/65	---	---	ND	---	1.47
45	45/51	---	---	ND	---	0.978

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19214
Filename P90314A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	0.489
47	44/47/65	---	---	ND	---	1.47
48		---	---	ND	---	0.489
49	49/69	---	---	ND	---	0.978
50	50/53	---	---	ND	---	0.978
51	45/51	---	---	ND	---	0.978
52		---	---	ND	---	0.489
53	50/53	---	---	ND	---	0.978
54		---	---	ND	---	0.489
55		---	---	ND	---	0.489
56		---	---	ND	---	0.489
57		---	---	ND	---	0.489
58		---	---	ND	---	0.489
59	59/62/75	---	---	ND	---	1.47
60		---	---	ND	---	0.489
61	61/70/74/76	---	---	ND	---	1.96
62	59/62/75	---	---	ND	---	1.47
63		---	---	ND	---	0.489
64		---	---	ND	---	0.489
65	44/47/65	---	---	ND	---	1.47
66		---	---	ND	---	0.489
67		---	---	ND	---	0.489
68		---	---	ND	---	0.489
69	49/69	---	---	ND	---	0.978
70	61/70/74/76	---	---	ND	---	1.96
71	40/41/71	---	---	ND	---	1.47
72		---	---	ND	---	0.489
73		---	---	ND	---	0.489
74	61/70/74/76	---	---	ND	---	1.96
75	59/62/75	---	---	ND	---	1.47
76	61/70/74/76	---	---	ND	---	1.96
77		---	---	ND	---	0.489
78		---	---	ND	---	0.489
79		---	---	ND	---	0.489
80		---	---	ND	---	0.489
81		---	---	ND	---	0.489
82		---	---	ND	---	0.489
83		---	---	ND	---	0.489
84		---	---	ND	---	0.489
85	85/116/117	---	---	ND	---	1.47
86	86/87/97/108/119/125	---	---	ND	---	2.94
87	86/87/97/108/119/125	---	---	ND	---	2.94
88	88/91	---	---	ND	---	0.978
89		---	---	ND	---	0.489
90	90/101/113	---	---	ND	---	1.47

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19214
Filename P90314A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	0.978
92		---	---	ND	---	0.489
93	93/98/100/102	---	---	ND	---	1.96
94		---	---	ND	---	0.489
95		---	---	ND	---	0.489
96		---	---	ND	---	0.489
97	86/87/97/108/119/125	---	---	ND	---	2.94
98	93/98/100/102	---	---	ND	---	1.96
99		---	---	ND	---	0.489
100	93/98/100/102	---	---	ND	---	1.96
101	90/101/113	---	---	ND	---	1.47
102	93/98/100/102	---	---	ND	---	1.96
103		---	---	ND	---	0.489
104		---	---	ND	---	0.489
105		---	---	ND	---	0.489
106		---	---	ND	---	0.489
107	107/124	---	---	ND	---	0.978
108	86/87/97/108/119/125	---	---	ND	---	2.94
109		---	---	ND	---	0.489
110	110/115	---	---	ND	---	0.978
111		---	---	ND	---	0.489
112		---	---	ND	---	0.489
113	90/101/113	---	---	ND	---	1.47
114		---	---	ND	---	0.489
115	110/115	---	---	ND	---	0.978
116	85/116/117	---	---	ND	---	1.47
117	85/116/117	---	---	ND	---	1.47
118		---	---	ND	---	0.489
119	86/87/97/108/119/125	---	---	ND	---	2.94
120		---	---	ND	---	0.489
121		---	---	ND	---	0.489
122		---	---	ND	---	0.489
123		---	---	ND	---	0.489
124	107/124	---	---	ND	---	0.978
125	86/87/97/108/119/125	---	---	ND	---	2.94
126		---	---	ND	---	0.489
127		---	---	ND	---	0.489
128	128/166	---	---	ND	---	0.978
129	129/138/163	---	---	ND	---	1.47
130		---	---	ND	---	0.489
131		---	---	ND	---	0.489
132		---	---	ND	---	0.489
133		---	---	ND	---	0.489
134	134/143	---	---	ND	---	0.978
135	135/151	---	---	ND	---	0.978

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19214
Filename P90314A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	0.489
137		---	---	ND	---	0.489
138	129/138/163	---	---	ND	---	1.47
139	139/140	---	---	ND	---	0.978
140	139/140	---	---	ND	---	0.978
141		---	---	ND	---	0.489
142		---	---	ND	---	0.489
143	134/143	---	---	ND	---	0.978
144		---	---	ND	---	0.489
145		---	---	ND	---	0.489
146		---	---	ND	---	0.489
147	147/149	---	---	ND	---	0.978
148		---	---	ND	---	0.489
149	147/149	---	---	ND	---	0.978
150		---	---	ND	---	0.489
151	135/151	---	---	ND	---	0.978
152		---	---	ND	---	0.489
153	153/168	---	---	ND	---	0.978
154		---	---	ND	---	0.489
155		---	---	ND	---	0.489
156	156/157	---	---	ND	---	0.978
157	156/157	---	---	ND	---	0.978
158		---	---	ND	---	0.489
159		---	---	ND	---	0.489
160		---	---	ND	---	0.489
161		---	---	ND	---	0.489
162		---	---	ND	---	0.489
163	129/138/163	---	---	ND	---	1.47
164		---	---	ND	---	0.489
165		---	---	ND	---	0.489
166	128/166	---	---	ND	---	0.978
167		---	---	ND	---	0.489
168	153/168	---	---	ND	---	0.978
169		---	---	ND	---	0.489
170		---	---	ND	---	0.489
171	171/173	---	---	ND	---	0.978
172		---	---	ND	---	0.489
173	171/173	---	---	ND	---	0.978
174		---	---	ND	---	0.489
175		---	---	ND	---	0.489
176		---	---	ND	---	0.489
177		---	---	ND	---	0.489
178		---	---	ND	---	0.489
179		---	---	ND	---	0.489
180	180/193	---	---	ND	---	0.978

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19214
Filename P90314A_08

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	0.489
182		---	---	ND	---	0.489
183	183/185	---	---	ND	---	0.978
184		---	---	ND	---	0.489
185	183/185	---	---	ND	---	0.978
186		---	---	ND	---	0.489
187		---	---	ND	---	0.489
188		---	---	ND	---	0.489
189		---	---	ND	---	0.489
190		---	---	ND	---	0.489
191		---	---	ND	---	0.489
192		---	---	ND	---	0.489
193	180/193	---	---	ND	---	0.978
194		---	---	ND	---	0.734
195		---	---	ND	---	0.734
196		---	---	ND	---	0.734
197	197/200	---	---	ND	---	1.47
198	198/199	---	---	ND	---	1.47
199	198/199	---	---	ND	---	1.47
200	197/200	---	---	ND	---	1.47
201		---	---	ND	---	0.734
202		---	---	ND	---	0.734
203		---	---	ND	---	0.734
204		---	---	ND	---	0.734
205		---	---	ND	---	0.734
206		---	---	ND	---	0.734
207		---	---	ND	---	0.734
208		---	---	ND	---	0.734
209		---	---	ND	---	0.734

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	DFBLKKE
Lab Sample ID	BLANK-19214
Filename	P90314A_08

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-19215		
Filename	P90314A_03	Matrix	Water
Total Amount Extracted	1030 mL	Dilution	NA
ICAL ID	P90314A01	Extracted	03/13/2009
CCal Filename(s)	P90314A_02	Analyzed	03/14/2009 09:05
Method Blank ID	BLANK-19214	Injected By	BAL

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	0.921	92	2.0	1.72	86
3	1.0	0.951	95	2.0	1.57	79
4	1.0	0.962	96	2.0	1.97	98
15	1.0	0.914	91	2.0	1.46	73
19	1.0	0.983	98	2.0	1.71	85
37	1.0	0.898	90	2.0	1.33	66
54	1.0	1.02	102	2.0	1.53	76
81	1.0	0.899	90	2.0	1.16	58
77	1.0	0.892	89	2.0	1.32	66
104	1.0	1.02	102	2.0	1.83	91
105	1.0	0.959	96	2.0	1.18	59
114	1.0	0.969	97	2.0	1.30	65
118	1.0	0.966	97	2.0	1.15	57
123	1.0	0.946	95	2.0	1.14	57
126	1.0	0.973	97	2.0	1.19	60
155	1.0	0.974	97	2.0	1.99	99
156/157	2.0	1.89	95	4.0	2.73	68
167	1.0	0.827	83	2.0	1.32	66
169	1.0	0.942	94	2.0	1.48	74
188	1.0	1.04	104	2.0	1.92	96
189	1.0	0.981	98	2.0	1.45	73
202	1.0	1.01	101	2.0	1.67	83
205	1.0	1.04	104	2.0	1.63	81
206	1.0	1.06	106	2.0	1.79	89
208	1.0	1.04	104	2.0	1.77	89
209	1.0	0.990	99	2.0	1.88	94

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-19216		
Filename	P90314A_04	Matrix	Water
Total Amount Extracted	1030 mL	Dilution	NA
ICAL ID	P90314A01	Extracted	03/13/2009
CCal Filename(s)	P90314A_02	Analyzed	03/14/2009 10:06
Method Blank ID	BLANK-19214	Injected By	BAL

	Native Analytes			Labeled Analytes			
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery	
1	1.0	0.967	97	2.0	1.43	72	
3	1.0	0.920	92	2.0	1.37	72	I
4	1.0	1.01	101	2.0	1.68	84	
15	1.0	0.879	88	2.0	1.30	65	
19	1.0	1.02	102	2.0	1.47	74	
37	1.0	0.924	92	2.0	1.13	56	
54	1.0	1.02	102	2.0	1.33	67	
81	1.0	0.913	91	2.0	1.10	55	
77	1.0	0.888	89	2.0	1.15	58	
104	1.0	1.09	109	2.0	1.40	70	
105	1.0	0.903	90	2.0	0.967	48	
114	1.0	0.935	93	2.0	0.998	50	
118	1.0	0.945	94	2.0	0.897	45	
123	1.0	0.887	89	2.0	0.953	48	
126	1.0	0.932	93	2.0	0.942	47	
155	1.0	1.02	102	2.0	1.78	89	
156/157	2.0	1.81	91	4.0	2.33	58	
167	1.0	0.795	80	2.0	1.13	57	
169	1.0	0.950	95	2.0	1.27	63	
188	1.0	1.04	104	2.0	1.94	97	
189	1.0	0.977	98	2.0	1.41	71	
202	1.0	1.03	103	2.0	1.67	83	
205	1.0	1.04	104	2.0	1.42	71	
206	1.0	1.06	106	2.0	1.58	79	
208	1.0	0.997	100	2.0	1.68	84	
209	1.0	1.05	105	2.0	1.60	80	

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-19215	Spike 2 ID	LCSD-19216
Spike 1 Filename	P90314A_03	Spike 2 Filename	P90314A_04

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	92	97	5.3
4-MoCB	3	95	92	3.2
2,2'-DiCB	4	96	101	5.1
4,4'-DiCB	15	91	88	3.4
2,2',6-TrCB	19	98	102	4.0
3,4,4'-TrCB	37	90	92	2.2
2,2',6,6'-TeCB	54	102	102	0.0
3,3',4,4'-TeCB	77	89	89	0.0
3,4,4',5-TeCB	81	90	91	1.1
2,2',4,6,6'-PeCB	104	102	109	6.6
2,3,3',4,4'-PeCB	105	96	90	6.5
2,3,4,4',5-PeCB	114	97	93	4.2
2,3',4,4',5-PeCB	118	97	94	3.1
2,3',4,4',5'-PeCB	123	95	89	6.5
3,3',4,4',5-PeCB	126	97	93	4.2
2,2',4,4',6,6'-HxCB	155	97	102	5.0
(156/157)	156/157	95	91	4.3
2,3',4,4',5,5'-HxCB	167	83	80	3.7
3,3',4,4',5,5'-HxCB	169	94	95	1.1
2,2',3,4',5,6,6'-HpCB	188	104	104	0.0
2,3,3',4,4',5,5'-HpCB	189	98	98	0.0
2,2',3,3',5,5',6,6'-OcCB	202	101	103	2.0
2,3,3',4,4',5,5',6-OcCB	205	104	104	0.0
2,2',3,3',4,4',5,5',6-NoCB	206	106	106	0.0
2,2',3,3',4,5,5',6,6'-NoCB	208	104	100	3.9
Decachlorobiphenyl	209	99	105	5.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Howard Holmes
Test America
9405 SW Nimbus Avenue
Beaverton OR 97008

REPORT OF LABORATORY ANALYSIS FOR PCBs

Report Information:

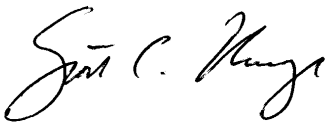
Pace Project #: 1091340
Sample Receipt Date: 03/19/2009
Client Project #: PSC0533
Client Sub PO #: N/A
State Cert #: MN200001-005

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCB Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

Report Prepared Date:
April 7, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Test America - Portland. The sample was analyzed for the presence or absence of polychlorinated biphenyl (PCB) congeners using USEPA Method 1668A. Reporting limits were set to approximately 0.25-0.75 parts-per-trillion and were adjusted for sample volume. The sample was received within the temperature range of this method.

The isotopically-labeled PCB internal standards in the sample extract were recovered at 37-115%. All of the labeled internal standard recoveries obtained for this project were within the target ranges specified in the method. Since the quantification of the native PCB congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCB congeners at the reporting limits. This indicates that the analytical process did not introduce significant levels of PCB congeners to the sample extract.

Laboratory spike samples were also prepared with the sample batch using reference material that had been fortified with native standards. The results show that the spiked native compounds in the lab spikes were recovered at 98-122% with relative percent differences of 0.0-6.8%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample set.

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Appendix A

Sample Management

#1142

SUBCONTRACT ORDER

TestAmerica Portland

PSC0533

1091340

SENDING LABORATORY:

TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Pace Analytical Services, Inc - Minneapolis
1700 Elm Street Suite 200
Minneapolis, MN 55414
Phone :(612) 607-1700
Fax: (612) 607-6444
Project Location: OR - OREGON
Receipt Temperature: 0.6 °C Ice: (Y) / N

needs Excel EDD

Analysis	Units	Due	Expires	Comments
Sample ID: PSC0533-01	**Water**		Sampled: 03/14/09 14:42	001
1668 Coplanar PCBs - SUB	ug/l	03/31/09	09/10/09 14:42	209 Congeners to Pace
Containers Supplied:				
1L Amber - Unpres. (C)				

Karen Wilson 3-18-09 1425
Released By Date/Time

Received By 3-19-09 0901 0.6° C
Received By Date/Time

Sample Condition Upon Receipt

Face Analytical

Client Name: TestAmerica Project # 1091340

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: 979687122368

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: [X] yes [ ] no Seals intact: [X] yes [ ] no

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other _____ Temp Blank: Yes X No _____

Thermometer Used 80344042, 79425 Type of Ice: Wet Blue None [ ] Samples on ice, cooling process has begun

Cooler Temperature 0.6°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: BM 3-19-09

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	[X]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[X]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[X]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC:	[ ]Yes [X]No [ ]N/A	4.
Samples Arrived within Hold Time:	[X]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [X]No [ ]N/A	6.
Rush Turn Around Time Requested:	[ ]Yes [X]No [ ]N/A	7.
Sufficient Volume:	[X]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[X]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[ ]Yes [X]No [ ]N/A	
Containers Intact:	[X]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [X]No [ ]N/A	11.
Sample Labels match COC:	[X]Yes [ ]No [ ]N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	[ ]Yes [ ]No [X]N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [X]N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	[ ]Yes [X]No	Initial when completed NO / Lot # of added preservative
Samples checked for dechlorination:	[ ]Yes [X]No [ ]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [ ]No [X]N/A	15.
Trip Blank Present:	[ ]Yes [X]No [ ]N/A	16.
Trip Blank Custody Seals Present	[ ]Yes [X]No [ ]N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl Sample Analysis Results

Client - Test America

Client's Sample ID	PCS0533-01		
Lab Sample ID	1091340001		
Filename	U90403A_05		
Injected By	BAL		
Total Amount Extracted	983 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	03/14/2009
ICAL ID	U90403A02	Received	03/19/2009
CCal Filename(s)	U90403A_01	Extracted	03/25/2009
Method Blank ID	BLANK-19375	Analyzed	04/03/2009 14:29

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	6.540	3.25	2.0	0.743	37
13C-4-MoCB	3	9.427	3.15	2.0	1.02	51
13C-2,2'-DiCB	4	9.750	1.65	2.0	0.817	41
13C-4,4'-DiCB	15	17.693	1.56	2.0	1.69	84
13C-2,2',6-TrCB	19	14.003	1.06	2.0	1.14	57
13C-3,4,4'-TrCB	37	26.208	1.06	2.0	2.15	107
13C-2,2',6,6'-TeCB	54	17.992	0.79	2.0	1.33	67
13C-3,4,4',5-TeCB	81	33.836	0.80	2.0	2.14	107
13C-3,3',4,4'-TeCB	77	34.440	0.80	2.0	2.14	107
13C-2,2',4,6,6'-PeCB	104	24.732	1.63	2.0	1.34	67
13C-2,3,3',4,4'-PeCB	105	38.229	1.61	2.0	2.08	104
13C-2,3,4,4',5-PeCB	114	37.541	1.59	2.0	2.05	102
13C-2,3',4,4',5-PeCB	118	37.005	1.61	2.0	2.08	104
13C-2,3',4,4',5'-PeCB	123	36.636	1.57	2.0	2.15	107
13C-3,3',4,4',5-PeCB	126	41.599	1.56	2.0	2.01	100
13C-2,2',4,4',6,6'-HxCB	155	31.271	1.27	2.0	1.47	74
13C-HxCB (156/157)	156/157	44.852	1.27	4.0	4.09	102
13C-2,3',4,4',5,5'-HxCB	167	43.611	1.27	2.0	1.76	88
13C-3,3',4,4',5,5'-HxCB	169	48.289	1.23	2.0	2.03	101
13C-2,2',3,4',5,6,6'-HpCB	188	37.525	1.06	2.0	1.70	85
13C-2,3,3',4,4',5,5'-HpCB	189	50.942	0.99	2.0	2.31	115
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.275	0.87	2.0	1.80	90
13C-2,3,3',4,4',5,5',6-OcCB	205	53.636	0.97	2.0	1.75	87
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.446	0.78	2.0	1.54	77
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.360	0.76	2.0	1.66	83
13C--DeCB	209	57.106	0.69	2.0	1.35	67
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.480	1.05	2.0	2.22	111
13C-2,3,3',5,5'-PeCB	111	34.540	1.59	2.0	1.80	90
13C-2,2',3,3',5,5',6-HpCB	178	40.844	1.07	2.0	1.61	81
Recovery Standards						
13C-2,5-DiCB	9	12.529	1.57	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.676	0.76	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.539	1.56	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.341	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.140	0.92	2.0	NA	NA

Conc = Concentration
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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PCS0533-01
Lab Sample ID	1091340001
Filename	U90403A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	0.254
2		---	---	ND	---	0.254
3		---	---	ND	---	0.254
4		---	---	ND	---	0.254
5		---	---	ND	---	0.254
6		---	---	ND	---	0.254
7		---	---	ND	---	0.254
8		---	---	ND	---	0.254
9		---	---	ND	---	0.254
10		---	---	ND	---	0.254
11		---	---	ND	---	1.53
12	12/13	---	---	ND	---	0.509
13	12/13	---	---	ND	---	0.509
14		---	---	ND	---	0.254
15		---	---	ND	---	0.254
16		---	---	ND	---	0.254
17		---	---	ND	---	0.254
18	18/30	---	---	ND	---	0.509
19		---	---	ND	---	0.254
20	20/28	21.496	1.02	0.709	---	0.509
21	21/33	---	---	ND	---	0.509
22		22.234	0.94	0.304	---	0.254
23		---	---	ND	---	0.254
24		---	---	ND	---	0.254
25		---	---	ND	---	0.254
26	26/29	---	---	ND	---	0.509
27		---	---	ND	---	0.254
28	20/28	21.496	1.02	(0.709)	---	0.509
29	26/29	---	---	ND	---	0.509
30	18/30	---	---	ND	---	0.509
31		21.144	1.01	0.618	---	0.254
32		---	---	ND	---	0.254
33	21/33	---	---	ND	---	0.509
34		---	---	ND	---	0.254
35		---	---	ND	---	0.254
36		---	---	ND	---	0.254
37		---	---	ND	---	0.254
38		---	---	ND	---	0.254
39		---	---	ND	---	0.254
40	40/41/71	---	---	ND	---	1.53
41	40/41/71	---	---	ND	---	1.53
42		---	---	ND	---	0.509
43		---	---	ND	---	0.509
44	44/47/65	---	---	ND	---	1.53
45	45/51	---	---	ND	---	1.02
46		---	---	ND	---	0.509
47	44/47/65	---	---	ND	---	1.53
48		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PCS0533-01
Lab Sample ID	1091340001
Filename	U90403A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
49	49/69	---	---	ND	---	1.02
50	50/53	---	---	ND	---	1.02
51	45/51	---	---	ND	---	1.02
52		23.710	0.83	0.793	---	0.509
53	50/53	---	---	ND	---	1.02
54		---	---	ND	---	0.509
55		---	---	ND	---	0.509
56		---	---	ND	---	0.509
57		---	---	ND	---	0.509
58		---	---	ND	---	0.509
59	59/62/75	---	---	ND	---	1.53
60		---	---	ND	---	0.509
61	61/70/74/76	---	---	ND	---	2.03
62	59/62/75	---	---	ND	---	1.53
63		---	---	ND	---	0.509
64		---	---	ND	---	0.509
65	44/47/65	---	---	ND	---	1.53
66		29.594	0.78	0.585	---	0.509
67		---	---	ND	---	0.509
68		---	---	ND	---	0.509
69	49/69	---	---	ND	---	1.02
70	61/70/74/76	---	---	ND	---	2.03
71	40/41/71	---	---	ND	---	1.53
72		---	---	ND	---	0.509
73		---	---	ND	---	0.509
74	61/70/74/76	---	---	ND	---	2.03
75	59/62/75	---	---	ND	---	1.53
76	61/70/74/76	---	---	ND	---	2.03
77		---	---	ND	---	0.509
78		---	---	ND	---	0.509
79		---	---	ND	---	0.509
80		---	---	ND	---	0.509
81		---	---	ND	---	0.509
82		---	---	ND	---	0.509
83		---	---	ND	---	0.509
84		---	---	ND	---	0.509
85	85/116/117	---	---	ND	---	1.53
86	86/87/97/108/119/125	---	---	ND	---	3.05
87	86/87/97/108/119/125	---	---	ND	---	3.05
88	88/91	---	---	ND	---	1.02
89		---	---	ND	---	0.509
90	90/101/113	31.573	1.62	1.90	---	1.53
91	88/91	---	---	ND	---	1.02
92		---	---	ND	---	0.509
93	93/98/100/102	---	---	ND	---	2.03
94		---	---	ND	---	0.509
95		28.203	1.71	1.30	---	0.509
96		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID PCS0533-01
Lab Sample ID 1091340001
Filename U90403A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
97	86/87/97/108/119/125	---	---	ND	---	3.05
98	93/98/100/102	---	---	ND	---	2.03
99		32.210	1.66	0.515	---	0.509
100	93/98/100/102	---	---	ND	---	2.03
101	90/101/113	31.573	1.62	(1.90)	---	1.53
102	93/98/100/102	---	---	ND	---	2.03
103		---	---	ND	---	0.509
104		---	---	ND	---	0.509
105		---	---	ND	---	0.509
106		---	---	ND	---	0.509
107	107/124	---	---	ND	---	1.02
108	86/87/97/108/119/125	---	---	ND	---	3.05
109		---	---	ND	---	0.509
110	110/115	33.702	1.61	2.04	---	1.02
111		---	---	ND	---	0.509
112		---	---	ND	---	0.509
113	90/101/113	31.573	1.62	(1.90)	---	1.53
114		---	---	ND	---	0.509
115	110/115	33.702	1.61	(2.04)	---	1.02
116	85/116/117	---	---	ND	---	1.53
117	85/116/117	---	---	ND	---	1.53
118		37.022	1.53	1.43	---	0.509
119	86/87/97/108/119/125	---	---	ND	---	3.05
120		---	---	ND	---	0.509
121		---	---	ND	---	0.509
122		---	---	ND	---	0.509
123		---	---	ND	---	0.509
124	107/124	---	---	ND	---	1.02
125	86/87/97/108/119/125	---	---	ND	---	3.05
126		---	---	ND	---	0.509
127		---	---	ND	---	0.509
128	128/166	---	---	ND	---	1.02
129	129/138/163	40.375	1.32	5.20	---	1.53
130		---	---	ND	---	0.509
131		---	---	ND	---	0.509
132		37.072	1.30	1.53	---	0.509
133		---	---	ND	---	0.509
134	134/143	---	---	ND	---	1.02
135	135/151	34.742	1.28	1.84	---	1.02
136		32.025	1.26	0.585	---	0.509
137		---	---	ND	---	0.509
138	129/138/163	40.375	1.32	(5.20)	---	1.53
139	139/140	---	---	ND	---	1.02
140	139/140	---	---	ND	---	1.02
141		39.235	1.28	1.10	---	0.509
142		---	---	ND	---	0.509
143	134/143	---	---	ND	---	1.02
144		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PCS0533-01
Lab Sample ID	1091340001
Filename	U90403A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
145		---	---	ND	---	0.509
146		38.397	1.29	0.613	---	0.509
147	147/149	35.747	1.32	4.41	---	1.02
148		---	---	ND	---	0.509
149	147/149	35.747	1.32	(4.41)	---	1.02
150		---	---	ND	---	0.509
151	135/151	34.742	1.28	(1.84)	---	1.02
152		---	---	ND	---	0.509
153	153/168	39.067	1.30	5.59	---	1.02
154		---	---	ND	---	0.509
155		---	---	ND	---	0.509
156	156/157	---	---	ND	---	1.02
157	156/157	---	---	ND	---	1.02
158		---	---	ND	---	0.509
159		---	---	ND	---	0.509
160		---	---	ND	---	0.509
161		---	---	ND	---	0.509
162		---	---	ND	---	0.509
163	129/138/163	40.375	1.32	(5.20)	---	1.53
164		---	---	ND	---	0.509
165		---	---	ND	---	0.509
166	128/166	---	---	ND	---	1.02
167		---	---	ND	---	0.509
168	153/168	39.067	1.30	(5.59)	---	1.02
169		---	---	ND	---	0.509
170		47.635	1.04	2.32	---	0.509
171	171/173	---	---	ND	---	1.02
172		---	---	ND	---	0.509
173	171/173	---	---	ND	---	1.02
174		42.705	1.09	1.98	---	0.509
175		---	---	ND	---	0.509
176		---	---	ND	---	0.509
177		43.175	1.06	1.10	---	0.509
178		---	---	ND	---	0.509
179		37.877	1.08	0.709	---	0.509
180	180/193	46.344	1.06	4.80	---	1.02
181		---	---	ND	---	0.509
182		---	---	ND	---	0.509
183	183/185	42.504	1.04	1.64	---	1.02
184		---	---	ND	---	0.509
185	183/185	42.504	1.04	(1.64)	---	1.02
186		---	---	ND	---	0.509
187		41.834	1.05	2.27	---	0.509
188		---	---	ND	---	0.509
189		---	---	ND	---	0.509
190		---	---	ND	---	0.509
191		---	---	ND	---	0.509
192		---	---	ND	---	0.509

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PCS0533-01
Lab Sample ID	1091340001
Filename	U90403A_05

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
193	180/193	46.344	1.06	(4.80)	---	1.02
194		53.162	0.90	0.767	---	0.763
195		---	---	ND	---	0.763
196		---	---	ND	---	0.763
197	197/200	---	---	ND	---	1.53
198	198/199	---	---	ND	---	1.53
199	198/199	---	---	ND	---	1.53
200	197/200	---	---	ND	---	1.53
201		---	---	ND	---	0.763
202		---	---	ND	---	0.763
203		---	---	ND	---	0.763
204		---	---	ND	---	0.763
205		---	---	ND	---	0.763
206		---	---	ND	---	0.763
207		---	---	ND	---	0.763
208		---	---	ND	---	0.763
209		---	---	ND	---	0.763

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Method 1668A Polychlorobiphenyl
Sample Analysis Results

Client Sample ID	PCS0533-01
Lab Sample ID	1091340001
Filename	U90403A_05

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	1.63
Total Tetrachloro Biphenyls	1.38
Total Pentachloro Biphenyls	7.18
Total Hexachloro Biphenyls	20.9
Total Heptachloro Biphenyls	14.8
Total Octachloro Biphenyls	0.767
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	46.7

ND = Not Detected

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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID	BLANK-19375		
Filename	U90401B_09		
Injected By	SMT	Matrix	Water
Total Amount Extracted	989 mL	Extracted	03/25/2009
ICAL ID	U90401B01	Analyzed	04/02/2009 01:06
CCal Filename(s)	U90401B_02	Dilution	5

PCB Isomer	IUPAC	RT	Ratio	ng's Added	ng's Found	% Recovery
Labeled Analytes						
13C-2-MoCB	1	6.540	3.06	2.0	0.968	48
13C-4-MoCB	3	9.439	3.07	2.0	1.11	55
13C-2,2'-DiCB	4	9.750	1.62	2.0	0.920	46
13C-4,4'-DiCB	15	17.717	1.48	2.0	1.55	77
13C-2,2',6-TrCB	19	14.015	1.10	2.0	1.14	57
13C-3,4,4'-TrCB	37	26.225	1.10	2.0	1.80	90
13C-2,2',6,6'-TeCB	54	18.010	0.81	2.0	1.14	57
13C-3,4,4',5-TeCB	81	33.837	0.78	2.0	2.02	101
13C-3,3',4,4'-TeCB	77	34.457	0.80	2.0	2.00	100
13C-2,2',4,6,6'-PeCB	104	24.750	1.58	2.0	1.25	62
13C-2,3,3',4,4'-PeCB	105	38.230	1.50	2.0	1.94	97
13C-2,3,4,4',5-PeCB	114	37.542	1.58	2.0	1.89	94
13C-2,3',4,4',5-PeCB	118	36.989	1.55	2.0	1.92	96
13C-2,3',4,4',5'-PeCB	123	36.637	1.56	2.0	1.94	97
13C-3,3',4,4',5-PeCB	126	41.583	1.53	2.0	1.80	90
13C-2,2',4,4',6,6'-HxCB	155	31.272	1.29	2.0	1.49	74
13C-HxCB (156/157)	156/157	44.785	1.21	4.0	3.28	82
13C-2,3',4,4',5,5'-HxCB	167	43.595	1.26	2.0	1.79	90
13C-3,3',4,4',5,5'-HxCB	169	48.256	1.26	2.0	1.40	70
13C-2,2',3,4',5,6,6'-HpCB	188	37.526	1.08	2.0	2.69	135
13C-2,3,3',4,4',5,5'-HpCB	189	50.878	0.98	2.0	2.09	105
13C-2,2',3,3',5,5',6,6'-OcCB	202	43.276	0.90	2.0	2.63	131
13C-2,3,3',4,4',5,5',6-OcCB	205	53.572	0.92	2.0	1.70	85
13C-2,2',3,3',4,4',5,5',6-NoCB	206	55.382	0.85	2.0	1.39	70
13C-2,2',3,3',4,5,5',6,6'-NoCB	208	50.318	0.76	2.0	1.97	99
13C--DeCB	209	57.042	0.73	2.0	1.21	61
Cleanup Standards						
13C-2,4,4'-TrCB	28	21.497	0.94	2.0	1.77	89
13C-2,3,3',5,5'-PeCB	111	34.541	1.57	2.0	1.75	87
13C-2,2',3,3',5,5',6-HpCB	178	40.829	1.04	2.0	1.74	87
Recovery Standards						
13C-2,5-DiCB	9	12.542	1.58	2.0	NA	NA
13C-2,2',5,5'-TeCB	52	23.694	0.78	2.0	NA	NA
13C-2,2',4,5,5'-PeCB	101	31.557	1.66	2.0	NA	NA
13C-2,2',3,4,4',5'-HxCB	138	40.326	1.27	2.0	NA	NA
13C-2,2',3,3',4,4',5,5'-OcCB	194	53.076	0.95	2.0	NA	NA

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19375
Filename U90401B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
1		---	---	ND	---	1.26
2		---	---	ND	---	1.26
3		---	---	ND	---	1.26
4		---	---	ND	---	1.26
5		---	---	ND	---	1.26
6		---	---	ND	---	1.26
7		---	---	ND	---	1.26
8		---	---	ND	---	1.26
9		---	---	ND	---	1.26
10		---	---	ND	---	1.26
11		---	---	ND	---	7.58
12	12/13	---	---	ND	---	2.53
13	12/13	---	---	ND	---	2.53
14		---	---	ND	---	1.26
15		---	---	ND	---	1.26
16		---	---	ND	---	1.26
17		---	---	ND	---	1.26
18	18/30	---	---	ND	---	2.53
19		---	---	ND	---	1.26
20	20/28	---	---	ND	---	2.53
21	21/33	---	---	ND	---	2.53
22		---	---	ND	---	1.26
23		---	---	ND	---	1.26
24		---	---	ND	---	1.26
25		---	---	ND	---	1.26
26	26/29	---	---	ND	---	2.53
27		---	---	ND	---	1.26
28	20/28	---	---	ND	---	2.53
29	26/29	---	---	ND	---	2.53
30	18/30	---	---	ND	---	2.53
31		---	---	ND	---	1.26
32		---	---	ND	---	1.26
33	21/33	---	---	ND	---	2.53
34		---	---	ND	---	1.26
35		---	---	ND	---	1.26
36		---	---	ND	---	1.26
37		---	---	ND	---	1.26
38		---	---	ND	---	1.26
39		---	---	ND	---	1.26
40	40/41/71	---	---	ND	---	7.58
41	40/41/71	---	---	ND	---	7.58
42		---	---	ND	---	2.53
43		---	---	ND	---	2.53
44	44/47/65	---	---	ND	---	7.58
45	45/51	---	---	ND	---	5.06

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
ng/L = Nanograms per liter

ND = Not Detected
NA = Not Applicable
NC = Not Calculated
*! = See Discussion
! = Outside QC Limits
RT = Retention Time
I = Interference

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19375
Filename U90401B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
46		---	---	ND	---	2.53
47	44/47/65	---	---	ND	---	7.58
48		---	---	ND	---	2.53
49	49/69	---	---	ND	---	5.06
50	50/53	---	---	ND	---	5.06
51	45/51	---	---	ND	---	5.06
52		---	---	ND	---	2.53
53	50/53	---	---	ND	---	5.06
54		---	---	ND	---	2.53
55		---	---	ND	---	2.53
56		---	---	ND	---	2.53
57		---	---	ND	---	2.53
58		---	---	ND	---	2.53
59	59/62/75	---	---	ND	---	7.58
60		---	---	ND	---	2.53
61	61/70/74/76	---	---	ND	---	10.1
62	59/62/75	---	---	ND	---	7.58
63		---	---	ND	---	2.53
64		---	---	ND	---	2.53
65	44/47/65	---	---	ND	---	7.58
66		---	---	ND	---	2.53
67		---	---	ND	---	2.53
68		---	---	ND	---	2.53
69	49/69	---	---	ND	---	5.06
70	61/70/74/76	---	---	ND	---	10.1
71	40/41/71	---	---	ND	---	7.58
72		---	---	ND	---	2.53
73		---	---	ND	---	2.53
74	61/70/74/76	---	---	ND	---	10.1
75	59/62/75	---	---	ND	---	7.58
76	61/70/74/76	---	---	ND	---	10.1
77		---	---	ND	---	2.53
78		---	---	ND	---	2.53
79		---	---	ND	---	2.53
80		---	---	ND	---	2.53
81		---	---	ND	---	2.53
82		---	---	ND	---	2.53
83		---	---	ND	---	2.53
84		---	---	ND	---	2.53
85	85/116/117	---	---	ND	---	7.58
86	86/87/97/108/119/125	---	---	ND	---	15.2
87	86/87/97/108/119/125	---	---	ND	---	15.2
88	88/91	---	---	ND	---	5.06
89		---	---	ND	---	2.53
90	90/101/113	---	---	ND	---	7.58

Conc = Concentration
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19375
Filename U90401B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
91	88/91	---	---	ND	---	5.06
92		---	---	ND	---	2.53
93	93/98/100/102	---	---	ND	---	10.1
94		---	---	ND	---	2.53
95		---	---	ND	---	2.53
96		---	---	ND	---	2.53
97	86/87/97/108/119/125	---	---	ND	---	15.2
98	93/98/100/102	---	---	ND	---	10.1
99		---	---	ND	---	2.53
100	93/98/100/102	---	---	ND	---	10.1
101	90/101/113	---	---	ND	---	7.58
102	93/98/100/102	---	---	ND	---	10.1
103		---	---	ND	---	2.53
104		---	---	ND	---	2.53
105		---	---	ND	---	2.53
106		---	---	ND	---	2.53
107	107/124	---	---	ND	---	5.06
108	86/87/97/108/119/125	---	---	ND	---	15.2
109		---	---	ND	---	2.53
110	110/115	---	---	ND	---	5.06
111		---	---	ND	---	2.53
112		---	---	ND	---	2.53
113	90/101/113	---	---	ND	---	7.58
114		---	---	ND	---	2.53
115	110/115	---	---	ND	---	5.06
116	85/116/117	---	---	ND	---	7.58
117	85/116/117	---	---	ND	---	7.58
118		---	---	ND	---	2.53
119	86/87/97/108/119/125	---	---	ND	---	15.2
120		---	---	ND	---	2.53
121		---	---	ND	---	2.53
122		---	---	ND	---	2.53
123		---	---	ND	---	2.53
124	107/124	---	---	ND	---	5.06
125	86/87/97/108/119/125	---	---	ND	---	15.2
126		---	---	ND	---	2.53
127		---	---	ND	---	2.53
128	128/166	---	---	ND	---	5.06
129	129/138/163	---	---	ND	---	7.58
130		---	---	ND	---	2.53
131		---	---	ND	---	2.53
132		---	---	ND	---	2.53
133		---	---	ND	---	2.53
134	134/143	---	---	ND	---	5.06
135	135/151	---	---	ND	---	5.06

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
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P = Recovery outside of Method 1668A control limits
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19375
Filename U90401B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
136		---	---	ND	---	2.53
137		---	---	ND	---	2.53
138	129/138/163	---	---	ND	---	7.58
139	139/140	---	---	ND	---	5.06
140	139/140	---	---	ND	---	5.06
141		---	---	ND	---	2.53
142		---	---	ND	---	2.53
143	134/143	---	---	ND	---	5.06
144		---	---	ND	---	2.53
145		---	---	ND	---	2.53
146		---	---	ND	---	2.53
147	147/149	---	---	ND	---	5.06
148		---	---	ND	---	2.53
149	147/149	---	---	ND	---	5.06
150		---	---	ND	---	2.53
151	135/151	---	---	ND	---	5.06
152		---	---	ND	---	2.53
153	153/168	---	---	ND	---	5.06
154		---	---	ND	---	2.53
155		---	---	ND	---	2.53
156	156/157	---	---	ND	---	5.06
157	156/157	---	---	ND	---	5.06
158		---	---	ND	---	2.53
159		---	---	ND	---	2.53
160		---	---	ND	---	2.53
161		---	---	ND	---	2.53
162		---	---	ND	---	2.53
163	129/138/163	---	---	ND	---	7.58
164		---	---	ND	---	2.53
165		---	---	ND	---	2.53
166	128/166	---	---	ND	---	5.06
167		---	---	ND	---	2.53
168	153/168	---	---	ND	---	5.06
169		---	---	ND	---	2.53
170		---	---	ND	---	2.53
171	171/173	---	---	ND	---	5.06
172		---	---	ND	---	2.53
173	171/173	---	---	ND	---	5.06
174		---	---	ND	---	2.53
175		---	---	ND	---	2.53
176		---	---	ND	---	2.53
177		---	---	ND	---	2.53
178		---	---	ND	---	2.53
179		---	---	ND	---	2.53
180	180/193	---	---	ND	---	5.06

Conc = Concentration
EML =Method Specified Reporting Limit (1668A)
EMPC = Estimated Maximum Possible Concentration
A = Limit of Detection based on signal to noise
B = Less than 10 times higher than method blank level
P = Recovery outside of Method 1668A control limits
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1668A Polychlorobiphenyl
Blank Analysis Results

Lab Sample ID BLANK-19375
Filename U90401B_09

IUPAC	Co-elutions	RT	Ratio	Concentration ng/L	EMPC ng/L	EML ng/L
181		---	---	ND	---	2.53
182		---	---	ND	---	2.53
183	183/185	---	---	ND	---	5.06
184		---	---	ND	---	2.53
185	183/185	---	---	ND	---	5.06
186		---	---	ND	---	2.53
187		---	---	ND	---	2.53
188		---	---	ND	---	2.53
189		---	---	ND	---	2.53
190		---	---	ND	---	2.53
191		---	---	ND	---	2.53
192		---	---	ND	---	2.53
193	180/193	---	---	ND	---	5.06
194		---	---	ND	---	3.79
195		---	---	ND	---	3.79
196		---	---	ND	---	3.79
197	197/200	---	---	ND	---	7.58
198	198/199	---	---	ND	---	7.58
199	198/199	---	---	ND	---	7.58
200	197/200	---	---	ND	---	7.58
201		---	---	ND	---	3.79
202		---	---	ND	---	3.79
203		---	---	ND	---	3.79
204		---	---	ND	---	3.79
205		---	---	ND	---	3.79
206		---	---	ND	---	3.79
207		---	---	ND	---	3.79
208		---	---	ND	---	3.79
209		---	---	ND	---	3.79

Conc = Concentration
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Method 1668A Polychlorobiphenyl
Blank Analysis Results

Client Sample ID	DFBLKLS
Lab Sample ID	BLANK-19375
Filename	U90401B_09

Congener Group	Concentration ng/L
Total Monochloro Biphenyls	ND
Total Dichloro Biphenyls	ND
Total Trichloro Biphenyls	ND
Total Tetrachloro Biphenyls	ND
Total Pentachloro Biphenyls	ND
Total Hexachloro Biphenyls	ND
Total Heptachloro Biphenyls	ND
Total Octachloro Biphenyls	ND
Total Nonachloro Biphenyls	ND
Decachloro Biphenyls	ND
Total PCBs	ND

ND = Not Detected

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCS-19376		
Filename	U90402A_07	Matrix	Water
Total Amount Extracted	1010 mL	Dilution	NA
ICAL ID	U90402A01	Extracted	03/25/2009
CCal Filename(s)	U90402A_02	Analyzed	04/02/2009 12:51
Method Blank ID	BLANK-19375	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	Spiked (ng)	Found (ng)	% Recovery	Spiked (ng)	Found (ng)	% Recovery
1	1.0	1.19	119	2.0	0.800	40
3	1.0	1.14	114	2.0	0.960	48
4	1.0	1.17	117	2.0	0.739	37
15	1.0	1.14	114	2.0	1.34	67
19	1.0	1.09	109	2.0	0.954	48
37	1.0	1.14	114	2.0	1.84	92
54	1.0	1.10	110	2.0	1.10	55
81	1.0	1.06	106	2.0	2.04	102
77	1.0	1.07	107	2.0	2.01	100
104	1.0	1.11	111	2.0	1.16	58
105	1.0	1.04	104	2.0	1.98	99
114	1.0	1.07	107	2.0	1.96	98
118	1.0	1.08	108	2.0	2.04	102
123	1.0	1.04	104	2.0	2.06	103
126	1.0	0.989	99	2.0	1.98	99
155	1.0	1.09	109	2.0	1.38	69
156/157	2.0	2.07	104	4.0	3.77	94
167	1.0	1.03	103	2.0	1.64	82
169	1.0	1.01	101	2.0	1.82	91
188	1.0	1.10	110	2.0	1.69	85
189	1.0	0.998	100	2.0	2.24	112
202	1.0	1.05	105	2.0	1.79	90
205	1.0	1.04	104	2.0	1.82	91
206	1.0	1.03	103	2.0	1.58	79
208	1.0	1.07	107	2.0	1.73	86
209	1.0	1.06	106	2.0	1.39	70

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

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Method 1668A Polychlorobiphenyls
Laboratory Control Spike Analysis Results

Lab Sample ID	LCSD-19377		
Filename	U90402A_08	Matrix	Water
Total Amount Extracted	1020 mL	Dilution	NA
ICAL ID	U90402A01	Extracted	03/25/2009
CCal Filename(s)	U90402A_02	Analyzed	04/02/2009 13:55
Method Blank ID	BLANK-19375	Injected By	SMT

	Native Analytes			Labeled Analytes		
PCB Isomer	**Spiked (ng)**	**Found (ng)**	**% Recovery**	**Spiked (ng)**	**Found (ng)**	**% Recovery**
1	1.0	1.18	118	2.0	0.868	43
3	1.0	1.16	116	2.0	1.04	52
4	1.0	1.16	116	2.0	0.826	41
15	1.0	1.22	122	2.0	1.50	75
19	1.0	1.13	113	2.0	1.04	52
37	1.0	1.13	113	2.0	1.97	98
54	1.0	1.09	109	2.0	1.22	61
81	1.0	1.05	105	2.0	2.13	106
77	1.0	1.08	108	2.0	2.09	105
104	1.0	1.12	112	2.0	1.23	61
105	1.0	1.04	104	2.0	2.10	105
114	1.0	1.08	108	2.0	2.06	103
118	1.0	1.09	109	2.0	2.10	105
123	1.0	1.05	105	2.0	2.14	107
126	1.0	0.985	99	2.0	2.09	104
155	1.0	1.11	111	2.0	1.39	70
156/157	2.0	2.06	103	4.0	3.92	98
167	1.0	1.01	101	2.0	1.69	85
169	1.0	0.984	98	2.0	1.93	97
188	1.0	1.10	110	2.0	1.63	81
189	1.0	0.976	98	2.0	2.20	110
202	1.0	1.06	106	2.0	1.79	90
205	1.0	1.05	105	2.0	1.77	88
206	1.0	1.01	101	2.0	1.57	79
208	1.0	1.05	105	2.0	1.72	86
209	1.0	1.03	103	2.0	1.40	70

P = Recovery outside of method 1668A control limits
Nn = Result obtained from alternate analysis
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
! = See Discussion
ng = Nanograms
I = Interference

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Method 1668A

Spike Recovery Relative Percent Difference (RPD) Results

Client	Test America		
Spike 1 ID	LCS-19376	Spike 2 ID	LCSD-19377
Spike 1 Filename	U90402A_07	Spike 2 Filename	U90402A_08

Compound	IUPAC	Spike 1 %REC	Spike 2 %REC	%RPD
2-MoCB	1	119	118	0.8
4-MoCB	3	114	116	1.7
2,2'-DiCB	4	117	116	0.9
4,4'-DiCB	15	114	122	6.8
2,2',6-TrCB	19	109	113	3.6
3,4,4'-TrCB	37	114	113	0.9
2,2',6,6'-TeCB	54	110	109	0.9
3,3',4,4'-TeCB	77	107	108	0.9
3,4,4',5-TeCB	81	106	105	0.9
2,2',4,6,6'-PeCB	104	111	112	0.9
2,3,3',4,4'-PeCB	105	104	104	0.0
2,3,4,4',5-PeCB	114	107	108	0.9
2,3',4,4',5-PeCB	118	108	109	0.9
2,3',4,4',5'-PeCB	123	104	105	1.0
3,3',4,4',5-PeCB	126	99	99	0.0
2,2',4,4',6,6'-HxCB	155	109	111	1.8
(156/157)	156/157	104	103	1.0
2,3',4,4',5,5'-HxCB	167	103	101	2.0
3,3',4,4',5,5'-HxCB	169	101	98	3.0
2,2',3,4',5,6,6'-HpCB	188	110	110	0.0
2,3,3',4,4',5,5'-HpCB	189	100	98	2.0
2,2',3,3',5,5',6,6'-OcCB	202	105	106	0.9
2,3,3',4,4',5,5',6-OcCB	205	104	105	1.0
2,2',3,3',4,4',5,5',6-NoCB	206	103	101	2.0
2,2',3,3',4,5,5',6,6'-NoCB	208	107	105	1.9
Decachlorobiphenyl	209	106	103	2.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

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Additional Documentation for Outfall 19 MS4 Monitoring, FY 2008 – 2009 (Events 1 – 3):

- **WPCL and Contracting Laboratory Reports**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 10-31-08

Page: 1 of 1

Collected By: AJA CAP

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

☒ Sample Time recorded in PST → No (PA)

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease	Micro: E. coli	Comments	Field: Temperature (degrees C) Meter No.: Cor602	Field: Conductivity (umhos/cm) Meter No.: Cor602	Field: pH (pH Units) Meter No.: Cor602
FO 081263	5241 NE 122ND AVE MANHOLE GRAB	M1G	10-31-08	0822 (PA)	G	●	●	●	Time: 0822	13.3	51	6.8
FO 081264	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	0916	0916 (PA)	G	●	●	●	Oily Sheen Visible on Sample	13.0	89	6.8
FO 081265	4900 NW KITTRIDGE AVE (OF19)	OF19	1033	1133 (PA)	G	●	●	●	Time: 1033	13.6	178	7.2

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1448	Time:	Time:	Time:
Printed Name: Andrew Arnsberg	Printed Name:	Printed Name:	Printed Name:
Date: 10-31-08	Date:	Date:	Date:
Received By: 1.	**Received By: 2.**	**Received By: 3.**	**Received By: 4.**
Signature:	Signature:	Signature:	Signature:
Time: 1448	Time:	Time:	Time:
Printed Name: Rona Kueh	Printed Name:	Printed Name:	Printed Name:
Date: 10/31/08	Date:	Date:	Date:

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City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081265** **Sample Collected:** 10/31/2008 10:33 **Sample Received:** 10/31/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AM10140
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: AJA/LAP

Comments:
LAB: SINCE THE RESULT FOR TOTAL OIL AND GREASE IS <5 MG/L, NON POLAR OIL AND GREASE IS ALSO <5 MG/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	178	µmhos/cm	1	SM 2510 B	10/31/08
pH (FIELD)	7.2	pH Units	0.1	SM 4500-H B	10/31/08
TEMPERATURE	13.6	Deg. C	0.1	SM 2550 B	10/31/08
MICROBIOLOGY					
E. COLI	2500	MPN/100 ml	10	COLILERT QT	10/31/08
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	11/19/08

End of Report for Sample ID: FO081265

Report Date: 07/14/09 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 11/20/08

Page: 1 of 1

Collected By: JJM

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease	Micro: E. coli	Comments	Field: Temperature (degrees C) Meter No.: Combo 3	Field: Conductivity (umhos/cm) Meter No.: Combo 3	Field: pH (pH Units) Meter No.: Combo 3
FO 081407	4900 NW KITTRIDGE AVE (OF19)	OF19	11/20/08	0826	G	●	●	●		8.3	96	6.8

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1127	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Jordan McLann Date: 11/20/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1127	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Kristen Wright Date: 11/20/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

Chain-of-Custody

Bureau of Environmental Services

Collected By: JJM, AJA

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	BOD	COD	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nitrate-nitrogen	Orthophosphate phosphorus	Total Phosphorus	TKN	Outside: SVOCs, low-level	PAHs + Phthalates	PCB Congeners
FO 081427	4900 NW KITTRIDGE AVE (OF19)	OF19	11/20/08	0728 1430	C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature:	Signature:	Signature:	Signature:
Time: 1631	Time:	Time:	Time:
Printed Name: Jordan McCann	Printed Name:	Printed Name:	Printed Name:
Date: 11/20/08	Date:	Date:	Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature:	Signature:	Signature:	Signature:
Time:	Time:	Time:	Time:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date:	Date:	Date:	Date:

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City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081407**
Sample Collected: 11/20/2008 08:26
Sample Received: 11/20/08
Sample Status: COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE
OF 19
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AM10903
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM

Comments:
LAB: Base on the Total Oil & Grease result of <5 mg/L, non-Polar Oil & Grease is also < 5 mg/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	96	µmhos/cm	1	SM 2510 B	11/20/08
pH (FIELD)	6.8	pH Units	0.1	SM 4500-H B	11/20/08
TEMPERATURE	8.3	Deg. C	0.1	SM 2550 B	11/20/08
MICROBIOLOGY					
E. COLI	6100	MPN/100 ml	10	COLILERT QT	11/20/08
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	12/02/08

End of Report for Sample ID: FO081407

Report Date: 07/14/09 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081427** **Sample Collected:** 11/20/2008 14:30 **Sample Received:** 11/20/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AM10941
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Comments:
QA/QC: Low recoveries in the LCS and LCSDup for semivolatile compounds Benzoic Acid and Pentachlorophenol indicate a low bias for these components.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.20	mg/L	0.02	EPA 350.1	11/24/08
BOD5	12	mg/L	2	SM 5210B /H10360	11/21/08
COD	63	mg/L	5	SM 5220 D	11/24/08
NITRATE-NITROGEN	0.30	mg/L	0.10	EPA 300.0	11/20/08
o-PHOSPHATE-PHOSPHORUS, DISS	0.054	mg/L	0.02	EPA 365.1	11/21/08
TOTAL DISSOLVED SOLIDS @180C	71	mg/L	5	SM 2540 C	11/21/08
TOTAL KJELDAHL NITROGEN (TKN)	1.15	mg/L	0.20	PAI-DK03	11/28/08
TOTAL PHOSPHORUS	0.34	mg/L	0.03	EPA 365.4	11/28/08
TOTAL SOLIDS	148	mg/L	2	SM 2540 B	11/21/08
TOTAL SUSPENDED SOLIDS	89	mg/L	2	SM 2540 D	11/21/08
METALS					
HARDNESS, TOTAL	41.1	mg CaCO3/L	0.5	SM 2340 B CALC	11/21/08
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.58	µg/L	0.1	EPA 200.8	11/24/08
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/24/08
CHROMIUM, DISSOLVED	0.57	µg/L	0.4	EPA 200.8	11/24/08
COPPER, DISSOLVED	4.73	µg/L	0.2	EPA 200.8	11/24/08
LEAD, DISSOLVED	1.07	µg/L	0.1	EPA 200.8	11/24/08
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	11/24/08
ZINC, DISSOLVED	89.2	µg/L	0.5	EPA 200.8	11/24/08
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.62	µg/L	0.1	EPA 200.8	11/24/08
CADMIUM	0.41	µg/L	0.1	EPA 200.8	11/24/08
CHROMIUM	6.24	µg/L	0.4	EPA 200.8	11/24/08
COPPER	29.0	µg/L	0.2	EPA 200.8	11/24/08
LEAD	45.9	µg/L	0.1	EPA 200.8	11/24/08
SILVER	<0.10	µg/L	0.1	EPA 200.8	11/24/08
ZINC	282	µg/L	0.5	EPA 200.8	11/24/08
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	OMPLETED	ng/L		EPA 1668 MOD	01/05/09
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	0.0197	µg/L	0.0194	EPA 8270M-SIM	11/24/08

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081427** **Sample Collected:** 11/20/2008 14:30 **Sample Received:** 11/20/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 2 of 4
System ID: AM10941
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Comments:
QA/QC: Low recoveries in the LCS and LCSDup for semivolatile compounds Benzoic Acid and Pentachlorophenol indicate a low bias for these components.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Acenaphthylene	<0.0194	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Anthracene	0.0205	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Benzo(a)anthracene	0.0332	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Benzo(a)pyrene	0.0339	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Benzo(b)fluoranthene	0.0424	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Benzo(ghi)perylene	0.0387	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Benzo(k)fluoranthene	0.0286	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Bis(2-ethylhexyl) phthalate	1.00	µg/L	0.971	EPA 8270M-SIM	11/24/08
Butyl benzyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/24/08
Chrysene	0.0680	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Dibenzo(a,h)anthracene	0.0166	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Diethyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/24/08
Dimethyl phthalate	5.68	µg/L	0.971	EPA 8270M-SIM	11/24/08
Di-n-butyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/24/08
Di-n-octyl phthalate	<0.971	µg/L	0.971	EPA 8270M-SIM	11/24/08
Fluoranthene	0.117	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Fluorene	0.0236	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Indeno(1,2,3-cd)pyrene	0.0300	µg/L	0.00971	EPA 8270M-SIM	11/24/08
Naphthalene	0.0323	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Phenanthrene	0.122	µg/L	0.0194	EPA 8270M-SIM	11/24/08
Pyrene	0.0845	µg/L	0.0194	EPA 8270M-SIM	11/24/08
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
1,2-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
1,3-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
1,4-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
2,4,5-Trichlorophenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
2,4,6-Trichlorophenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
2,4-Dichlorophenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
2,4-Dimethylphenol	<21	µg/L	21	EPA 8270	11/26/08
2,4-Dinitrophenol	<21	µg/L	21	EPA 8270	11/26/08
2,4-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	11/26/08
2,6-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	11/26/08
2-Chloronaphthalene	<1.1	µg/L	1.1	EPA 8270	11/26/08
2-Chlorophenol	<2.6	µg/L	2.6	EPA 8270	11/26/08

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081427** **Sample Collected:** 11/20/2008 14:30 **Sample Received:** 11/20/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM10941
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Comments:
QA/QC: Low recoveries in the LCS and LCSDup for semivolatile compounds Benzoic Acid and Pentachlorophenol indicate a low bias for these components.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270	11/26/08
2-Methylphenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
2-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	11/26/08
2-Nitrophenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270	11/26/08
3-Nitroaniline	<5.2	µg/L	5.2	EPA 8270	11/26/08
4,6-Dinitro-2-methylphenol	<11	µg/L	11	EPA 8270	11/26/08
4-Bromophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	11/26/08
4-Chloro-3-methylphenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
4-Chloroaniline	<1.1	µg/L	1.1	EPA 8270	11/26/08
4-Chlorophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	11/26/08
4-Methylphenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
4-Nitroaniline	<5.2	µg/L	5.2	EPA 8270	11/26/08
4-Nitrophenol	<11	µg/L	11	EPA 8270	11/26/08
Acenaphthene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Acenaphthylene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Anthracene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzo(a)anthracene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzo(a)pyrene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzo(b)fluoranthene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzo(g,h,i)perylene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzo(k)fluoranthene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Benzoic acid	<26	µg/L	26	EPA 8270	11/26/08
Benzyl alcohol	<2.6	µg/L	2.6	EPA 8270	11/26/08
Bis(2-chloroethoxy) methane	<1.1	µg/L	1.1	EPA 8270	11/26/08
Bis(2-chloroethyl) ether	<1.1	µg/L	1.1	EPA 8270	11/26/08
Bis(2-chloroisopropyl) ether	<1.1	µg/L	1.1	EPA 8270	11/26/08
Bis(2-ethylhexyl) phthalate	<5.2	µg/L	5.2	EPA 8270	11/26/08
Butyl benzyl phthalate	<1.1	µg/L	1.1	EPA 8270	11/26/08
Chrysene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Dibenzo(a,h)anthracene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Dibenzofuran	<1.1	µg/L	1.1	EPA 8270	11/26/08
Diethyl phthalate	<1.1	µg/L	1.1	EPA 8270	11/26/08
Dimethyl phthalate	7.6	µg/L	1.1	EPA 8270	11/26/08
Di-n-butyl phthalate	<1.1	µg/L	1.1	EPA 8270	11/26/08
Di-n-octyl phthalate	<1.1	µg/L	1.1	EPA 8270	11/26/08

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081427** **Sample Collected:** 11/20/2008 14:30 **Sample Received:** 11/20/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AM10941
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Comments:
QA/QC: Low recoveries in the LCS and LCSDup for semivolatile compounds Benzoic Acid and Pentachlorophenol indicate a low bias for these components.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Fluorene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Hexachlorobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Hexachlorobutadiene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Hexachlorocyclopentadiene	<5.2	µg/L	5.2	EPA 8270	11/26/08
Hexachloroethane	<1.1	µg/L	1.1	EPA 8270	11/26/08
Indeno(1,2,3-cd)pyrene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Isophorone	<1.1	µg/L	1.1	EPA 8270	11/26/08
Naphthalene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Nitrobenzene	<1.1	µg/L	1.1	EPA 8270	11/26/08
N-Nitrosodi-n-propylamine	<1.1	µg/L	1.1	EPA 8270	11/26/08
N-Nitrosodiphenylamine	<1.1	µg/L	1.1	EPA 8270	11/26/08
Pentachlorophenol	<5.2	µg/L	5.2	EPA 8270	11/26/08
Phenanthrene	<1.1	µg/L	1.1	EPA 8270	11/26/08
Phenol	<2.6	µg/L	2.6	EPA 8270	11/26/08
Pyrene	<1.1	µg/L	1.1	EPA 8270	11/26/08

End of Report for Sample ID: FO081427

Report Date: 07/14/09 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

December 15, 2008 Analytical Report for Service Request No: K0811463

Peter Abrams
Portland, City of
1120 SW Fifth Avenue # 600
Portland, OR 97204

RE: City of Portland

Dear Peter:

Enclosed are the results of the samples submitted to our laboratory on November 21, 2008. For your reference, these analyses have been assigned our service request number K0811463.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

12/15/08

Pradeep Divvela
Project Chemist

PD/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Portland, City of	**Service Request No.:**	K0811463
Project:	City of Portland	**Date Received:**	11/21/2008
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

One water sample was received for analysis at Columbia Analytical Services on 11/21/2008. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Semivolatile Organic Compounds by EPA Method 8270C_LL

Lab Control Sample Exceptions:
The advisory criterion was exceeded for Benzoic Acid in the replicate Laboratory Control Samples (LCS/DLCS) KWG0812669-1 and WKG0812669-2. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

The spike recovery of Pentachlorophenol for the replicate Laboratory Control Samples (LCS/DLCS) KWG0812669-1 and WKG0812669-2 was outside the lower control criterion. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. The data is flagged to indicate the problem.

Elevated Method Reporting Limits:
The reporting limits are elevated for sample FO 081427. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.

Sample Notes and Discussion
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____ **Date** 12/15/08

Chain of Custody Documentation

Columbia Analytical Services, Inc.
An Employee - Owned Company

CHAIN OF CUSTODY

SR#: K0814463

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE _____ OF _____ COC #_____

PROJECT NAME

PROJECT NUMBER

PROJECT MANAGER

COMPANY/ADDRESS City of Portland

CITY/STATE/ZIP

E-MAIL ADDRESS

PHONE # FAX#

SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL X	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ BTEX☐ 8021☐ Diesel☐ Oil☐	Fuel Fingerprint (FiQ) ☐NW-HCID Screen	Oil & Grease/TRPH 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
FO 081427	11/20/08	0725		W	1		X																			*

8

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

X Standard (10-15 working days)

____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

(*) Please run low-level 8270 analysis. Thanks.

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: Jason Dahl	Date/Time: 21/NOV08	Signature: [illegible]	Date/Time: 11/21/08 910	Signature: [illegible]	Date/Time: 11/21/08 1234	Signature: Karla Smith	Date/Time: 11/21/08 1230
Printed Name: JASON DAHL	Firm: WRCL	Printed Name: [illegible]	Firm: CAS	Printed Name: [illegible]	Firm: CAS	Printed Name: Karla Smith	Firm: CAS

RCOC #1 06/03

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC PD

Client / Project: City of Portland Service Request K08 11463

Received: 11/21/08 Opened: 11/21/08 By: JW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? (NA) Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ (NA) Y N

5. **Temperature of cooler(s) upon receipt (°C):** 1.1
   Temperature Blank (°C): NP
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Semi-Volatile Organic Compounds
EPA Method 8270C

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: 11/20/2008
Date Received: 11/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 081427
Lab Code: K0811463-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Phenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
2-Chlorophenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
1,3-Dichlorobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
1,4-Dichlorobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
1,2-Dichlorobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Benzyl Alcohol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
Bis(2-chloroisopropyl) Ether	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
2-Methylphenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
Hexachloroethane	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
N-Nitrosodi-n-propylamine	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Methylphenol†	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
Nitrobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Isophorone	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
2-Nitrophenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
2,4-Dimethylphenol	ND	U	21	5	11/26/08	12/08/08	KWG0812669	
Bis(2-chloroethoxy)methane	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
2,4-Dichlorophenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
Benzoic Acid	ND	U	26	5	11/26/08	12/08/08	KWG0812669	
1,2,4-Trichlorobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Naphthalene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Chloroaniline	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Hexachlorobutadiene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Chloro-3-methylphenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
2-Methylnaphthalene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Hexachlorocyclopentadiene	ND	U	5.2	5	11/26/08	12/08/08	KWG0812669	
2,4,6-Trichlorophenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
2,4,5-Trichlorophenol	ND	U	2.6	5	11/26/08	12/08/08	KWG0812669	
2-Chloronaphthalene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
2-Nitroaniline	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Acenaphthylene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Dimethyl Phthalate	**7.6**	D	1.1	5	11/26/08	12/08/08	KWG0812669	
2,6-Dinitrotoluene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: 11/20/2008
Date Received: 11/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 081427
Lab Code: K0811463-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
3-Nitroaniline	ND	U	5.2	5	11/26/08	12/08/08	KWG0812669	
2,4-Dinitrophenol	ND	U	21	5	11/26/08	12/08/08	KWG0812669	
Dibenzofuran	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Nitrophenol	ND	U	11	5	11/26/08	12/08/08	KWG0812669	
2,4-Dinitrotoluene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Fluorene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Chlorophenyl Phenyl Ether	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Diethyl Phthalate	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Nitroaniline	ND	U	5.2	5	11/26/08	12/08/08	KWG0812669	
2-Methyl-4,6-dinitrophenol	ND	U	11	5	11/26/08	12/08/08	KWG0812669	
N-Nitrosodiphenylamine	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
4-Bromophenyl Phenyl Ether	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Hexachlorobenzene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Pentachlorophenol	ND	U	5.2	5	11/26/08	12/08/08	KWG0812669	
Phenanthrene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Anthracene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Di-n-butyl Phthalate	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Fluoranthene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Pyrene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Butyl Benzyl Phthalate	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
3,3'-Dichlorobenzidine	ND	U	11	5	11/26/08	12/08/08	KWG0812669	
Benz(a)anthracene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Chrysene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Bis(2-ethylhexyl) Phthalate	ND	U	5.2	5	11/26/08	12/08/08	KWG0812669	
Di-n-octyl Phthalate	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Benzo(b)fluoranthene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Benzo(k)fluoranthene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Benzo(a)pyrene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Indeno(1,2,3-cd)pyrene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Dibenz(a,h)anthracene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	
Benzo(g,h,i)perylene	ND	U	1.1	5	11/26/08	12/08/08	KWG0812669	

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: 11/20/2008
Date Received: 11/21/2008

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO 081427
Lab Code: K0811463-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	21-119	12/08/08	Acceptable
Phenol-d6	66	31-121	12/08/08	Acceptable
Nitrobenzene-d5	63	29-121	12/08/08	Acceptable
2-Fluorobiphenyl	68	25-109	12/08/08	Acceptable
2,4,6-Tribromophenol	93	30-131	12/08/08	Acceptable
Terphenyl-d14	83	20-140	12/08/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0812669-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Phenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
2-Chlorophenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
1,3-Dichlorobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
1,4-Dichlorobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
1,2-Dichlorobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Benzyl Alcohol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
2-Methylphenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
Hexachloroethane	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
N-Nitrosodi-n-propylamine	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Methylphenol†	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
Nitrobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Isophorone	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
2-Nitrophenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
2,4-Dimethylphenol	ND	U	4.0	1	11/26/08	12/05/08	KWG0812669	
Bis(2-chloroethoxy)methane	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
2,4-Dichlorophenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
Benzoic Acid	ND	U	5.0	1	11/26/08	12/05/08	KWG0812669	
1,2,4-Trichlorobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Naphthalene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Chloroaniline	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Hexachlorobutadiene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Chloro-3-methylphenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
2-Methylnaphthalene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Hexachlorocyclopentadiene	ND	U	1.0	1	11/26/08	12/05/08	KWG0812669	
2,4,6-Trichlorophenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
2,4,5-Trichlorophenol	ND	U	0.50	1	11/26/08	12/05/08	KWG0812669	
2-Chloronaphthalene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
2-Nitroaniline	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Acenaphthylene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Dimethyl Phthalate	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
2,6-Dinitrotoluene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0812669-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
3-Nitroaniline	ND	U	1.0	1	11/26/08	12/05/08	KWG0812669	
2,4-Dinitrophenol	ND	U	4.0	1	11/26/08	12/05/08	KWG0812669	
Dibenzofuran	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Nitrophenol	ND	U	2.0	1	11/26/08	12/05/08	KWG0812669	
2,4-Dinitrotoluene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Fluorene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Diethyl Phthalate	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Nitroaniline	ND	U	1.0	1	11/26/08	12/05/08	KWG0812669	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	1	11/26/08	12/05/08	KWG0812669	
N-Nitrosodiphenylamine	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
4-Bromophenyl Phenyl Ether	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Hexachlorobenzene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Pentachlorophenol	ND	U	1.0	1	11/26/08	12/05/08	KWG0812669	
Phenanthrene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Anthracene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Di-n-butyl Phthalate	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Fluoranthene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Pyrene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Butyl Benzyl Phthalate	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
3,3'-Dichlorobenzidine	ND	U	2.0	1	11/26/08	12/05/08	KWG0812669	
Benz(a)anthracene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Chrysene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	1	11/26/08	12/05/08	KWG0812669	
Di-n-octyl Phthalate	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Benzo(b)fluoranthene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Benzo(k)fluoranthene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Benzo(a)pyrene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Dibenz(a,h)anthracene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	
Benzo(g,h,i)perylene	ND	U	0.20	1	11/26/08	12/05/08	KWG0812669	

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0812669-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	21-119	12/05/08	Acceptable
Phenol-d6	79	31-121	12/05/08	Acceptable
Nitrobenzene-d5	81	29-121	12/05/08	Acceptable
2-Fluorobiphenyl	74	25-109	12/05/08	Acceptable
2,4,6-Tribromophenol	88	30-131	12/05/08	Acceptable
Terphenyl-d14	98	20-140	12/05/08	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO 081427	K0811463-001	66 D	66 D	63 D	68 D	93 D	83 D
Method Blank	KWG0812669-3	82	79	81	74	88	98
Lab Control Sample	KWG0812669-1	83	82	81	75	97	99
Duplicate Lab Control Sample	KWG0812669-2	75	72	74	68	90	95

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	21-119	Sur5 = 2,4,6-Tribromophenol	30-131
Sur2 = Phenol-d6	31-121	Sur6 = Terphenyl-d14	20-140
Sur3 = Nitrobenzene-d5	29-121		
Sur4 = 2-Fluorobiphenyl	25-109		

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Extracted: 11/26/2008
Date Analyzed: 12/05/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0812669

	Lab Control Sample KWG0812669-1 Lab Control Spike				Duplicate Lab Control Sample KWG0812669-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	4.60	5.00	92		3.68	5.00	74		39-115	22	30
Phenol	4.66	5.00	93		3.82	5.00	76		39-117	20	30
2-Chlorophenol	4.58	5.00	92		3.75	5.00	75		40-113	20	30
1,3-Dichlorobenzene	1.83	5.00	37		1.51	5.00	30		18-71	20	30
1,4-Dichlorobenzene	2.04	5.00	41		1.65	5.00	33		19-73	21	30
1,2-Dichlorobenzene	2.17	5.00	43		1.80	5.00	36		22-78	19	30
Benzyl Alcohol	4.34	5.00	87		3.65	5.00	73		37-119	17	30
Bis(2-chloroisopropyl) Ether	4.03	5.00	81		3.29	5.00	66		35-113	20	30
2-Methylphenol	4.37	5.00	87		3.76	5.00	75		26-113	15	30
Hexachloroethane	1.42	5.00	28		1.13	5.00	23		11-62	23	30
N-Nitrosodi-n-propylamine	4.22	5.00	84		3.55	5.00	71		32-117	17	30
4-Methylphenol	4.04	5.00	81		3.53	5.00	71		25-118	13	30
Nitrobenzene	4.24	5.00	85		3.55	5.00	71		37-116	18	30
Isophorone	4.74	5.00	95		3.84	5.00	77		39-112	21	30
2-Nitrophenol	4.83	5.00	97		3.70	5.00	74		42-116	27	30
2,4-Dimethylphenol	3.99	5.00	80		3.96	5.00	79		10-113	1	30
Bis(2-chloroethoxy)methane	4.76	5.00	95		3.80	5.00	76		40-113	22	30
2,4-Dichlorophenol	4.74	5.00	95		3.89	5.00	78		39-115	20	30
Benzoic Acid	ND	15.0	0	*	0.664	15.0	4	*	10-102		30
1,2,4-Trichlorobenzene	2.45	5.00	49		1.89	5.00	38		21-78	26	30
Naphthalene	3.47	5.00	69		2.79	5.00	56		33-98	22	30
4-Chloroaniline	4.34	5.00	87		3.78	5.00	76		10-119	14	30
Hexachlorobutadiene	1.45	5.00	29		1.11	5.00	22		10-61	27	30
4-Chloro-3-methylphenol	4.73	5.00	95		3.82	5.00	76		37-119	21	30
2-Methylnaphthalene	3.33	5.00	67		2.63	5.00	53		32-95	23	30
Hexachlorocyclopentadiene	0.776	5.00	16		0.717	5.00	14		10-39	8	30
2,4,6-Trichlorophenol	4.86	5.00	97		4.21	5.00	84		40-117	14	30
2,4,5-Trichlorophenol	4.80	5.00	96		4.10	5.00	82		44-116	16	30
2-Chloronaphthalene	3.42	5.00	68		2.83	5.00	57		21-115	19	30
2-Nitroaniline	4.74	5.00	95		3.82	5.00	76		43-124	22	30
Acenaphthylene	4.25	5.00	85		3.46	5.00	69		41-114	21	30
Dimethyl Phthalate	4.97	5.00	99		4.12	5.00	82		47-117	19	30
2,6-Dinitrotoluene	4.94	5.00	99		4.05	5.00	81		45-120	20	30
Acenaphthene	4.04	5.00	81		3.37	5.00	67		38-106	18	30
3-Nitroaniline	4.86	5.00	97		4.11	5.00	82		31-125	17	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: City of Portland
Sample Matrix: Water

Service Request: K0811463
Date Extracted: 11/26/2008
Date Analyzed: 12/05/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0812669

	Lab Control Sample KWG0812669-1 Lab Control Spike				Duplicate Lab Control Sample KWG0812669-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**		**Result**	**Expected**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	1.10	5.00	22		1.21	5.00	24		10-121	9	30
Dibenzofuran	4.25	5.00	85		3.51	5.00	70		40-107	19	30
4-Nitrophenol	4.54	5.00	91		3.81	5.00	76		43-133	18	30
2,4-Dinitrotoluene	4.99	5.00	100		4.25	5.00	85		47-125	16	30
Fluorene	4.38	5.00	88		3.60	5.00	72		40-112	19	30
4-Chlorophenyl Phenyl Ether	4.06	5.00	81		3.35	5.00	67		39-108	19	30
Diethyl Phthalate	4.83	5.00	97		4.59	5.00	92		47-120	5	30
4-Nitroaniline	4.81	5.00	96		4.27	5.00	85		36-128	12	30
2-Methyl-4,6-dinitrophenol	1.01	5.00	20		1.16	5.00	23		19-127	14	30
N-Nitrosodiphenylamine	4.80	5.00	96		4.03	5.00	81		36-114	17	30
4-Bromophenyl Phenyl Ether	4.41	5.00	88		3.52	5.00	70		43-110	22	30
Hexachlorobenzene	4.37	5.00	87		3.45	5.00	69		42-107	24	30
Pentachlorophenol	1.19	5.00	24	*	1.29	5.00	26	*	28-114	8	30
Phenanthrene	4.50	5.00	90		3.70	5.00	74		43-110	20	30
Anthracene	4.29	5.00	86		3.47	5.00	69		40-110	21	30
Di-n-butyl Phthalate	4.72	5.00	94		4.01	5.00	80		45-135	16	30
Fluoranthene	4.64	5.00	93		3.85	5.00	77		42-119	19	30
Pyrene	4.36	5.00	87		3.69	5.00	74		43-118	17	30
Butyl Benzyl Phthalate	4.62	5.00	92		3.96	5.00	79		48-124	15	30
3,3'-Dichlorobenzidine	2.78	5.00	56		2.53	5.00	51		15-108	9	30
Benz(a)anthracene	4.45	5.00	89		3.76	5.00	75		45-112	17	30
Chrysene	4.44	5.00	89		3.80	5.00	76		47-112	16	30
Bis(2-ethylhexyl) Phthalate	4.89	5.00	98		4.09	5.00	82		32-149	18	30
Di-n-octyl Phthalate	4.73	5.00	95		4.09	5.00	82		49-127	14	30
Benzo(b)fluoranthene	4.51	5.00	90		3.71	5.00	74		45-115	20	30
Benzo(k)fluoranthene	4.56	5.00	91		3.77	5.00	75		46-115	19	30
Benzo(a)pyrene	4.44	5.00	89		3.68	5.00	74		40-117	19	30
Indeno(1,2,3-cd)pyrene	4.61	5.00	92		3.84	5.00	77		44-119	18	30
Dibenz(a,h)anthracene	4.52	5.00	90		3.79	5.00	76		45-118	18	30
Benzo(g,h,i)perylene	4.69	5.00	94		3.95	5.00	79		45-116	17	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210
ORELAP#: OR100021

December 12, 2008

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 11/21/08 13:10. The following list is a summary of the Work Orders contained in this report, generated on 12/12/08 15:06.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PRK0812	NPDES	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO081427	PRK0812-01	Water	11/20/08 07:28	11/21/08 13:10

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRK0812-01 (FO081427)			Water			Sampled: 11/20/08 07:28				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**1.00**	-----	0.971	ug/l	1x	8110808	11/24/08 12:55	12/01/08 20:34	
Butyl benzyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.971	"	"	"	"	"	
Dimethyl phthalate	"	**5.68**	-----	0.971	"	"	"	"	"	
Acenaphthene	"	**0.0197**	-----	0.0194	"	"	"	"	12/08/08 18:03	
Acenaphthylene	"	ND	-----	0.0194	"	"	"	"	"	
Anthracene	"	**0.0205**	-----	0.0194	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0332**	-----	0.00971	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0339**	-----	0.00971	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0424**	-----	0.00971	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0387**	-----	0.0194	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0286**	-----	0.00971	"	"	"	"	"	
Chrysene	"	**0.0680**	-----	0.00971	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0166**	-----	0.00971	"	"	"	"	"	
Fluoranthene	"	**0.117**	-----	0.0194	"	"	"	"	"	
Fluorene	"	**0.0236**	-----	0.0194	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0300**	-----	0.00971	"	"	"	"	"	
Naphthalene	"	**0.0323**	-----	0.0194	"	"	"	"	"	
Phenanthrene	"	**0.122**	-----	0.0194	"	"	"	"	"	
Pyrene	"	**0.0845**	-----	0.0194	"	"	"	"	"	
Surrogate(s): *Fluorene-d10*				*87.8%*		*25 - 125 %*	"			"
Pyrene-d10				*66.6%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*102%*		*10 - 125 %*	"			"

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8110808 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8110808-BLK1)									**Extracted: 11/24/08 12:55**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	11/25/08 20:06	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	11/25/08 21:07	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 89.0%*			*Limits: 25-125%*	"							*11/25/08 21:07*	
Pyrene-d10		*108%*			*23-150%*	"							*"*	
Benzo (a) pyrene-d12		*99.1%*			*10-125%*	"							*"*	
LCS (8110808-BS1)									**Extracted: 11/24/08 12:55**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.07	---	1.00	ug/l	1x	--	4.00	76.7%	(20-150)	--	--	11/25/08 20:37	
Butyl benzyl phthalate	"	2.97	---	1.00	"	"	--	"	74.3%	"	--	--	"	
Di-n-butyl phthalate	"	3.67	---	1.00	"	"	--	"	91.8%	"	--	--	"	
Di-n-octyl phthalate	"	2.86	---	1.00	"	"	--	"	71.5%	"	--	--	"	
Diethyl phthalate	"	3.24	---	1.00	"	"	--	"	81.0%	"	--	--	"	
Dimethyl phthalate	"	2.91	---	1.00	"	"	--	"	72.8%	"	--	--	"	
Acenaphthene	"	1.97	---	0.0200	"	"	--	2.50	78.8%	(35-120)	--	--	11/25/08 22:08	
Acenaphthylene	"	2.05	---	0.0200	"	"	--	"	81.8%	(34-116)	--	--	"	
Anthracene	"	2.39	---	0.0200	"	"	--	"	95.5%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.73	---	0.0100	"	"	--	"	109%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.27	---	0.0100	"	"	--	"	90.6%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.27	---	0.0100	"	"	--	"	90.7%	(37-131)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8110808 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8110808-BS1)								**Extracted: 11/24/08 12:55**						
Benzo (ghi) perylene	EPA 8270m	2.22	---	0.0200	ug/l	1x	--	2.50	88.8%	(26-126)	--	--	11/25/08 22:08	
Benzo (k) fluoranthene	"	2.27	---	0.0100	"	"	--	"	91.0%	(18-145)	--	--	"	
Chrysene	"	2.59	---	0.0100	"	"	--	"	104%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.43	---	0.0100	"	"	--	"	97.1%	(20-141)	--	--	"	
Fluoranthene	"	2.52	---	0.0200	"	"	--	"	101%	(31-125)	--	--	"	
Fluorene	"	2.13	---	0.0200	"	"	--	"	85.2%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.37	---	0.0100	"	"	--	"	94.8%	(30-135)	--	--	"	
Naphthalene	"	2.13	---	0.0200	"	"	--	"	85.4%	(30-113)	--	--	"	
Phenanthrene	"	2.16	---	0.0200	"	"	--	"	86.3%	(34-126)	--	--	"	
Pyrene	"	2.26	---	0.0200	"	"	--	"	90.6%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 83.5%*			*Limits: 25-125%*	"							*11/25/08 22:08*	
Pyrene-d10		*103%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*99.8%*			*10-125%*	"							"	
Matrix Spike (8110808-MS1)					**QC Source: PRK0765-07**			**Extracted: 11/24/08 12:55**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.54	---	0.962	ug/l	1x	0.580	3.85	77.0%	(10-150)	--	--	11/25/08 21:08	
Butyl benzyl phthalate	"	3.18	---	0.962	"	"	ND	"	82.7%	"	--	--	"	
Di-n-butyl phthalate	"	3.70	---	0.962	"	"	ND	"	96.2%	"	--	--	"	
Di-n-octyl phthalate	"	3.23	---	0.962	"	"	ND	"	84.0%	"	--	--	"	
Diethyl phthalate	"	3.37	---	0.962	"	"	ND	"	87.6%	"	--	--	"	
Dimethyl phthalate	"	3.05	---	0.962	"	"	ND	"	79.4%	"	--	--	"	
Acenaphthene	"	1.91	---	0.0192	"	"	ND	2.40	79.4%	(35-120)	--	--	11/25/08 22:38	
Acenaphthylene	"	1.92	---	0.0192	"	"	ND	"	80.1%	(34-116)	--	--	"	
Anthracene	"	2.31	---	0.0192	"	"	ND	"	96.3%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.42	---	0.00962	"	"	ND	"	101%	(22-129)	--	--	"	
Benzo (a) pyrene	"	1.90	---	0.00962	"	"	ND	"	79.0%	(4-112)	--	--	"	
Benzo (b) fluoranthene	"	2.08	---	0.00962	"	"	ND	"	86.3%	(0-136)	--	--	"	
Benzo (ghi) perylene	"	1.81	---	0.0192	"	"	ND	"	75.2%	(0-126)	--	--	"	
Benzo (k) fluoranthene	"	1.73	---	0.00962	"	"	ND	"	72.1%	(0-145)	--	--	"	
Chrysene	"	2.35	---	0.00962	"	"	ND	"	97.8%	(7-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.91	---	0.00962	"	"	ND	"	79.5%	(0-141)	--	--	"	
Fluoranthene	"	2.27	---	0.0192	"	"	ND	"	94.4%	(30-125)	--	--	"	
Fluorene	"	2.27	---	0.0192	"	"	ND	"	94.3%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	1.88	---	0.00962	"	"	ND	"	78.2%	(0-135)	--	--	"	
Naphthalene	"	1.92	---	0.0192	"	"	ND	"	80.0%	(30-126)	--	--	"	
Phenanthrene	"	2.24	---	0.0192	"	"	ND	"	93.3%	(34-126)	--	--	"	
Pyrene	"	2.12	---	0.0192	"	"	ND	"	88.1%	(14-168)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 91.4%*			*Limits: 25-125%*	"							*11/25/08 22:38*	
Pyrene-d10		*101%*			*23-150%*	"							"	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8110808 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8110808-MS1)				**QC Source: PRK0765-07**				**Extracted: 11/24/08 12:55**						
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 96.3%*		*Limits: 10-125%*		*1x*							*11/25/08 22:38*	
Matrix Spike Dup (8110808-MSD1)				**QC Source: PRK0765-07**				**Extracted: 11/24/08 12:55**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.34	---	0.962	ug/l	1x	0.580	3.85	71.9%	(10-150)	6.88%	(50)	11/25/08 21:38	
Butyl benzyl phthalate	"	3.02	---	0.962	"	"	ND	"	78.5%	"	5.14%	"	"	
Di-n-butyl phthalate	"	3.44	---	0.962	"	"	ND	"	89.4%	"	7.28%	"	"	
Di-n-octyl phthalate	"	3.08	---	0.962	"	"	ND	"	80.1%	"	4.78%	"	"	
Diethyl phthalate	"	3.03	---	0.962	"	"	ND	"	78.7%	"	10.7%	"	"	
Dimethyl phthalate	"	2.62	---	0.962	"	"	ND	"	68.2%	"	15.2%	"	"	
Acenaphthene	"	1.61	---	0.0192	"	"	ND	2.40	67.0%	(35-120)	17.0%	(45)	11/25/08 23:09	
Acenaphthylene	"	1.64	---	0.0192	"	"	ND	"	68.1%	(34-116)	16.2%	"	"	
Anthracene	"	2.18	---	0.0192	"	"	ND	"	90.8%	(24-119)	5.90%	"	"	
Benzo (a) anthracene	"	2.50	---	0.00962	"	"	ND	"	104%	(22-129)	3.19%	"	"	
Benzo (a) pyrene	"	2.06	---	0.00962	"	"	ND	"	85.5%	(4-112)	7.96%	"	"	
Benzo (b) fluoranthene	"	2.20	---	0.00962	"	"	ND	"	91.5%	(0-136)	5.85%	"	"	
Benzo (ghi) perylene	"	2.03	---	0.0192	"	"	ND	"	84.3%	(0-126)	11.5%	"	"	
Benzo (k) fluoranthene	"	1.98	---	0.00962	"	"	ND	"	82.4%	(0-145)	13.4%	"	"	
Chrysene	"	2.42	---	0.00962	"	"	ND	"	101%	(7-137)	2.97%	"	"	
Dibenzo (a,h) anthracene	"	2.19	---	0.00962	"	"	ND	"	91.2%	(0-141)	13.6%	"	"	
Fluoranthene	"	2.27	---	0.0192	"	"	ND	"	94.6%	(30-125)	0.188%	"	"	
Fluorene	"	1.94	---	0.0192	"	"	ND	"	80.5%	(27-124)	15.8%	"	"	
Indeno (1,2,3-cd) pyrene	"	2.13	---	0.00962	"	"	ND	"	88.8%	(0-135)	12.7%	"	"	
Naphthalene	"	1.68	---	0.0192	"	"	ND	"	69.7%	(30-126)	13.7%	"	"	
Phenanthrene	"	2.09	---	0.0192	"	"	ND	"	87.0%	(34-126)	7.05%	"	"	
Pyrene	"	2.06	---	0.0192	"	"	ND	"	85.6%	(14-168)	2.86%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 78.1%*		*Limits: 25-125%*		*"*							*11/25/08 23:09*	
Pyrene-d10		*93.1%*		*23-150%*		*"*							*"*	
Benzo (a) pyrene-d12		*91.6%*		*10-125%*		*"*							*"*	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	12/12/08 15:06

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PRK0812

CLIENT: City of Portland

REPORT TO: Jennifer Shackelford

ADDRESS:

PHONE: FAX:

INVOICE TO: Charles Cytle

P.O. NUMBER: 36238

PROJECT NAME: NPDES Stormwater Mon

PROJECT NUMBER:

SAMPLED BY:

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: ~~10~~ STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: PAH + Phthalates UIC (*)	REQUESTED ANALYSES: PCB (**) Congeners	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 FO081427	11/20/08 0728		X	X	W	3		
2								
3								
4								
5								
6								
7								
8								
9								
10								

RELEASED BY: PRINT NAME: Kris Dennis FIRM: City of Portland DATE: 11/21/8 TIME: 11:35

RECEIVED BY: PRINT NAME: Bob F FIRM: TAP DATE: 11/21/8 TIME: 11:35

RELEASED BY: PRINT NAME: Bob F FIRM: TAP DATE: 11/21/8 TIME: 13:10

RECEIVED BY: PRINT NAME: Peggy Siegfried FIRM: TAP DATE: 11/21/08 TIME: 1310

ADDITIONAL REMARKS:

(*) Please use low-level RLs as per UIC projects. Thanks

(**) PCB Analysis to be sent to Pace Analytical.

TEMP: 3.6

PAGE 1 OF 1

TAL-1000(0408)

TestAmerica Sample Receipt Checklist

Received by: *(section A)* Date: 11/21/08 Time: 1342 Initials: [illegible]

Unpacked by: *(section B)* Date: 11/21/08 Initials: [illegible]

Logged-in by: Date: 11/21/08 Initials: BLE

Work Order No. PRK0812

Client: City of Portland

Project: NPDES

Temperature out of range:

___Not enough Ice
___*No Ice*
___*Ice Melted*
___*W/in 4 Hours*
___*Other:*_____

***ESI Clients *(see Section C)*

Digi #1

Digi #2

Cooler Temperature (IR): 3.6 °C plastic glass NA *(oil/air samples, ESI client)*

Temperature Blank: _____ °C

A

Custody Seals: (#____)

Signature: Y N Dated:_____

X None

Container Type:

1 #Cooler(s)

____#Box(s)

____None (___#Other:_____)

Coolant Type:

____Gel Ice

X Loose Ice

____None

Packing Material:

____Bubble Bags

____Styrofoam Cubbies

____Peanuts

X None (____Other:_____)

Received from:

X TA Courier

____Senvoy

____UPS

____Fed Ex

____Client

____TDP

____DHL

____SDS

____Mid-Valley

____GS/TA

____GS/Senvoy

____Other:

_____

B

Sample Status:
(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Cyanide Checked?	Y	N	NA
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
Volatiles/ Oil Quality:			
VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____ °C not provided Digi: # 1 #2

All preserved bottles checked Y N NA *(voas/soils/all unp.)*

All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

PM Reviewed: _____ *(Initial/Date)*

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 12/12/08
Page: 1 of 1
Collected By: JTM, LAP

Project Name: NPDES STORMWTR MON
File Number: 4010.001 Matrix: STORMWTR

Requested Analyses

(A) Sample Time recorded in PST

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease		Micro: E. coli		Comments	Field: Temperature (degrees C) Meter No.: Combo #5	Field: Conductivity (umhos/cm) Meter No.: Combo #5	Field: pH (pH Units) Meter No.: Combo #5	
FO 081486	5241 NE 122ND AVE MANHOLE GRAB	M1G	12/12/08	1200	G	●	●		●			8.6	95	6.1	
FO 081487	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	12/12/08	1356	G	●	●		●			9.0	56	6.5	
FO 081488	4900 NW KITTRIDGE AVE (OF19)	OF19	~~12/18/08~~ 12/12/08 (MM)	1453	G	●	●		●			9.9	135	6.6	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Lauren Patton Time: 1531	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: LAUREN PATTON Date: 12/12/08	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO081488** **Sample Collected:** 12/12/2008 14:53 **Sample Received:** 12/12/08 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AM11647
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/LAP

Comments:
QA/QC: A result is not available for Oil & Grease due to background laboratory contamination.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	135	µmhos/cm	1	SM 2510 B	12/12/08
pH (FIELD)	6.6	pH Units	0.1	SM 4500-H B	12/12/08
TEMPERATURE	9.9	Deg. C	0.1	SM 2550 B	12/12/08
MICROBIOLOGY					
E. COLI	3300	MPN/100 ml	10	COLILERT QT	12/12/08

End of Report for Sample ID: FO081488

Report Date: 07/14/09 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

March 19, 2009 Analytical Report for Service Request No: K0901594

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 1000
Portland, OR 97204

RE: NPDES Stormwater Mon

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on February 25, 2009. For your reference, these analyses have been assigned our service request number K0901594.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

3/20/2009

Pradeep Divvela
Project Chemist

PD/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	POrtland, City of	**Service Request No.:**	K0901594
Project:	NPDES Stormwater Mon	**Date Received:**	02/25/2009
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 02/25/2009. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081A_ULL

Second Source Exceptions:
The analysis of Chlorinated Pesticides by EPA 8081 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Methoxychlor. The ICV results are reported from the acceptable column. The data quality is not affected. No further corrective action was necessary.

Continuing Calibration Verification (CCV) Exceptions:
The analysis of Chlorinated Pesticides by EPA 8081 requires the use of dual column confirmation. When the CCV criteria is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for 0304F005 and 0304F018. The results are reported from the column with an acceptable CCV. The data quality is not affected. No further corrective action was necessary.

Sample Confirmation Notes:
The confirmation comparison criteria of 40% difference for gamma-Chlordane and 4,4'-DDD was exceeded in sample F0095243; Endosulfan I in sample F0095244. The higher of the two values is reported because no evidence of a peak anomaly was observed.

Elevated Method Reporting Limits:
The reporting limit is elevated for all analytes in both field samples. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semiquantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The results are flagged to indicate the matrix interference.

The reporting limit is further elevated for a few analytes in both field sample. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

Approved by_____ **Date** 03/27/09

Semivolatile Organic Compounds by EPA Method 8270C LL

Holding Time Exceptions:
Sample F0095243 was originally received on 02/25/2009. Laboratory inadvertently analyzed the sample container for Pesticides by 8081 instead of SVOCs by 8270C. Client was notified of this error on 03/02/09. A replacement bottle for sample F0095343 was received on 03/03/09. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time violation.

Lab Control Sample Exceptions:
The advisory criterion was exceeded for Benzoic Acid in duplicate Laboratory Control Sample (DLCS) KWG0901826-1. As per the CAS/Kelso SOP for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) criterion for 2,4-Dimethylphenol and Benzoic Acid in the replicate Laboratory Control Samples (LCS/DLCS) KWG0901826-1 and KWG0901826-2 is not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Elevated Method Reporting Limits:
The reporting limits are elevated for all analytes in sample F0095243. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.

No other anomalies associated with the analysis of these samples were observed.

03/27/09

Approved by_____ **Date**_____

Client:	Portland, City of	**Service Request:**	K0901594
Project:	NPDES Stormwater Mon	**Date Collected:**	02/23/2009
Sample Matrix:	Water	**Date Received:**	02/25/2009

Organochlorine Pesticides

Sample Name:	F0095243	**Units:**	ng/L
Lab Code:	K0901594-001	**Basis:**	NA
Extraction Method:	EPA 3535	**Level:**	Low
Analysis Method:	8081A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	5.2	2.2	10	02/26/09	03/04/09	KWG0901589	
beta-BHC	ND	U	5.2	4.3	10	02/26/09	03/04/09	KWG0901589	
gamma-BHC (Lindane)	ND	U	5.2	4.9	10	02/26/09	03/04/09	KWG0901589	
delta-BHC	ND	U	5.2	1.5	10	02/26/09	03/04/09	KWG0901589	
Heptachlor	**6.1**	D	5.2	1.9	10	02/26/09	03/04/09	KWG0901589	
Aldrin	**3.7**	JD	5.2	1.2	10	02/26/09	03/04/09	KWG0901589	
Heptachlor Epoxide	ND	U	5.2	2.2	10	02/26/09	03/04/09	KWG0901589	
gamma-Chlordane†	**27**	PD	5.2	3.2	10	02/26/09	03/04/09	KWG0901589	
Endosulfan I	ND	U	5.2	2.6	10	02/26/09	03/04/09	KWG0901589	
alpha-Chlordane	**7.7**	D	5.2	2.8	10	02/26/09	03/04/09	KWG0901589	
Dieldrin	ND	U	5.2	3.8	10	02/26/09	03/04/09	KWG0901589	
4,4'-DDE	ND	Ui	9.1	9.1	10	02/26/09	03/04/09	KWG0901589	
Endrin	ND	U	5.2	5.1	10	02/26/09	03/04/09	KWG0901589	
Endosulfan II	ND	U	5.2	3.6	10	02/26/09	03/04/09	KWG0901589	
4,4'-DDD	**14**	PD	5.2	2.2	10	02/26/09	03/04/09	KWG0901589	
Endrin Aldehyde	ND	U	5.2	2.2	10	02/26/09	03/04/09	KWG0901589	
Endosulfan Sulfate	**9.7**	D	5.2	2.9	10	02/26/09	03/04/09	KWG0901589	
4,4'-DDT	ND	Ui	23	23	10	02/26/09	03/04/09	KWG0901589	
Endrin Ketone	ND	U	5.2	3.3	10	02/26/09	03/04/09	KWG0901589	
Methoxychlor	**17**	D	5.2	2.9	10	02/26/09	03/04/09	KWG0901589	
Toxaphene	ND	Ui	650	650	10	02/26/09	03/04/09	KWG0901589	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	86	10-121	03/04/09	Acceptable
Decachlorobiphenyl	131	17-150	03/04/09	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: 02/23/2009
Date Received: 02/25/2009

Organochlorine Pesticides

Sample Name: F0095244
Lab Code: K0901594-002

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	2.7	1.2	5	02/26/09	03/04/09	KWG0901589	
beta-BHC	ND	U	2.7	2.2	5	02/26/09	03/04/09	KWG0901589	
gamma-BHC (Lindane)	ND	U	2.7	2.5	5	02/26/09	03/04/09	KWG0901589	
delta-BHC	ND	U	2.7	0.74	5	02/26/09	03/04/09	KWG0901589	
Heptachlor	ND	U	2.7	0.95	5	02/26/09	03/04/09	KWG0901589	
Aldrin	ND	Ui	2.7	2.7	5	02/26/09	03/04/09	KWG0901589	
Heptachlor Epoxide	ND	Ui	2.7	2.7	5	02/26/09	03/04/09	KWG0901589	
gamma-Chlordane†	**8.6**	D	2.7	1.7	5	02/26/09	03/04/09	KWG0901589	
Endosulfan I	**3.7**	PD	2.7	1.4	5	02/26/09	03/04/09	KWG0901589	
alpha-Chlordane	ND	U	2.7	1.5	5	02/26/09	03/04/09	KWG0901589	
Dieldrin	ND	U	2.7	2.0	5	02/26/09	03/04/09	KWG0901589	
4,4'-DDE	ND	Ui	4.9	4.9	5	02/26/09	03/04/09	KWG0901589	
Endrin	ND	U	2.7	2.6	5	02/26/09	03/04/09	KWG0901589	
Endosulfan II	ND	U	2.7	1.9	5	02/26/09	03/04/09	KWG0901589	
4,4'-DDD	ND	Ui	2.7	2.4	5	02/26/09	03/04/09	KWG0901589	
Endrin Aldehyde	ND	Ui	2.7	2.7	5	02/26/09	03/04/09	KWG0901589	
Endosulfan Sulfate	ND	U	2.7	1.5	5	02/26/09	03/04/09	KWG0901589	
4,4'-DDT	ND	U	2.7	0.90	5	02/26/09	03/04/09	KWG0901589	
Endrin Ketone	ND	U	2.7	1.7	5	02/26/09	03/04/09	KWG0901589	
Methoxychlor	ND	U	2.7	1.5	5	02/26/09	03/04/09	KWG0901589	
Toxaphene	ND	U	140	48	5	02/26/09	03/04/09	KWG0901589	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	97	10-121	03/04/09	Acceptable
Decachlorobiphenyl	144	17-150	03/04/09	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: NA
Date Received: NA

Organochlorine Pesticides

Sample Name: Method Blank
Lab Code: KWG0901589-5

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.49	0.21	1	02/26/09	02/28/09	KWG0901589	
beta-BHC	ND	U	0.49	0.41	1	02/26/09	02/28/09	KWG0901589	
gamma-BHC (Lindane)	ND	U	0.49	0.47	1	02/26/09	02/28/09	KWG0901589	
delta-BHC	ND	U	0.49	0.14	1	02/26/09	02/28/09	KWG0901589	
Heptachlor	ND	U	0.49	0.18	1	02/26/09	02/28/09	KWG0901589	
Aldrin	ND	U	0.49	0.11	1	02/26/09	02/28/09	KWG0901589	
Heptachlor Epoxide	ND	U	0.49	0.21	1	02/26/09	02/28/09	KWG0901589	
gamma-Chlordane†	ND	U	0.49	0.31	1	02/26/09	02/28/09	KWG0901589	
Endosulfan I	ND	U	0.49	0.25	1	02/26/09	02/28/09	KWG0901589	
alpha-Chlordane	ND	U	0.49	0.27	1	02/26/09	02/28/09	KWG0901589	
Dieldrin	ND	U	0.49	0.37	1	02/26/09	02/28/09	KWG0901589	
4,4'-DDE	**0.24**	J	0.49	0.19	1	02/26/09	02/28/09	KWG0901589	
Endrin	ND	U	0.49	0.49	1	02/26/09	02/28/09	KWG0901589	
Endosulfan II	ND	U	0.49	0.35	1	02/26/09	02/28/09	KWG0901589	
4,4'-DDD	ND	U	0.49	0.21	1	02/26/09	02/28/09	KWG0901589	
Endrin Aldehyde	ND	U	0.49	0.21	1	02/26/09	02/28/09	KWG0901589	
Endosulfan Sulfate	ND	U	0.49	0.28	1	02/26/09	02/28/09	KWG0901589	
4,4'-DDT	ND	U	0.49	0.17	1	02/26/09	02/28/09	KWG0901589	
Endrin Ketone	ND	U	0.49	0.32	1	02/26/09	02/28/09	KWG0901589	
Methoxychlor	ND	U	0.49	0.28	1	02/26/09	02/28/09	KWG0901589	
Toxaphene	ND	U	25	9.0	1	02/26/09	02/28/09	KWG0901589	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	50	10-121	02/28/09	Acceptable
Decachlorobiphenyl	78	17-150	02/28/09	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
F0095243	K0901594-001	86 D	131 D
F0095244	K0901594-002	97 D	144 D
Method Blank	KWG0901589-5	50	78
Lab Control Sample	KWG0901589-1	44	72
Duplicate Lab Control Sample	KWG0901589-2	41	76

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	10-121
Sur2 =	Decachlorobiphenyl	17-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Extracted: 02/26/2009
Date Analyzed: 02/28/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG0901589

	Lab Control Sample KWG0901589-1 Lab Control Spike			Duplicate Lab Control Sample KWG0901589-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	8.48	10.0	85	9.10	10.0	91	43-127	7	30
beta-BHC	9.93	10.0	99	10.9	10.0	109	41-129	9	30
gamma-BHC (Lindane)	9.07	10.0	91	9.81	10.0	98	42-128	8	30
delta-BHC	9.08	10.0	91	10.3	10.0	103	47-141	12	30
Heptachlor	8.92	10.0	89	9.35	10.0	94	34-126	5	30
Aldrin	6.84	10.0	68	7.31	10.0	73	10-125	7	30
Heptachlor Epoxide	8.41	10.0	84	9.11	10.0	91	45-124	8	30
gamma-Chlordane	9.12	10.0	91	10.1	10.0	101	48-119	10	30
Endosulfan I	8.50	10.0	85	8.88	10.0	89	30-115	4	30
alpha-Chlordane	9.22	10.0	92	10.1	10.0	101	48-119	9	30
Dieldrin	9.23	10.0	92	10.2	10.0	102	50-120	10	30
4,4'-DDE	9.53	10.0	95	10.5	10.0	105	36-137	9	30
Endrin	9.90	10.0	99	11.3	10.0	113	53-132	13	30
Endosulfan II	8.86	10.0	89	9.73	10.0	97	32-123	9	30
4,4'-DDD	9.19	10.0	92	10.2	10.0	102	38-140	11	30
Endrin Aldehyde	6.74	10.0	67	7.86	10.0	79	30-114	15	30
Endosulfan Sulfate	8.87	10.0	89	9.83	10.0	98	46-120	10	30
4,4'-DDT	11.1	10.0	111	12.5	10.0	125	45-146	12	30
Endrin Ketone	8.76	10.0	88	9.91	10.0	99	45-127	12	30
Methoxychlor	11.5	10.0	115	12.9	10.0	129	48-140	11	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: 02/23/2009
Date Received: 02/25/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0095243
Lab Code: K0901594-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	1.1	0.19	5	03/04/09	03/11/09	KWG0901826	*
Phenol	ND	U	2.6	0.33	5	03/04/09	03/11/09	KWG0901826	*
2-Chlorophenol	ND	U	2.6	0.28	5	03/04/09	03/11/09	KWG0901826	*
1,3-Dichlorobenzene	ND	U	1.1	0.11	5	03/04/09	03/11/09	KWG0901826	*
1,4-Dichlorobenzene	ND	U	1.1	0.15	5	03/04/09	03/11/09	KWG0901826	*
1,2-Dichlorobenzene	ND	U	1.1	0.12	5	03/04/09	03/11/09	KWG0901826	*
Benzyl Alcohol	ND	U	2.6	0.38	5	03/04/09	03/11/09	KWG0901826	*
Bis(2-chloroisopropyl) Ether	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
2-Methylphenol	ND	U	2.6	0.57	5	03/04/09	03/11/09	KWG0901826	*
Hexachloroethane	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
N-Nitrosodi-n-propylamine	ND	U	1.1	0.20	5	03/04/09	03/11/09	KWG0901826	*
4-Methylphenol†	ND	U	2.6	0.62	5	03/04/09	03/11/09	KWG0901826	*
Nitrobenzene	ND	U	1.1	0.15	5	03/04/09	03/11/09	KWG0901826	*
Isophorone	ND	U	1.1	0.083	5	03/04/09	03/11/09	KWG0901826	*
2-Nitrophenol	ND	U	2.6	0.33	5	03/04/09	03/11/09	KWG0901826	*
2,4-Dimethylphenol	ND	U	21	12	5	03/04/09	03/11/09	KWG0901826	*
Bis(2-chloroethoxy)methane	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
2,4-Dichlorophenol	ND	U	2.6	0.25	5	03/04/09	03/11/09	KWG0901826	*
Benzoic Acid	ND	U	26	5.7	5	03/04/09	03/11/09	KWG0901826	*
1,2,4-Trichlorobenzene	ND	U	1.1	0.083	5	03/04/09	03/11/09	KWG0901826	*
Naphthalene	ND	U	1.1	0.12	5	03/04/09	03/11/09	KWG0901826	*
4-Chloroaniline	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
Hexachlorobutadiene	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
4-Chloro-3-methylphenol	ND	U	2.6	0.20	5	03/04/09	03/11/09	KWG0901826	*
2-Methylnaphthalene	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
Hexachlorocyclopentadiene	ND	U	5.2	0.98	5	03/04/09	03/11/09	KWG0901826	*
2,4,6-Trichlorophenol	ND	U	2.6	0.30	5	03/04/09	03/11/09	KWG0901826	*
2,4,5-Trichlorophenol	ND	U	2.6	0.16	5	03/04/09	03/11/09	KWG0901826	*
2-Chloronaphthalene	ND	U	1.1	0.22	5	03/04/09	03/11/09	KWG0901826	*
2-Nitroaniline	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
Acenaphthylene	ND	U	1.1	0.078	5	03/04/09	03/11/09	KWG0901826	*
Dimethyl Phthalate	**11**	D	1.1	0.11	5	03/04/09	03/11/09	KWG0901826	*
2,6-Dinitrotoluene	ND	U	1.1	0.18	5	03/04/09	03/11/09	KWG0901826	*

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: 02/23/2009
Date Received: 02/25/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name: F0095243
Lab Code: K0901594-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
3-Nitroaniline	ND	U	5.2	0.15	5	03/04/09	03/11/09	KWG0901826	*
2,4-Dinitrophenol	ND	U	21	0.88	5	03/04/09	03/11/09	KWG0901826	*
Dibenzofuran	ND	U	1.1	0.093	5	03/04/09	03/11/09	KWG0901826	*
4-Nitrophenol	ND	U	11	1.5	5	03/04/09	03/11/09	KWG0901826	*
2,4-Dinitrotoluene	ND	U	1.1	0.093	5	03/04/09	03/11/09	KWG0901826	*
Fluorene	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
4-Chlorophenyl Phenyl Ether	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
Diethyl Phthalate	**0.37**	JD	1.1	0.062	5	03/04/09	03/11/09	KWG0901826	*
4-Nitroaniline	ND	U	5.2	0.098	5	03/04/09	03/11/09	KWG0901826	*
2-Methyl-4,6-dinitrophenol	ND	U	11	0.13	5	03/04/09	03/11/09	KWG0901826	*
N-Nitrosodiphenylamine	ND	U	1.1	0.25	5	03/04/09	03/11/09	KWG0901826	*
4-Bromophenyl Phenyl Ether	ND	U	1.1	0.14	5	03/04/09	03/11/09	KWG0901826	*
Hexachlorobenzene	ND	U	1.1	0.12	5	03/04/09	03/11/09	KWG0901826	*
Pentachlorophenol	ND	U	5.2	1.8	5	03/04/09	03/11/09	KWG0901826	*
Phenanthrene	**0.26**	JD	1.1	0.12	5	03/04/09	03/11/09	KWG0901826	*
Anthracene	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
Di-n-butyl Phthalate	**0.30**	JD	1.1	0.12	5	03/04/09	03/11/09	KWG0901826	*
Fluoranthene	**0.45**	JD	1.1	0.11	5	03/04/09	03/11/09	KWG0901826	*
Pyrene	**0.57**	JD	1.1	0.098	5	03/04/09	03/11/09	KWG0901826	*
Butyl Benzyl Phthalate	**1.2**	D	1.1	0.093	5	03/04/09	03/11/09	KWG0901826	*
3,3'-Dichlorobenzidine	ND	U	11	2.3	5	03/04/09	03/11/09	KWG0901826	*
Benz(a)anthracene	ND	U	1.1	0.093	5	03/04/09	03/11/09	KWG0901826	*
Chrysene	ND	U	1.1	0.15	5	03/04/09	03/11/09	KWG0901826	*
Bis(2-ethylhexyl) Phthalate	**3.9**	JD	5.2	0.68	5	03/04/09	03/11/09	KWG0901826	*
Di-n-octyl Phthalate	ND	U	1.1	0.093	5	03/04/09	03/11/09	KWG0901826	*
Benzo(b)fluoranthene	**0.42**	JD	1.1	0.088	5	03/04/09	03/11/09	KWG0901826	*
Benzo(k)fluoranthene	ND	U	1.1	0.13	5	03/04/09	03/11/09	KWG0901826	*
Benzo(a)pyrene	ND	U	1.1	0.16	5	03/04/09	03/11/09	KWG0901826	*
Indeno(1,2,3-cd)pyrene	ND	U	1.1	0.11	5	03/04/09	03/11/09	KWG0901826	*
Dibenz(a,h)anthracene	ND	U	1.1	0.088	5	03/04/09	03/11/09	KWG0901826	*
Benzo(g,h,i)perylene	ND	U	1.1	0.098	5	03/04/09	03/11/09	KWG0901826	*

* See Case Narrative

Comments:

Client:	Portland, City of	**Service Request:**	K0901594
Project:	NPDES Stormwater Mon	**Date Collected:**	02/23/2009
Sample Matrix:	Water	**Date Received:**	02/25/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	F0095243	**Units:**	ug/L
Lab Code:	K0901594-001	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	70	21-119	03/11/09	Acceptable
Phenol-d6	71	31-121	03/11/09	Acceptable
Nitrobenzene-d5	68	29-121	03/11/09	Acceptable
2-Fluorobiphenyl	59	25-109	03/11/09	Acceptable
2,4,6-Tribromophenol	63	30-131	03/11/09	Acceptable
Terphenyl-d14	55	20-140	03/11/09	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0901826-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	0.035	1	03/04/09	03/11/09	KWG0901826	
Phenol	**0.82**		0.50	0.063	1	03/04/09	03/11/09	KWG0901826	
2-Chlorophenol	ND	U	0.50	0.054	1	03/04/09	03/11/09	KWG0901826	
1,3-Dichlorobenzene	ND	U	0.20	0.021	1	03/04/09	03/11/09	KWG0901826	
1,4-Dichlorobenzene	ND	U	0.20	0.029	1	03/04/09	03/11/09	KWG0901826	
1,2-Dichlorobenzene	ND	U	0.20	0.022	1	03/04/09	03/11/09	KWG0901826	
Benzyl Alcohol	ND	U	0.50	0.073	1	03/04/09	03/11/09	KWG0901826	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	0.026	1	03/04/09	03/11/09	KWG0901826	
2-Methylphenol	ND	U	0.50	0.11	1	03/04/09	03/11/09	KWG0901826	
Hexachloroethane	ND	U	0.20	0.024	1	03/04/09	03/11/09	KWG0901826	
N-Nitrosodi-n-propylamine	ND	U	0.20	0.037	1	03/04/09	03/11/09	KWG0901826	
4-Methylphenol†	ND	U	0.50	0.12	1	03/04/09	03/11/09	KWG0901826	
Nitrobenzene	ND	U	0.20	0.028	1	03/04/09	03/11/09	KWG0901826	
Isophorone	ND	U	0.20	0.016	1	03/04/09	03/11/09	KWG0901826	
2-Nitrophenol	ND	U	0.50	0.063	1	03/04/09	03/11/09	KWG0901826	
2,4-Dimethylphenol	ND	U	4.0	2.2	1	03/04/09	03/11/09	KWG0901826	
Bis(2-chloroethoxy)methane	ND	U	0.20	0.024	1	03/04/09	03/11/09	KWG0901826	
2,4-Dichlorophenol	ND	U	0.50	0.047	1	03/04/09	03/11/09	KWG0901826	
Benzoic Acid	ND	U	5.0	1.1	1	03/04/09	03/11/09	KWG0901826	
1,2,4-Trichlorobenzene	ND	U	0.20	0.016	1	03/04/09	03/11/09	KWG0901826	
Naphthalene	ND	U	0.20	0.022	1	03/04/09	03/11/09	KWG0901826	
4-Chloroaniline	ND	U	0.20	0.025	1	03/04/09	03/11/09	KWG0901826	
Hexachlorobutadiene	ND	U	0.20	0.027	1	03/04/09	03/11/09	KWG0901826	
4-Chloro-3-methylphenol	ND	U	0.50	0.037	1	03/04/09	03/11/09	KWG0901826	
2-Methylnaphthalene	ND	U	0.20	0.026	1	03/04/09	03/11/09	KWG0901826	
Hexachlorocyclopentadiene	ND	U	1.0	0.19	1	03/04/09	03/11/09	KWG0901826	
2,4,6-Trichlorophenol	ND	U	0.50	0.058	1	03/04/09	03/11/09	KWG0901826	
2,4,5-Trichlorophenol	ND	U	0.50	0.031	1	03/04/09	03/11/09	KWG0901826	
2-Chloronaphthalene	ND	U	0.20	0.041	1	03/04/09	03/11/09	KWG0901826	
2-Nitroaniline	ND	U	0.20	0.024	1	03/04/09	03/11/09	KWG0901826	
Acenaphthylene	ND	U	0.20	0.015	1	03/04/09	03/11/09	KWG0901826	
Dimethyl Phthalate	ND	U	0.20	0.021	1	03/04/09	03/11/09	KWG0901826	
2,6-Dinitrotoluene	ND	U	0.20	0.033	1	03/04/09	03/11/09	KWG0901826	

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0901826-3

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	0.026	1	03/04/09	03/11/09	KWG0901826	
3-Nitroaniline	ND	U	1.0	0.029	1	03/04/09	03/11/09	KWG0901826	
2,4-Dinitrophenol	ND	U	4.0	0.17	1	03/04/09	03/11/09	KWG0901826	
Dibenzofuran	ND	U	0.20	0.018	1	03/04/09	03/11/09	KWG0901826	
4-Nitrophenol	ND	U	2.0	0.28	1	03/04/09	03/11/09	KWG0901826	
2,4-Dinitrotoluene	ND	U	0.20	0.018	1	03/04/09	03/11/09	KWG0901826	
Fluorene	ND	U	0.20	0.027	1	03/04/09	03/11/09	KWG0901826	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	0.027	1	03/04/09	03/11/09	KWG0901826	
Diethyl Phthalate	**0.045**	J	0.20	0.012	1	03/04/09	03/11/09	KWG0901826	
4-Nitroaniline	ND	U	1.0	0.019	1	03/04/09	03/11/09	KWG0901826	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	0.025	1	03/04/09	03/11/09	KWG0901826	
N-Nitrosodiphenylamine	ND	U	0.20	0.048	1	03/04/09	03/11/09	KWG0901826	
4-Bromophenyl Phenyl Ether	ND	U	0.20	0.026	1	03/04/09	03/11/09	KWG0901826	
Hexachlorobenzene	ND	U	0.20	0.022	1	03/04/09	03/11/09	KWG0901826	
Pentachlorophenol	ND	U	1.0	0.34	1	03/04/09	03/11/09	KWG0901826	
Phenanthrene	ND	U	0.20	0.022	1	03/04/09	03/11/09	KWG0901826	
Anthracene	ND	U	0.20	0.024	1	03/04/09	03/11/09	KWG0901826	
Di-n-butyl Phthalate	**0.095**	J	0.20	0.023	1	03/04/09	03/11/09	KWG0901826	
Fluoranthene	ND	U	0.20	0.020	1	03/04/09	03/11/09	KWG0901826	
Pyrene	ND	U	0.20	0.019	1	03/04/09	03/11/09	KWG0901826	
Butyl Benzyl Phthalate	**0.052**	J	0.20	0.018	1	03/04/09	03/11/09	KWG0901826	
3,3'-Dichlorobenzidine	ND	U	2.0	0.43	1	03/04/09	03/11/09	KWG0901826	
Benz(a)anthracene	ND	U	0.20	0.018	1	03/04/09	03/11/09	KWG0901826	
Chrysene	ND	U	0.20	0.028	1	03/04/09	03/11/09	KWG0901826	
Bis(2-ethylhexyl) Phthalate	**0.33**	J	1.0	0.13	1	03/04/09	03/11/09	KWG0901826	
Di-n-octyl Phthalate	ND	U	0.20	0.018	1	03/04/09	03/11/09	KWG0901826	
Benzo(b)fluoranthene	ND	U	0.20	0.017	1	03/04/09	03/11/09	KWG0901826	
Benzo(k)fluoranthene	ND	U	0.20	0.024	1	03/04/09	03/11/09	KWG0901826	
Benzo(a)pyrene	ND	U	0.20	0.031	1	03/04/09	03/11/09	KWG0901826	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	0.021	1	03/04/09	03/11/09	KWG0901826	
Dibenz(a,h)anthracene	ND	U	0.20	0.017	1	03/04/09	03/11/09	KWG0901826	
Benzo(g,h,i)perylene	ND	U	0.20	0.019	1	03/04/09	03/11/09	KWG0901826	

Comments:

Client:	Portland, City of	**Service Request:**	K0901594
Project:	NPDES Stormwater Mon	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0901826-3	**Basis:**	NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	80	21-119	03/11/09	Acceptable
Phenol-d6	86	31-121	03/11/09	Acceptable
Nitrobenzene-d5	88	29-121	03/11/09	Acceptable
2-Fluorobiphenyl	84	25-109	03/11/09	Acceptable
2,4,6-Tribromophenol	69	30-131	03/11/09	Acceptable
Terphenyl-d14	95	20-140	03/11/09	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
F0095243	K0901594-001	70 D	71 D	68 D	59 D	63 D	55 D
Method Blank	KWG0901826-3	80	86	88	84	69	95
Lab Control Sample	KWG0901826-1	96	89	89	78	83	96
Duplicate Lab Control Sample	KWG0901826-2	80	78	75	67	73	92

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	21-119	Sur5 = 2,4,6-Tribromophenol	30-131
Sur2 = Phenol-d6	31-121	Sur6 = Terphenyl-d14	20-140
Sur3 = Nitrobenzene-d5	29-121		
Sur4 = 2-Fluorobiphenyl	25-109		

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Extracted: 03/04/2009
Date Analyzed: 03/11/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0901826

	Lab Control Sample KWG0901826-1 Lab Control Spike			Duplicate Lab Control Sample KWG0901826-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	4.64	5.00	93	4.10	5.00	82	39-115	12	30
Phenol	5.06	5.00	101	4.84	5.00	97	39-117	5	30
2-Chlorophenol	4.78	5.00	96	4.29	5.00	86	40-113	11	30
1,3-Dichlorobenzene	3.16	5.00	63	2.74	5.00	55	18-71	14	30
1,4-Dichlorobenzene	3.23	5.00	65	2.75	5.00	55	19-73	16	30
1,2-Dichlorobenzene	3.47	5.00	69	2.97	5.00	59	22-78	15	30
Benzyl Alcohol	5.06	5.00	101	4.46	5.00	89	37-119	13	30
Bis(2-chloroisopropyl) Ether	4.93	5.00	99	4.35	5.00	87	35-113	13	30
2-Methylphenol	4.37	5.00	87	3.91	5.00	78	26-113	11	30
Hexachloroethane	2.58	5.00	52	2.22	5.00	44	11-62	15	30
N-Nitrosodi-n-propylamine	4.61	5.00	92	4.23	5.00	85	32-117	9	30
4-Methylphenol	4.55	5.00	91	3.83	5.00	77	25-118	17	30
Nitrobenzene	4.43	5.00	89	4.14	5.00	83	37-116	7	30
Isophorone	4.23	5.00	85	3.82	5.00	76	39-112	10	30
2-Nitrophenol	4.43	5.00	89	3.98	5.00	80	42-116	11	30
2,4-Dimethylphenol	3.79	5.00	76	2.60	5.00	52	10-113	37 *	30
Bis(2-chloroethoxy)methane	4.49	5.00	90	4.20	5.00	84	40-113	7	30
2,4-Dichlorophenol	4.19	5.00	84	3.93	5.00	79	39-115	6	30
Benzoic Acid	1.87	15.0	12	1.27	15.0	8 *	10-102	38 *	30
1,2,4-Trichlorobenzene	3.10	5.00	62	2.85	5.00	57	21-78	8	30
Naphthalene	4.36	5.00	87	3.87	5.00	77	33-98	12	30
4-Chloroaniline	3.25	5.00	65	3.48	5.00	70	10-119	7	30
Hexachlorobutadiene	2.16	5.00	43	2.00	5.00	40	10-61	8	30
4-Chloro-3-methylphenol	4.28	5.00	86	4.06	5.00	81	37-119	5	30
2-Methylnaphthalene	4.07	5.00	81	3.67	5.00	73	32-95	10	30
Hexachlorocyclopentadiene	1.15	5.00	23	1.08	5.00	22	10-39	7	30
2,4,6-Trichlorophenol	4.03	5.00	81	3.67	5.00	73	40-117	10	30
2,4,5-Trichlorophenol	4.26	5.00	85	4.19	5.00	84	44-116	2	30
2-Chloronaphthalene	3.97	5.00	79	3.58	5.00	72	21-115	10	30
2-Nitroaniline	4.27	5.00	85	4.09	5.00	82	43-124	4	30
Acenaphthylene	4.43	5.00	89	4.06	5.00	81	41-114	9	30
Dimethyl Phthalate	4.34	5.00	87	4.11	5.00	82	47-117	5	30
2,6-Dinitrotoluene	4.55	5.00	91	4.23	5.00	85	45-120	7	30
Acenaphthene	4.40	5.00	88	4.07	5.00	81	38-106	8	30
3-Nitroaniline	4.53	5.00	91	4.21	5.00	84	31-125	7	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: NPDES Stormwater Mon
Sample Matrix: Water

Service Request: K0901594
Date Extracted: 03/04/2009
Date Analyzed: 03/11/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0901826

	Lab Control Sample KWG0901826-1 Lab Control Spike			Duplicate Lab Control Sample KWG0901826-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	0.545	5.00	11	0.566	5.00	11	10-121	4	30
Dibenzofuran	4.22	5.00	84	4.04	5.00	81	40-107	4	30
4-Nitrophenol	3.75	5.00	75	3.66	5.00	73	43-133	2	30
2,4-Dinitrotoluene	4.59	5.00	92	4.22	5.00	84	47-125	8	30
Fluorene	4.37	5.00	87	4.03	5.00	81	40-112	8	30
4-Chlorophenyl Phenyl Ether	3.98	5.00	80	3.59	5.00	72	39-108	10	30
Diethyl Phthalate	4.48	5.00	90	4.30	5.00	86	47-120	4	30
4-Nitroaniline	4.59	5.00	92	4.48	5.00	90	36-128	2	30
2-Methyl-4,6-dinitrophenol	2.11	5.00	42	1.87	5.00	37	19-127	12	30
N-Nitrosodiphenylamine	3.85	5.00	77	3.99	5.00	80	36-114	4	30
4-Bromophenyl Phenyl Ether	4.22	5.00	84	3.97	5.00	79	43-110	6	30
Hexachlorobenzene	4.14	5.00	83	3.86	5.00	77	42-107	7	30
Pentachlorophenol	3.16	5.00	63	2.37	5.00	47	28-114	28	30
Phenanthrene	4.60	5.00	92	4.23	5.00	85	43-110	8	30
Anthracene	4.18	5.00	84	4.09	5.00	82	40-110	2	30
Di-n-butyl Phthalate	4.53	5.00	91	4.08	5.00	82	45-135	10	30
Fluoranthene	4.61	5.00	92	4.29	5.00	86	42-119	7	30
Pyrene	4.53	5.00	91	4.24	5.00	85	43-118	7	30
Butyl Benzyl Phthalate	4.51	5.00	90	4.36	5.00	87	48-124	3	30
3,3'-Dichlorobenzidine	3.62	5.00	72	3.62	5.00	72	15-108	0	30
Benz(a)anthracene	4.32	5.00	86	4.02	5.00	80	45-112	7	30
Chrysene	4.52	5.00	90	4.30	5.00	86	47-112	5	30
Bis(2-ethylhexyl) Phthalate	4.65	5.00	93	4.36	5.00	87	32-149	6	30
Di-n-octyl Phthalate	4.40	5.00	88	4.38	5.00	88	49-127	0	30
Benzo(b)fluoranthene	4.28	5.00	86	4.10	5.00	82	45-115	4	30
Benzo(k)fluoranthene	4.39	5.00	88	4.29	5.00	86	46-115	2	30
Benzo(a)pyrene	3.64	5.00	73	3.55	5.00	71	40-117	3	30
Indeno(1,2,3-cd)pyrene	4.29	5.00	86	4.20	5.00	84	44-119	2	30
Dibenz(a,h)anthracene	4.25	5.00	85	4.04	5.00	81	45-118	5	30
Benzo(g,h,i)perylene	4.33	5.00	87	4.20	5.00	84	45-116	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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SR#: K090K044

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES Stormwater Mon
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: City of Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL X	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHs 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	REMARKS
F0095243	2/23/09	2213	1	W	1	X														See below

REPORT REQUIREMENTS

- ✓ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ✓ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
Please analyze for low level 8270.
This sample is another aliquot of a previously submitted sample (same sample ID, from 2/25).
This aliquot is for re-extraction of 8270.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature: [signature]
Date/Time: 3/3/09 10:20	Date/Time: 3/3/09 1120	Date/Time:	Date/Time: 3/3/09 1415
Printed Name: Rona Kluch	Printed Name: [signature]	Printed Name:	Printed Name: Les Kennedy
Firm: City of Portland BES	Firm: BES	Firm:	Firm: CAS

RCOC #1 06/03

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SR#: K0901594

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES Stormwater Mon
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: City of Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☒	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☒ 8141A ☐ 8151A ☐ LOW LEVEL	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	pH, Cond., Cl, SO_4, P, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	REMARKS
F0095243	2/23/09	2213		W	1		X													
F0095244	↓	1530		W	1						X									

REPORT REQUIREMENTS

- ✓ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ✓ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Please run low-level 8270 + 8081 analysis (+ pesticides). Thanks.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: K Kostenbader	Signature: [illegible]	Signature:	Signature: [illegible]
Date/Time: 2/25/09 12:40	Date/Time: 2-25-09 12:40	Date/Time:	Date/Time: 2/25/09 1400
Printed Name: K Kostenbader	Printed Name: [illegible]	Printed Name:	Printed Name: Brad Tobin
Firm: City of Portland	Firm: CAS	Firm:	Firm: CAS

RCOC #1 06/03

22

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC_____

Client / Project: City of Portland Service Request K09

Received: 3/3/09 Opened: 3/3/09 By:

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number:_____ (NA) Y N

5. Temperature of cooler(s) upon receipt (°C): 19.3
   Temperature Blank (°C): —
   Thermometer ID: SMO-217
6. If applicable, list Chain of Custody Numbers: —
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* No thing

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	Y	(N)
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	NA	(Y)	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC PD

Client / Project: Portland City of Service Request K09 01594

Received: 2/25/09 Opened: 2/25/09 By: BT

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. **Temperature of cooler(s) upon receipt (°C):**	4.3			
Temperature Blank (°C):	5.4			
Thermometer ID:	SMO215			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	Y	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	Y	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	Y	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	Y	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	Y	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	NA	Y	N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.*	NA	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	NA	Y	N
16. Was C12/Res negative?	NA	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

ORELAP#: OR100021

March 17, 2009

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 02/25/09 18:15. The following list is a summary of the Work Orders contained in this report, generated on 03/17/09 20:49.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PSB0768	NPDES	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO095243	PSB0768-01	Water	02/23/09 22:13	02/25/09 18:15
FO095244	PSB0768-02	Water	02/23/09 15:30	02/25/09 18:15

TestAmerica Portland

Howard Holmes, Project Manager

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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSB0768-01 (FO095243)			Water			Sampled: 02/23/09 22:13				RL3
Bis(2-ethylhexyl)phthalate	EPA 8270m	**3.48**	-----	1.96	ug/l	2x	9020830	02/26/09 15:40	03/14/09 03:55	
Butyl benzyl phthalate	"	**2.14**	-----	1.96	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.96	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	1.96	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	1.96	"	"	"	"	"	
Dimethyl phthalate	"	**14.3**	-----	1.96	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0392	"	"	"	"	03/09/09 17:28	
Acenaphthylene	"	ND	-----	0.0392	"	"	"	"	"	
Anthracene	"	**0.0408**	-----	0.0392	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0891**	-----	0.0196	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0950**	-----	0.0196	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.119**	-----	0.0196	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.123**	-----	0.0392	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0954**	-----	0.0196	"	"	"	"	"	
Chrysene	"	**0.212**	-----	0.0196	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0301**	-----	0.0196	"	"	"	"	"	
Fluoranthene	"	**0.358**	-----	0.0392	"	"	"	"	"	
Fluorene	"	ND	-----	0.0392	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0721**	-----	0.0196	"	"	"	"	"	
Naphthalene	"	**0.0566**	-----	0.0392	"	"	"	"	"	
Phenanthrene	"	**0.272**	-----	0.0392	"	"	"	"	"	
Pyrene	"	**0.225**	-----	0.0392	"	"	"	"	"	
Surrogate(s): Fluorene-d10				*79.6%*		*25 - 125 %*	"			"
Pyrene-d10				*51.2%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*69.0%*		*10 - 125 %*	"			"
PSB0768-02 (FO095244)			Water			Sampled: 02/23/09 15:30				RL3
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.53**	-----	1.92	ug/l	2x	9020830	02/26/09 15:40	03/14/09 04:32	
Butyl benzyl phthalate	"	**3.38**	-----	1.92	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.92	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	1.92	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	1.92	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	1.92	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0385	"	"	"	"	03/09/09 18:02	
Acenaphthylene	"	ND	-----	0.0385	"	"	"	"	"	
Anthracene	"	ND	-----	0.0385	"	"	"	"	"	

TestAmerica Portland

Howard Holmes, Project Manager

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BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSB0768-02 (FO095244)		**Water**				**Sampled: 02/23/09 15:30**				**RL3**
Benzo (a) anthracene	EPA 8270m	**0.0329**	-----	0.0192	ug/l	2x	9020830	02/26/09 15:40	03/09/09 18:02	
Benzo (a) pyrene	"	**0.0324**	-----	0.0192	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0393**	-----	0.0192	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0541**	-----	0.0385	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0292**	-----	0.0192	"	"	"	"	"	
Chrysene	"	**0.0823**	-----	0.0192	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.0192	"	"	"	"	"	
Fluoranthene	"	**0.0935**	-----	0.0385	"	"	"	"	"	
Fluorene	"	ND	-----	0.0385	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0282**	-----	0.0192	"	"	"	"	"	
Naphthalene	"	ND	-----	0.0385	"	"	"	"	"	
Phenanthrene	"	**0.104**	-----	0.0385	"	"	"	"	"	
Pyrene	"	**0.0801**	-----	0.0385	"	"	"	"	"	
Surrogate(s): *Fluorene-d10*				*81.9%*		*25 - 125 %*	"			"
Pyrene-d10				*53.2%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*79.5%*		*10 - 125 %*	"			"

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9020830 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9020830-BLK1)									**Extracted: 02/26/09 15:40**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	03/09/09 18:21	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	03/06/09 14:10	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 93.8%*			*Limits: 25-125%*	"							*03/06/09 14:10*	
Pyrene-d10		*74.1%*			*23-150%*	"							*"*	
Benzo (a) pyrene-d12		*90.6%*			*10-125%*	"							*"*	
LCS (9020830-BS1)									**Extracted: 02/26/09 15:40**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	2.93	---	1.00	ug/l	1x	--	4.00	73.3%	(20-150)	--	--	03/09/09 18:57	
Butyl benzyl phthalate	"	2.71	---	1.00	"	"	--	"	67.8%	"	--	--	"	
Di-n-butyl phthalate	"	3.90	---	1.00	"	"	--	"	97.5%	"	--	--	"	
Di-n-octyl phthalate	"	2.10	---	1.00	"	"	--	"	52.5%	"	--	--	"	
Diethyl phthalate	"	3.24	---	1.00	"	"	--	"	81.0%	"	--	--	"	
Dimethyl phthalate	"	2.60	---	1.00	"	"	--	"	65.0%	"	--	--	"	
Acenaphthene	"	2.31	---	0.0200	"	"	--	2.50	92.3%	(35-120)	--	--	03/06/09 14:44	
Acenaphthylene	"	2.17	---	0.0200	"	"	--	"	86.8%	(34-116)	--	--	"	
Anthracene	"	2.12	---	0.0200	"	"	--	"	84.8%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.51	---	0.0100	"	"	--	"	100%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.61	---	0.0100	"	"	--	"	105%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.73	---	0.0100	"	"	--	"	109%	(37-131)	--	--	"	

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9020830 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (9020830-BS1)									**Extracted: 02/26/09 15:40**					
Benzo (ghi) perylene	EPA 8270m	2.60	---	0.0200	ug/l	1x	--	2.50	104%	(26-126)	--	--	03/06/09 14:44	
Benzo (k) fluoranthene	"	2.88	---	0.0100	"	"	--	"	115%	(18-145)	--	--	"	
Chrysene	"	2.78	---	0.0100	"	"	--	"	111%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.56	---	0.0100	"	"	--	"	102%	(20-141)	--	--	"	
Fluoranthene	"	2.79	---	0.0200	"	"	--	"	111%	(31-125)	--	--	"	
Fluorene	"	2.34	---	0.0200	"	"	--	"	93.7%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.70	---	0.0100	"	"	--	"	108%	(30-135)	--	--	"	
Naphthalene	"	2.39	---	0.0200	"	"	--	"	95.8%	(30-113)	--	--	"	
Phenanthrene	"	2.49	---	0.0200	"	"	--	"	99.4%	(34-126)	--	--	"	
Pyrene	"	1.89	---	0.0200	"	"	--	"	75.5%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 101%*			*Limits: 25-125%*	"							*03/06/09 14:44*	
Pyrene-d10		*80.2%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*104%*			*10-125%*	"							"	
Matrix Spike (9020830-MS1)					**QC Source: PSB0693-13**				**Extracted: 02/26/09 15:40**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.69	---	0.971	ug/l	1x	1.07	3.88	67.4%	(10-150)	--	--	03/09/09 19:34	
Butyl benzyl phthalate	"	2.76	---	0.971	"	"	ND	"	71.1%	"	--	--	"	
Di-n-butyl phthalate	"	3.61	---	0.971	"	"	ND	"	93.0%	"	--	--	"	
Di-n-octyl phthalate	"	2.35	---	0.971	"	"	ND	"	60.4%	"	--	--	"	
Diethyl phthalate	"	3.00	---	0.971	"	"	ND	"	77.3%	"	--	--	"	
Dimethyl phthalate	"	2.40	---	0.971	"	"	ND	"	61.9%	"	--	--	"	
Acenaphthene	"	1.93	---	0.0194	"	"	ND	2.43	79.6%	(35-120)	--	--	03/06/09 15:19	
Acenaphthylene	"	1.87	---	0.0194	"	"	ND	"	77.0%	(34-116)	--	--	"	
Anthracene	"	1.77	---	0.0194	"	"	ND	"	72.9%	(24-119)	--	--	"	
Benzo (a) anthracene	"	1.59	---	0.00971	"	"	ND	"	65.7%	(22-129)	--	--	"	
Benzo (a) pyrene	"	1.18	---	0.00971	"	"	ND	"	48.5%	(4-112)	--	--	"	
Benzo (b) fluoranthene	"	1.34	---	0.00971	"	"	ND	"	55.2%	(0-136)	--	--	"	
Benzo (ghi) perylene	"	0.975	---	0.0194	"	"	ND	"	40.2%	(0-126)	--	--	"	
Benzo (k) fluoranthene	"	1.27	---	0.00971	"	"	ND	"	52.2%	(0-145)	--	--	"	
Chrysene	"	1.83	---	0.00971	"	"	0.0198	"	74.6%	(7-137)	--	--	"	
Dibenzo (a,h) anthracene	"	0.904	---	0.00971	"	"	ND	"	37.3%	(0-141)	--	--	"	
Fluoranthene	"	1.96	---	0.0194	"	"	ND	"	81.0%	(30-125)	--	--	"	
Fluorene	"	2.06	---	0.0194	"	"	ND	"	85.0%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	0.967	---	0.00971	"	"	ND	"	39.8%	(0-135)	--	--	"	
Naphthalene	"	2.14	---	0.0194	"	"	0.0223	"	87.3%	(30-126)	--	--	"	
Phenanthrene	"	2.24	---	0.0194	"	"	0.0375	"	90.8%	(34-126)	--	--	"	
Pyrene	"	1.55	---	0.0194	"	"	ND	"	63.8%	(14-168)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 91.9%*			*Limits: 25-125%*	"							*03/06/09 15:19*	
Pyrene-d10		*74.0%*			*23-150%*	"							"	

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Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **NPDES**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	03/17/09 20:49

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9020830 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (9020830-MS1)					**QC Source: PSB0693-13**				**Extracted: 02/26/09 15:40**					
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 83.5%*			*Limits: 10-125%*	*1x*							*03/06/09 15:19*	
Matrix Spike Dup (9020830-MSD1)					**QC Source: PSB0693-13**				**Extracted: 02/26/09 15:40**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	3.52	---	0.971	ug/l	1x	1.07	3.88	63.1%	(10-150)	6.66%	(50)	03/09/09 20:11	
Butyl benzyl phthalate	"	2.78	---	0.971	"	"	ND	"	71.6%	"	0.662%	"	"	
Di-n-butyl phthalate	"	3.66	---	0.971	"	"	ND	"	94.1%	"	1.26%	"	"	
Di-n-octyl phthalate	"	2.29	---	0.971	"	"	ND	"	59.1%	"	2.21%	"	"	
Diethyl phthalate	"	2.97	---	0.971	"	"	ND	"	76.6%	"	1.01%	"	"	
Dimethyl phthalate	"	2.33	---	0.971	"	"	ND	"	60.1%	"	2.96%	"	"	
Acenaphthene	"	1.83	---	0.0194	"	"	ND	2.43	75.4%	(35-120)	5.43%	(45)	03/06/09 15:53	
Acenaphthylene	"	1.79	---	0.0194	"	"	ND	"	73.6%	(34-116)	4.53%	"	"	
Anthracene	"	1.74	---	0.0194	"	"	ND	"	71.6%	(24-119)	1.72%	"	"	
Benzo (a) anthracene	"	1.60	---	0.00971	"	"	ND	"	65.8%	(22-129)	0.254%	"	"	
Benzo (a) pyrene	"	1.23	---	0.00971	"	"	ND	"	50.6%	(4-112)	4.35%	"	"	
Benzo (b) fluoranthene	"	1.37	---	0.00971	"	"	ND	"	56.4%	(0-136)	2.13%	"	"	
Benzo (ghi) perylene	"	1.04	---	0.0194	"	"	ND	"	42.7%	(0-126)	6.12%	"	"	
Benzo (k) fluoranthene	"	1.27	---	0.00971	"	"	ND	"	52.4%	(0-145)	0.348%	"	"	
Chrysene	"	1.82	---	0.00971	"	"	0.0198	"	74.0%	(7-137)	0.740%	"	"	
Dibenzo (a,h) anthracene	"	0.991	---	0.00971	"	"	ND	"	40.8%	(0-141)	9.12%	"	"	
Fluoranthene	"	1.65	---	0.0194	"	"	ND	"	68.1%	(30-125)	17.3%	"	"	
Fluorene	"	1.95	---	0.0194	"	"	ND	"	80.4%	(27-124)	5.60%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.05	---	0.00971	"	"	ND	"	43.4%	(0-135)	8.52%	"	"	
Naphthalene	"	2.06	---	0.0194	"	"	0.0223	"	84.0%	(30-126)	3.83%	"	"	
Phenanthrene	"	2.17	---	0.0194	"	"	0.0375	"	87.7%	(34-126)	3.46%	"	"	
Pyrene	"	1.26	---	0.0194	"	"	ND	"	52.0%	(14-168)	20.5%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 85.6%*			*Limits: 25-125%*	*"*							*03/06/09 15:53*	
Pyrene-d10		*58.8%*			*23-150%*	*"*							*"*	
Benzo (a) pyrene-d12		*71.8%*			*10-125%*	*"*							*"*	

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	03/17/09 20:49

Notes and Definitions

Report Specific Notes:

RL3 - Reporting limit raised due to high concentrations of non-target analytes.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

Howard Holmes, Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 [X]
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PSB0768

CLIENT: City of Portland

REPORT TO:
ADDRESS: Jennifer Shackelford

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PROJECT NAME: NPDES
PROJECT NUMBER: Stormwater Mon
SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [10] STD. [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD. [4] [3] [2] [1] [<1]
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PAH + PH Heidate (*)	PCB 209 congeners (**)	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	FO095143	2/23/09 2213	X	X	W	3		
2	FO095244	↓ 1530	X		W	2		
3								
4								
5								
6								
7								
8								
9								
10								

PRESERVATIVE

REQUESTED ANALYSES

RELEASED BY: Ken Wright	PRINT NAME: Ken Wright	FIRM: City of Portland	DATE: 2/25/9	TIME: 15:40	RECEIVED BY:	PRINT NAME:	FIRM: TAP	DATE: 2/25/9	TIME: 15:40
RELEASED BY:	PRINT NAME: BOB F	FIRM: TAP	DATE: 2/25/9	TIME: 1815	RECEIVED BY:	PRINT NAME: Jessica Mohr	FIRM: TAP	DATE: 2/25/09	TIME: 1815

ADDITIONAL REMARKS:
(*)(*) Please use custom WI analyte list w/ low MRLs. Thanks
(**) PCB 209 Congeners to Pace Analytical.

TEMP: 1.2 PAGE 1 OF 1

TAL-1000(0408)

TestAmerica Sample Receipt Checklist

Received by: (section A) Date: 2/25/09 Time: 1515 Initials: JJL

Unpacked by: (section B) Date: 2/26/09 Initials: JJL

Logged-in by: Date: 2/26/09 Initials: JJL

Work Order No. PSB0768

Client: COF P

Project: NPDES

***ESI Clients (see Section C)

Temperature out of range:

___Not enough Ice
___No Ice
___Ice Melted
___W/in 4 Hours
___Other:_____

Digi #1
Digi #2

Cooler Temperature (IR): 1.2 °C plastic glass NA *(oil/air samples, ESI client)*

Temperature Blank: _____°C

A

Custody Seals: (Y ___)

Signature: Y N Dated:_____

___None

Received from:

___TA Courier
___Senvoy
___UPS
___Fed Ex
___Client
___TDP
___DHL
___SDS
___Mid-Valley
___GS/TA
___GS/Senvoy
___Other:

Container Type:

___#Cooler(s)
___#Box(s)
___None (___#Other:_____)

Coolant Type:

___Gel Ice
___Loose Ice
___None

Packing Material:

___Bubble Bags
___Styrofoam Cubbies
___Peanuts
___None (___Other:_____)

B

Sample Status:
(If N circled, see NOD)

General:			
Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	
For Analyses Requested:			
Cyanide Checked?	Y	N	NA
Correct Type & Preservation?	Y	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	
HF Dilution Required?	Y	N	
Volatiles/ Oil Quality:			
VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	Y	N	NA
Metals:			
HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C

***ESI Clients Only:

Temperature Blank: _____°C not provided Digi: # 1 #2

All preserved bottles checked Y N NA *(voas/soils/all unp.)*
All preserved accordingly? Y N *(see NOD)* NA *(voas/soils/all unp.)*

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

PM Reviewed: _____ *(Initial/Date)*

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/23/09

Page: 1 of 1

Collected By: JJM AJA

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☐ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease	Micro: E. coli	Comments	Field: Temperature (degrees C) Meter No.: Cole-Parmer	Field: Conductivity (umhos/cm) Meter No.: Y	Field: pH (pH Units) Meter No.: Y
	5241 NE 122ND AVE MANHOLE GRAB	~~M1G~~			G	●	●	●	(1)	~~10~~		
FO095224	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	2/23/09	1420	G	●	●	●		10.3	77	7.0
FO095225	4900 NW KITTRIDGE AVE (OF19)	OF19	"	1530	G	●	●	●		8.9	115	7.3

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1619	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Andrew Arnsberg Date: 2/23/09	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 2/24/09
Page: 1 of 1
Collected By: AJA/JJM/JXB/MJS RCB

Project Name: NPDES STORMWTR MON
File Number: 4010.001 **Matrix:** STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

PCI Sample ID	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	BOD	COD	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nitrate-nitrogen	Orthophosphate phosphorus	Total Phosphorus	TKN	Outside: SVOCs, low-level (CAS)	PAHs + Phthalates (TA)	PCB 209 Congeners (Pace)
FO095243	4900 NW KITTRIDGE AVE (OF19)	OF19	2/23/09	2213	C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Randy C Belston Time: 1529	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: RANDY C. BELSTON Date: 2/24/09	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Kristen Wright Time: 1529	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Kristen Wright Date: 2/24/09	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

s:\eid\4000\4010.001\sampdoc\Current NPDES COC.xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO095225** **Sample Collected:** 2/23/2009 15:30 **Sample Received:** 02/23/09 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AN02166
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: JJM/AJA

Comments:
LAB: Because the result for Total Oil & Grease was <5 mg/L, Non-polar Oil & Grease is also <5 mg/L (not analyzed).

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	115	µmhos/cm	1	SM 2510 B	02/23/09
pH (FIELD)	7.3	pH Units	0.1	SM 4500-H B	02/23/09
TEMPERATURE	8.9	Deg. C	0.1	SM 2550 B	02/23/09
MICROBIOLOGY					
E. COLI	1400	MPN/100 ml	10	COLILERT QT	02/23/09
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	03/19/09

End of Report for Sample ID: FO095225

Report Date: 07/14/09 **Validated By: Signature on File**

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LABORATORY ANALYSIS REPORT

Sample ID: **FO095243** **Sample Collected:** 2/23/2009 22:13 **Sample Received:** 02/24/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

Report Page: Page 1 of 4
System ID: AN02225
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: AJA/JJM/MJS/JXB/RC

Comments:
QA/QC: The analytical holding time was exceeded by two days for Semivolatile Organics analysis due to contract laboratory errror.

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.22	mg/L	0.02	EPA 350.1	02/26/09
BOD5	11	mg/L	2	SM 5210B /H10360	02/25/09
COD	110	mg/L	5	SM 5220 D	02/27/09
NITRATE-NITROGEN	0.41	mg/L	0.10	EPA 300.0	02/25/09
o-PHOSPHATE-PHOSPHORUS, DISS	0.020	mg/L	0.02	EPA 365.1	02/25/09
TOTAL DISSOLVED SOLIDS @180C	99	mg/L	5	SM 2540 C	02/25/09
TOTAL KJELDAHL NITROGEN (TKN)	1.79	mg/L	0.20	PAI-DK03	03/03/09
TOTAL PHOSPHORUS	0.71	mg/L	0.03	EPA 365.4	03/03/09
TOTAL SOLIDS	341	mg/L	2	SM 2540 B	02/25/09
TOTAL SUSPENDED SOLIDS	245	mg/L	2	SM 2540 D	02/24/09
METALS					
HARDNESS, TOTAL	82.7	mg CaCO3/L	0.5	SM 2340 B CALC	02/25/09
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.74	µg/L	0.1	EPA 200.8	03/03/09
CADMIUM, DISSOLVED	0.11	µg/L	0.1	EPA 200.8	03/03/09
CHROMIUM, DISSOLVED	0.54	µg/L	0.4	EPA 200.8	03/03/09
COPPER, DISSOLVED	6.08	µg/L	0.2	EPA 200.8	03/03/09
LEAD, DISSOLVED	0.37	µg/L	0.1	EPA 200.8	03/03/09
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/03/09
ZINC, DISSOLVED	78.6	µg/L	0.5	EPA 200.8	03/03/09
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	3.65	µg/L	0.1	EPA 200.8	03/02/09
CADMIUM	0.85	µg/L	0.1	EPA 200.8	03/02/09
CHROMIUM	28.7	µg/L	0.8	EPA 200.8	03/02/09
COPPER	49.5	µg/L	0.2	EPA 200.8	03/02/09
LEAD	55.0	µg/L	0.2	EPA 200.8	03/02/09
SILVER	0.21	µg/L	0.1	EPA 200.8	03/02/09
ZINC	486	µg/L	1.0	EPA 200.8	03/02/09
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	Completed	ng/L		EPA 1668 MOD	02/26/09
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0392	µg/L	0.0392	EPA 8270M-SIM	02/26/09

Report Date: 07/14/09 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO095243** **Sample Collected:** 2/23/2009 22:13 **Sample Received:** 02/24/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AN02225
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: AJA/JJM/MJS/JXB/RC

Comments:
QA/QC: The analytical holding time was exceeded by two days for Semivolatile Organics analysis due to contract laboratory errror.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Acenaphthylene	<0.0392	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Anthracene	0.0408	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Benzo(a)anthracene	0.0891	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Benzo(a)pyrene	0.0950	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Benzo(b)fluoranthene	0.119	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Benzo(ghi)perylene	0.123	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Benzo(k)fluoranthene	0.0954	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Bis(2-ethylhexyl) phthalate	3.48	µg/L	1.96	EPA 8270M-SIM	02/26/09
Butyl benzyl phthalate	2.14	µg/L	1.96	EPA 8270M-SIM	02/26/09
Chrysene	0.212	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Dibenzo(a,h)anthracene	0.0301	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Diethyl phthalate	<1.96	µg/L	1.96	EPA 8270M-SIM	02/26/09
Dimethyl phthalate	14.3	µg/L	1.96	EPA 8270M-SIM	02/26/09
Di-n-butyl phthalate	<1.96	µg/L	1.96	EPA 8270M-SIM	02/26/09
Di-n-octyl phthalate	<1.96	µg/L	1.96	EPA 8270M-SIM	02/26/09
Fluoranthene	0.358	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Fluorene	<0.0392	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Indeno(1,2,3-cd)pyrene	0.0721	µg/L	0.0196	EPA 8270M-SIM	02/26/09
Naphthalene	0.0566	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Phenanthrene	0.272	µg/L	0.0392	EPA 8270M-SIM	02/26/09
Pyrene	0.225	µg/L	0.0392	EPA 8270M-SIM	02/26/09
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
1,2-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
1,3-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
1,4-Dichlorobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
2,4,5-Trichlorophenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
2,4,6-Trichlorophenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
2,4-Dichlorophenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
2,4-Dimethylphenol	<21	µg/L	21	EPA 8270	03/04/09
2,4-Dinitrophenol	<21	µg/L	21	EPA 8270	03/04/09
2,4-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	03/04/09
2,6-Dinitrotoluene	<1.1	µg/L	1.1	EPA 8270	03/04/09
2-Chloronaphthalene	<1.1	µg/L	1.1	EPA 8270	03/04/09
2-Chlorophenol	<2.6	µg/L	2.6	EPA 8270	03/04/09

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO095243** **Sample Collected:** 2/23/2009 22:13 **Sample Received:** 02/24/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AN02225
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: AJA/JJM/MJS/JXB/RC

Comments:
QA/QC: The analytical holding time was exceeded by two days for Semivolatile Organics analysis due to contract laboratory errror.

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylnaphthalene	<1.1	µg/L	1.1	EPA 8270	03/04/09
2-Methylphenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
2-Nitroaniline	<1.1	µg/L	1.1	EPA 8270	03/04/09
2-Nitrophenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
3,3'-Dichlorobenzidine	<11	µg/L	11	EPA 8270	03/04/09
3-Nitroaniline	<5.2	µg/L	5.2	EPA 8270	03/04/09
4,6-Dinitro-2-methylphenol	<11	µg/L	11	EPA 8270	03/04/09
4-Bromophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	03/04/09
4-Chloro-3-methylphenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
4-Chloroaniline	<1.1	µg/L	1.1	EPA 8270	03/04/09
4-Chlorophenylphenyl ether	<1.1	µg/L	1.1	EPA 8270	03/04/09
4-Methylphenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
4-Nitroaniline	<5.2	µg/L	5.2	EPA 8270	03/04/09
4-Nitrophenol	<11	µg/L	11	EPA 8270	03/04/09
Acenaphthene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Acenaphthylene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Anthracene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzo(a)anthracene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzo(a)pyrene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzo(b)fluoranthene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzo(g,h,i)perylene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzo(k)fluoranthene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Benzoic acid	<26	µg/L	26	EPA 8270	03/04/09
Benzyl alcohol	<26	µg/L	26	EPA 8270	03/04/09
Bis(2-chloroethoxy) methane	<1.1	µg/L	1.1	EPA 8270	03/04/09
Bis(2-chloroethyl) ether	<1.1	µg/L	1.1	EPA 8270	03/04/09
Bis(2-chloroisopropyl) ether	<1.1	µg/L	1.1	EPA 8270	03/04/09
Bis(2-ethylhexyl) phthalate	<5.2	µg/L	5.2	EPA 8270	03/04/09
Butyl benzyl phthalate	1.2	µg/L	1.1	EPA 8270	03/04/09
Chrysene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Dibenzo(a,h)anthracene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Dibenzofuran	<1.1	µg/L	1.1	EPA 8270	03/04/09
Diethyl phthalate	<1.1	µg/L	1.1	EPA 8270	03/04/09
Dimethyl phthalate	11	µg/L	1.1	EPA 8270	03/04/09
Di-n-butyl phthalate	<1.1	µg/L	1.1	EPA 8270	03/04/09
Di-n-octyl phthalate	<1.1	µg/L	1.1	EPA 8270	03/04/09

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO095243** **Sample Collected:** 2/23/2009 22:13 **Sample Received:** 02/24/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR

System ID: AN02225
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: AJA/JJM/MJS/JXB/RC

Comments:
QA/QC: The analytical holding time was exceeded by two days for Semivolatile Organics analysis due to contract laboratory errror.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Fluorene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Hexachlorobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Hexachlorobutadiene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Hexachlorocyclopentadiene	<5.2	µg/L	5.2	EPA 8270	03/04/09
Hexachloroethane	<1.1	µg/L	1.1	EPA 8270	03/04/09
Indeno(1,2,3-cd)pyrene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Isophorone	<1.1	µg/L	1.1	EPA 8270	03/04/09
Naphthalene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Nitrobenzene	<1.1	µg/L	1.1	EPA 8270	03/04/09
N-Nitrosodi-n-propylamine	<1.1	µg/L	1.1	EPA 8270	03/04/09
N-Nitrosodiphenylamine	<1.1	µg/L	1.1	EPA 8270	03/04/09
Pentachlorophenol	<5.2	µg/L	5.2	EPA 8270	03/04/09
Phenanthrene	<1.1	µg/L	1.1	EPA 8270	03/04/09
Phenol	<2.6	µg/L	2.6	EPA 8270	03/04/09
Pyrene	<1.1	µg/L	1.1	EPA 8270	03/04/09

End of Report for Sample ID: FO095243

Report Date: 07/14/09 **Validated By: Signature on File**

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3.14.09

Page: 1 of 1

Collected By: MJS, LAP

Project Name: NPDES STORMWTR MON

File Number: 4010.001 Matrix: STORMWTR

☒ Sample Time recorded in PST

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Total Oil & Grease	General: Non-Polar Oil & Grease		Micro: E. coli		Comments	Field: Temperature (degrees C) Meter No.: COMBO #4	Field: Conductivity (umhos/cm) Meter No.: COMBO #4	Field: pH (pH Units) Meter No.: COMBO #4	
FO095327	5241 NE 122ND AVE MANHOLE GRAB	M1G	3.15.09	0844	G	●	●		●			7.8	21	6.5	
FO095328	SE 45th AVE & UMATILLA ST (STORM SEWER)	S45U	3.14.09	1950	G	●	●		●			10.3	181	6.8	
FO095329	4900 NW KITTRIDGE AVE (OF19)	OF19	3.14.09	1820	G	●	●		●			8.4	160	6.5	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Lauren Patton Time: 1224	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: LAUREN PATTON Date: 3.15.09	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

Water Pollution Control Laboratory
6543 N. Burlington Ave.
Portland, Oregon 97203-4552
(503) 823-5696

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 3/15/09

Page: 1 of 1

Collected By: MJS, LAP

Project Name: NPDES STORMWTR MON

File Number: 4010.001 **Matrix:** STORMWTR

☑ Sample Time recorded in PST

Sample time 3/14/09 1442 – 3/15/09 0437

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: TS	TDS	TSS	Hardness	BOD	COD	Metals: Total Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Dissolved Metals (Ag, As, Cd, Cr, Cu, Pb, Zn)	Nutrients: Ammonia-nitrogen	Nitrate-nitrogen	Orthophosphate phosphorus	Total Phosphorus	TKN	Outside: SVOCs, low-level (CAS)	PAHs + Phthalates (TA)	PCB 209 Congeners (Pace)
FO095330	4900 NW KITTRIDGE AVE (OF19)	OF19	3/14/09	1442	C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: Matt Sullivan Time: 1339	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Matt Sullivan Date: 3/15/09	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: Time:	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

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LABORATORY ANALYSIS REPORT

Sample ID: **FO095329** **Sample Collected:** 3/14/2009 18:20 **Sample Received:** 03/15/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE GRAB
Sample Point Code: OF19
Sample Type: GRAB
Sample Matrix: STORMWTR

Report Page: Page 1 of 1
System ID: AN02968
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Comments:
LAB: Based on Total Oil & Grease <5 mg/L, Non-Polar Oil & Grease is also <5 mg/L.

Test Parameter	Result	Units	MRL	Method	Analysis Date
FIELD					
CONDUCTIVITY (FIELD)	160	µmhos/cm	1	SM 2510 B	03/14/09
pH (FIELD)	6.5	pH Units	0.1	SM 4500-H B	03/14/09
TEMPERATURE	8.4	Deg. C	0.1	SM 2550 B	03/14/09
MICROBIOLOGY					
E. COLI	170	MPN/100 ml	10	COLILERT QT	03/15/09
GENERAL					
OIL & GREASE, TOTAL	<5	mg/L	5	EPA 1664	04/06/09

End of Report for Sample ID: FO095329

Report Date: 07/14/09 **Validated By: Signature on File**

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Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO095330** **Sample Collected:** 3/14/2009 14:42 **Sample Received:** 03/15/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AN02969
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Test Parameter	Result	Units	MRL	Method	Analysis Date
GENERAL					
AMMONIA-NITROGEN	0.11	mg/L	0.02	EPA 350.1	03/20/09
BOD5	4	mg/L	2	SM 5210B /H10360	03/16/09
COD	36	mg/L	5	SM 5220 D	03/21/09
NITRATE-NITROGEN	0.32	mg/L	0.10	EPA 300.0	03/16/09
o-PHOSPHATE-PHOSPHORUS, DISS	<0.020	mg/L	0.02	EPA 365.1	03/16/09
TOTAL DISSOLVED SOLIDS @180C	48	mg/L	5	SM 2540 C	03/17/09
TOTAL KJELDAHL NITROGEN (TKN)	0.71	mg/L	0.20	PAI-DK03	03/17/09
TOTAL PHOSPHORUS	0.22	mg/L	0.03	EPA 365.4	03/11/09
TOTAL SOLIDS	140	mg/L	2	SM 2540 B	03/17/09
TOTAL SUSPENDED SOLIDS	82	mg/L	2	SM 2540 D	03/16/09
METALS					
HARDNESS, TOTAL	33.9	mg CaCO3/L	0.5	SM 2340 B CALC	03/18/09
METALS BY ICP-MS (DISSOLVED) - 7					
ARSENIC, DISSOLVED	0.42	µg/L	0.1	EPA 200.8	03/19/09
CADMIUM, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/19/09
CHROMIUM, DISSOLVED	0.52	µg/L	0.4	EPA 200.8	03/19/09
COPPER, DISSOLVED	2.67	µg/L	0.2	EPA 200.8	03/19/09
LEAD, DISSOLVED	0.41	µg/L	0.1	EPA 200.8	03/19/09
SILVER, DISSOLVED	<0.10	µg/L	0.1	EPA 200.8	03/19/09
ZINC, DISSOLVED	73.9	µg/L	0.5	EPA 200.8	03/19/09
METALS BY ICP-MS (TOTAL) - 7					
ARSENIC	1.15	µg/L	0.1	EPA 200.8	03/18/09
CADMIUM	0.39	µg/L	0.1	EPA 200.8	03/18/09
CHROMIUM	6.09	µg/L	0.4	EPA 200.8	03/18/09
COPPER	16.0	µg/L	0.2	EPA 200.8	03/18/09
LEAD	20.2	µg/L	0.1	EPA 200.8	03/18/09
SILVER	<0.10	µg/L	0.1	EPA 200.8	03/18/09
ZINC	197	µg/L	0.5	EPA 200.8	03/18/09
OUTSIDE ANALYSIS					
POLYCHLORINATED BIPHENYL CONGENERS -PACE					
Refer to Contract Report	OMPLETED	ng/L		EPA 1668 MOD	04/15/09
POLYNUCLEAR AROMATICS & PHTHALATES - TA					
Acenaphthene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/18/09

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO095330** **Sample Collected:** 3/14/2009 14:42 **Sample Received:** 03/15/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AN02969
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Test Parameter	Result	Units	MRL	Method	Analysis Date
Acenaphthylene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Anthracene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Benzo(a)anthracene	0.0430	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Benzo(a)pyrene	0.0488	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Benzo(b)fluoranthene	0.0613	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Benzo(ghi)perylene	0.0631	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Benzo(k)fluoranthene	0.0425	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Bis(2-ethylhexyl) phthalate	2.16	µg/L	0.980	EPA 8270M-SIM	03/18/09
Butyl benzyl phthalate	1.28	µg/L	0.980	EPA 8270M-SIM	03/18/09
Chrysene	0.0968	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Dibenzo(a,h)anthracene	0.0123	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Diethyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/18/09
Dimethyl phthalate	1.07	µg/L	0.980	EPA 8270M-SIM	03/18/09
Di-n-butyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/18/09
Di-n-octyl phthalate	<0.980	µg/L	0.980	EPA 8270M-SIM	03/18/09
Fluoranthene	0.148	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Fluorene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Indeno(1,2,3-cd)pyrene	0.0373	µg/L	0.0098	EPA 8270M-SIM	03/18/09
Naphthalene	<0.0196	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Phenanthrene	0.101	µg/L	0.0196	EPA 8270M-SIM	03/18/09
Pyrene	0.133	µg/L	0.0196	EPA 8270M-SIM	03/18/09
SEMI-VOLATILE ORGANICS - CAS					
1,2,4-Trichlorobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
1,2-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
1,3-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
1,4-Dichlorobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
2,4,5-Trichlorophenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
2,4,6-Trichlorophenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
2,4-Dichlorophenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
2,4-Dimethylphenol	<40	µg/L	40	EPA 8270	03/20/09
2,4-Dinitrophenol	<40	µg/L	40	EPA 8270	03/20/09
2,4-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270	03/20/09
2,6-Dinitrotoluene	<2.0	µg/L	2.0	EPA 8270	03/20/09
2-Chloronaphthalene	<2.0	µg/L	2.0	EPA 8270	03/20/09
2-Chlorophenol	<5.0	µg/L	5.0	EPA 8270	03/20/09

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO095330** **Sample Collected:** 3/14/2009 14:42 **Sample Received:** 03/15/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19)
MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AN02969
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Test Parameter	Result	Units	MRL	Method	Analysis Date
2-Methylnaphthalene	<2.0	µg/L	2.0	EPA 8270	03/20/09
2-Methylphenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
2-Nitroaniline	<2.0	µg/L	2.0	EPA 8270	03/20/09
2-Nitrophenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
3,3'-Dichlorobenzidine	<20	µg/L	20	EPA 8270	03/20/09
3-Nitroaniline	<10	µg/L	10	EPA 8270	03/20/09
4,6-Dinitro-2-methylphenol	<20	µg/L	20	EPA 8270	03/20/09
4-Bromophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270	03/20/09
4-Chloro-3-methylphenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
4-Chloroaniline	<2.0	µg/L	2.0	EPA 8270	03/20/09
4-Chlorophenylphenyl ether	<2.0	µg/L	2.0	EPA 8270	03/20/09
4-Methylphenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
4-Nitroaniline	<10	µg/L	10	EPA 8270	03/20/09
4-Nitrophenol	<20	µg/L	20	EPA 8270	03/20/09
Acenaphthene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Acenaphthylene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Anthracene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzo(a)anthracene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzo(a)pyrene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzo(b)fluoranthene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzo(g,h,i)perylene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzo(k)fluoranthene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Benzoic acid	<50	µg/L	50	EPA 8270	03/20/09
Benzyl alcohol	<5.0	µg/L	5.0	EPA 8270	03/20/09
Bis(2-chloroethoxy) methane	<2.0	µg/L	2.0	EPA 8270	03/20/09
Bis(2-chloroethyl) ether	<2.0	µg/L	2.0	EPA 8270	03/20/09
Bis(2-chloroisopropyl) ether	<2.0	µg/L	2.0	EPA 8270	03/20/09
Bis(2-ethylhexyl) phthalate	<10	µg/L	10	EPA 8270	03/20/09
Butyl benzyl phthalate	<2.0	µg/L	2.0	EPA 8270	03/20/09
Chrysene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Dibenzo(a,h)anthracene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Dibenzofuran	<2.0	µg/L	2.0	EPA 8270	03/20/09
Diethyl phthalate	<2.0	µg/L	2.0	EPA 8270	03/20/09
Dimethyl phthalate	<2.0	µg/L	2.0	EPA 8270	03/20/09
Di-n-butyl phthalate	<2.0	µg/L	2.0	EPA 8270	03/20/09
Di-n-octyl phthalate	<2.0	µg/L	2.0	EPA 8270	03/20/09

Report Date: 07/14/09 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO095330** **Sample Collected:** 3/14/2009 14:42 **Sample Received:** 03/15/09 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: NPDES STORMWTR WQ & FLOW MON
Address/Location: 4900 NW KITTRIDGE AVE (OF19) MANHOLE COMPOSITE
Sample Point Code: OF19
Sample Type: COMPOSITE
Sample Matrix: STORMWTR
Comments:

System ID: AN02969
EID File # : 4010.001
LocCode: NPDESSTM
Collected By: MJS/LAP

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Fluorene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Hexachlorobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Hexachlorobutadiene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Hexachlorocyclopentadiene	<10	µg/L	10	EPA 8270	03/20/09
Hexachloroethane	<2.0	µg/L	2.0	EPA 8270	03/20/09
Indeno(1,2,3-cd)pyrene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Isophorone	<2.0	µg/L	2.0	EPA 8270	03/20/09
Naphthalene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Nitrobenzene	<2.0	µg/L	2.0	EPA 8270	03/20/09
N-Nitrosodi-n-propylamine	<2.0	µg/L	2.0	EPA 8270	03/20/09
N-Nitrosodiphenylamine	<2.0	µg/L	2.0	EPA 8270	03/20/09
Pentachlorophenol	<10	µg/L	10	EPA 8270	03/20/09
Phenanthrene	<2.0	µg/L	2.0	EPA 8270	03/20/09
Phenol	<5.0	µg/L	5.0	EPA 8270	03/20/09
Pyrene	<2.0	µg/L	2.0	EPA 8270	03/20/09

End of Report for Sample ID: FO095330

Report Date: 07/14/09 **Validated By: Signature on File**

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC.
An Employee - Owned Company

April 3, 2009 Analytical Report for Service Request No: K0902283

Jennifer Shackelford
Portland, City of
1120 SW Fifth Avenue # 1000
Portland, OR 97204

RE: NPDES Stormwater

Dear Jennifer:

Enclosed are the results of the samples submitted to our laboratory on March 17, 2009. For your reference, these analyses have been assigned our service request number K0902283.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

24/03/09

Pradeep Divvela
Project Chemist

PD/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Portland, City of	**Service Request No.:**	K0902283
Project:	NPDES Stormwater	**Date Received:**	03/17/2009
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 03/17/2009. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081A_ULL

Elevated Method Reporting Limits:
The MDL is elevated for 4,4'-DDE in Method Blank KWG0902339-3. The chromatogram indicated the presence of non-target background components, which were apparently introduced as laboratory artifacts. The contamination prevented adequate resolution of the target compounds at the MDL. Note the level of background was relatively low compared to the MDL, so the affect on the results was minimal. The results are flagged to indicate the problem.

The reporting limit is elevated for all analytes in sample FO095330. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semiquantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The result is flagged to indicate the matrix interference.

The reporting limit is further elevated for several analytes in sample FO095330. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270C_LL

Elevated Method Reporting Limits:
The reporting limits are elevated for sample FO095330. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution.

No other anomalies associated with the analysis of these samples were observed.

04/05/09

Approved by_____ **Date**_____

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: 03/14/2009
Date Received: 03/17/2009

Organochlorine Pesticides

Sample Name: FO095332
Lab Code: K0902283-002

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	2.7	1.2	5	03/20/09	04/02/09	KWG0902339	
beta-BHC	ND	U	2.7	2.2	5	03/20/09	04/02/09	KWG0902339	
gamma-BHC (Lindane)	ND	U	2.7	2.5	5	03/20/09	04/02/09	KWG0902339	
delta-BHC	ND	U	2.7	0.74	5	03/20/09	04/02/09	KWG0902339	
Heptachlor	ND	Ui	2.7	2.7	5	03/20/09	04/02/09	KWG0902339	
Aldrin	ND	Ui	2.7	2.7	5	03/20/09	04/02/09	KWG0902339	
Heptachlor Epoxide	ND	U	2.7	1.2	5	03/20/09	04/02/09	KWG0902339	
gamma-Chlordane†	ND	Ui	6.4	6.4	5	03/20/09	04/02/09	KWG0902339	
Endosulfan I	**2.1**	JD	2.7	1.4	5	03/20/09	04/02/09	KWG0902339	
alpha-Chlordane	ND	U	2.7	1.5	5	03/20/09	04/02/09	KWG0902339	
Dieldrin	ND	U	2.7	2.0	5	03/20/09	04/02/09	KWG0902339	
4,4'-DDE	ND	Ui	2.7	2.6	5	03/20/09	04/02/09	KWG0902339	
Endrin	ND	U	2.7	2.6	5	03/20/09	04/02/09	KWG0902339	
Endosulfan II	ND	U	2.7	1.9	5	03/20/09	04/02/09	KWG0902339	
4,4'-DDD	ND	U	2.7	1.2	5	03/20/09	04/02/09	KWG0902339	
Endrin Aldehyde	ND	Ui	2.7	2.5	5	03/20/09	04/02/09	KWG0902339	
Endosulfan Sulfate	ND	U	2.7	1.5	5	03/20/09	04/02/09	KWG0902339	
4,4'-DDT	ND	Ui	2.7	2.7	5	03/20/09	04/02/09	KWG0902339	
Endrin Ketone	ND	U	2.7	1.7	5	03/20/09	04/02/09	KWG0902339	
Methoxychlor	ND	U	2.7	1.5	5	03/20/09	04/02/09	KWG0902339	
Toxaphene	ND	Ui	140	140	5	03/20/09	04/02/09	KWG0902339	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	10-121	04/02/09	Acceptable
Decachlorobiphenyl	93	17-150	04/02/09	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: NA
Date Received: NA

Organochlorine Pesticides

Sample Name: Method Blank
Lab Code: KWG0902339-3

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.50	0.21	1	03/20/09	04/02/09	KWG0902339	
beta-BHC	ND	U	0.50	0.41	1	03/20/09	04/02/09	KWG0902339	
gamma-BHC (Lindane)	ND	U	0.50	0.47	1	03/20/09	04/02/09	KWG0902339	
delta-BHC	ND	U	0.50	0.14	1	03/20/09	04/02/09	KWG0902339	
Heptachlor	ND	U	0.50	0.18	1	03/20/09	04/02/09	KWG0902339	
Aldrin	ND	U	0.50	0.11	1	03/20/09	04/02/09	KWG0902339	
Heptachlor Epoxide	ND	U	0.50	0.21	1	03/20/09	04/02/09	KWG0902339	
gamma-Chlordane†	ND	U	0.50	0.31	1	03/20/09	04/02/09	KWG0902339	
Endosulfan I	ND	U	0.50	0.25	1	03/20/09	04/02/09	KWG0902339	
alpha-Chlordane	ND	U	0.50	0.27	1	03/20/09	04/02/09	KWG0902339	
Dieldrin	ND	U	0.50	0.37	1	03/20/09	04/02/09	KWG0902339	
4,4'-DDE	ND	Ui	0.70	0.70	1	03/20/09	04/02/09	KWG0902339	
Endrin	ND	U	0.50	0.49	1	03/20/09	04/02/09	KWG0902339	
Endosulfan II	ND	U	0.50	0.35	1	03/20/09	04/02/09	KWG0902339	
4,4'-DDD	ND	U	0.50	0.21	1	03/20/09	04/02/09	KWG0902339	
Endrin Aldehyde	ND	U	0.50	0.21	1	03/20/09	04/02/09	KWG0902339	
Endosulfan Sulfate	ND	U	0.50	0.28	1	03/20/09	04/02/09	KWG0902339	
4,4'-DDT	ND	U	0.50	0.17	1	03/20/09	04/02/09	KWG0902339	
Endrin Ketone	ND	U	0.50	0.32	1	03/20/09	04/02/09	KWG0902339	
Methoxychlor	ND	U	0.50	0.28	1	03/20/09	04/02/09	KWG0902339	
Toxaphene	ND	U	25	9.0	1	03/20/09	04/02/09	KWG0902339	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	48	10-121	04/02/09	Acceptable
Decachlorobiphenyl	79	17-150	04/02/09	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
FO095332	K0902283-002	73 D	93 D
Method Blank	KWG0902339-3	48	79
Lab Control Sample	KWG0902339-1	49	79
Duplicate Lab Control Sample	KWG0902339-2	44	77

Surrogate Recovery Control Limits (%)

Sur1	= Tetrachloro-m-xylene	10-121
Sur2	= Decachlorobiphenyl	17-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Extracted: 03/20/2009
Date Analyzed: 04/02/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method: EPA 3535
Analysis Method: 8081A

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG0902339

	Lab Control Sample KWG0902339-1 Lab Control Spike			Duplicate Lab Control Sample KWG0902339-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	8.90	10.0	89	7.33	10.0	73	43-127	19	30
beta-BHC	9.93	10.0	99	8.95	10.0	90	41-129	10	30
gamma-BHC (Lindane)	8.93	10.0	89	7.63	10.0	76	42-128	16	30
delta-BHC	8.75	10.0	88	7.56	10.0	76	47-141	15	30
Heptachlor	8.85	10.0	89	8.32	10.0	83	34-126	6	30
Aldrin	5.40	10.0	54	5.27	10.0	53	10-125	2	30
Heptachlor Epoxide	8.25	10.0	83	7.67	10.0	77	45-124	7	30
gamma-Chlordane	9.24	10.0	92	8.62	10.0	86	48-119	7	30
Endosulfan I	10.8	10.0	108	8.20	10.0	82	30-115	27	30
alpha-Chlordane	8.17	10.0	82	7.94	10.0	79	48-119	3	30
Dieldrin	9.13	10.0	91	8.83	10.0	88	50-120	3	30
4,4'-DDE	9.54	10.0	95	8.16	10.0	82	36-137	16	30
Endrin	10.2	10.0	102	9.09	10.0	91	53-132	12	30
Endosulfan II	8.26	10.0	83	8.46	10.0	85	32-123	2	30
4,4'-DDD	11.9	10.0	119	9.34	10.0	93	38-140	24	30
Endrin Aldehyde	5.18	10.0	52	5.33	10.0	53	30-114	3	30
Endosulfan Sulfate	8.85	10.0	88	9.65	10.0	97	46-120	9	30
4,4'-DDT	12.1	10.0	121	11.7	10.0	117	45-146	3	30
Endrin Ketone	8.47	10.0	85	9.74	10.0	97	45-127	14	30
Methoxychlor	7.48	10.0	75	9.52	10.0	95	48-140	24	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: 03/14/2009
Date Received: 03/17/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO095330
Lab Code: K0902283-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	2.0	0.35	10	03/20/09	04/01/09	KWG0902262	
Phenol	ND	U	5.0	0.63	10	03/20/09	04/01/09	KWG0902262	
2-Chlorophenol	ND	U	5.0	0.54	10	03/20/09	04/01/09	KWG0902262	
1,3-Dichlorobenzene	ND	U	2.0	0.21	10	03/20/09	04/01/09	KWG0902262	
1,4-Dichlorobenzene	ND	U	2.0	0.29	10	03/20/09	04/01/09	KWG0902262	
1,2-Dichlorobenzene	ND	U	2.0	0.22	10	03/20/09	04/01/09	KWG0902262	
Benzyl Alcohol	ND	U	5.0	0.73	10	03/20/09	04/01/09	KWG0902262	
Bis(2-chloroisopropyl) Ether	ND	U	2.0	0.26	10	03/20/09	04/01/09	KWG0902262	
2-Methylphenol	ND	U	5.0	1.1	10	03/20/09	04/01/09	KWG0902262	
Hexachloroethane	ND	U	2.0	0.24	10	03/20/09	04/01/09	KWG0902262	
N-Nitrosodi-n-propylamine	ND	U	2.0	0.37	10	03/20/09	04/01/09	KWG0902262	
4-Methylphenol†	ND	U	5.0	1.2	10	03/20/09	04/01/09	KWG0902262	
Nitrobenzene	ND	U	2.0	0.28	10	03/20/09	04/01/09	KWG0902262	
Isophorone	ND	U	2.0	0.16	10	03/20/09	04/01/09	KWG0902262	
2-Nitrophenol	ND	U	5.0	0.63	10	03/20/09	04/01/09	KWG0902262	
2,4-Dimethylphenol	ND	U	40	22	10	03/20/09	04/01/09	KWG0902262	
Bis(2-chloroethoxy)methane	ND	U	2.0	0.24	10	03/20/09	04/01/09	KWG0902262	
2,4-Dichlorophenol	ND	U	5.0	0.47	10	03/20/09	04/01/09	KWG0902262	
Benzoic Acid	**19**	JD	50	11	10	03/20/09	04/01/09	KWG0902262	
1,2,4-Trichlorobenzene	ND	U	2.0	0.16	10	03/20/09	04/01/09	KWG0902262	
Naphthalene	ND	U	2.0	0.22	10	03/20/09	04/01/09	KWG0902262	
4-Chloroaniline	ND	U	2.0	0.25	10	03/20/09	04/01/09	KWG0902262	
Hexachlorobutadiene	ND	U	2.0	0.27	10	03/20/09	04/01/09	KWG0902262	
4-Chloro-3-methylphenol	ND	U	5.0	0.37	10	03/20/09	04/01/09	KWG0902262	
2-Methylnaphthalene	ND	U	2.0	0.26	10	03/20/09	04/01/09	KWG0902262	
Hexachlorocyclopentadiene	ND	U	10	1.9	10	03/20/09	04/01/09	KWG0902262	
2,4,6-Trichlorophenol	ND	U	5.0	0.58	10	03/20/09	04/01/09	KWG0902262	
2,4,5-Trichlorophenol	ND	U	5.0	0.31	10	03/20/09	04/01/09	KWG0902262	
2-Chloronaphthalene	ND	U	2.0	0.41	10	03/20/09	04/01/09	KWG0902262	
2-Nitroaniline	ND	U	2.0	0.24	10	03/20/09	04/01/09	KWG0902262	
Acenaphthylene	ND	U	2.0	0.15	10	03/20/09	04/01/09	KWG0902262	
Dimethyl Phthalate	**1.2**	JD	2.0	0.21	10	03/20/09	04/01/09	KWG0902262	
2,6-Dinitrotoluene	ND	U	2.0	0.33	10	03/20/09	04/01/09	KWG0902262	

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: 03/14/2009
Date Received: 03/17/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO095330
Lab Code: K0902283-001

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	2.0	0.26	10	03/20/09	04/01/09	KWG0902262	
3-Nitroaniline	ND	U	10	0.29	10	03/20/09	04/01/09	KWG0902262	
2,4-Dinitrophenol	ND	U	40	1.7	10	03/20/09	04/01/09	KWG0902262	
Dibenzofuran	ND	U	2.0	0.18	10	03/20/09	04/01/09	KWG0902262	
4-Nitrophenol	ND	U	20	2.8	10	03/20/09	04/01/09	KWG0902262	
2,4-Dinitrotoluene	ND	U	2.0	0.18	10	03/20/09	04/01/09	KWG0902262	
Fluorene	ND	U	2.0	0.27	10	03/20/09	04/01/09	KWG0902262	
4-Chlorophenyl Phenyl Ether	ND	U	2.0	0.27	10	03/20/09	04/01/09	KWG0902262	
Diethyl Phthalate	**0.34**	JD	2.0	0.12	10	03/20/09	04/01/09	KWG0902262	
4-Nitroaniline	ND	U	10	0.19	10	03/20/09	04/01/09	KWG0902262	
2-Methyl-4,6-dinitrophenol	ND	U	20	0.25	10	03/20/09	04/01/09	KWG0902262	
N-Nitrosodiphenylamine	ND	U	2.0	0.48	10	03/20/09	04/01/09	KWG0902262	
4-Bromophenyl Phenyl Ether	ND	U	2.0	0.26	10	03/20/09	04/01/09	KWG0902262	
Hexachlorobenzene	ND	U	2.0	0.22	10	03/20/09	04/01/09	KWG0902262	
Pentachlorophenol	**5.4**	JD	10	3.4	10	03/20/09	04/01/09	KWG0902262	
Phenanthrene	ND	U	2.0	0.22	10	03/20/09	04/01/09	KWG0902262	
Anthracene	ND	U	2.0	0.24	10	03/20/09	04/01/09	KWG0902262	
Di-n-butyl Phthalate	**0.48**	JD	2.0	0.23	10	03/20/09	04/01/09	KWG0902262	
Fluoranthene	**0.34**	JD	2.0	0.20	10	03/20/09	04/01/09	KWG0902262	
Pyrene	**0.40**	JD	2.0	0.19	10	03/20/09	04/01/09	KWG0902262	
Butyl Benzyl Phthalate	**1.4**	JD	2.0	0.18	10	03/20/09	04/01/09	KWG0902262	
3,3'-Dichlorobenzidine	ND	U	20	4.3	10	03/20/09	04/01/09	KWG0902262	
Benz(a)anthracene	ND	U	2.0	0.18	10	03/20/09	04/01/09	KWG0902262	
Chrysene	ND	U	2.0	0.28	10	03/20/09	04/01/09	KWG0902262	
Bis(2-ethylhexyl) Phthalate	**3.1**	JD	10	1.3	10	03/20/09	04/01/09	KWG0902262	
Di-n-octyl Phthalate	ND	U	2.0	0.18	10	03/20/09	04/01/09	KWG0902262	
Benzo(b)fluoranthene	ND	U	2.0	0.17	10	03/20/09	04/01/09	KWG0902262	
Benzo(k)fluoranthene	ND	U	2.0	0.24	10	03/20/09	04/01/09	KWG0902262	
Benzo(a)pyrene	ND	U	2.0	0.31	10	03/20/09	04/01/09	KWG0902262	
Indeno(1,2,3-cd)pyrene	ND	U	2.0	0.21	10	03/20/09	04/01/09	KWG0902262	
Dibenz(a,h)anthracene	ND	U	2.0	0.17	10	03/20/09	04/01/09	KWG0902262	
Benzo(g,h,i)perylene	ND	U	2.0	0.19	10	03/20/09	04/01/09	KWG0902262	

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: 03/14/2009
Date Received: 03/17/2009

Semi-Volatile Organic Compounds by GC/MS

Sample Name: FO095330
Lab Code: K0902283-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	56	21-119	04/01/09	Acceptable
Phenol-d6	56	31-121	04/01/09	Acceptable
Nitrobenzene-d5	69	29-121	04/01/09	Acceptable
2-Fluorobiphenyl	71	25-109	04/01/09	Acceptable
2,4,6-Tribromophenol	81	30-131	04/01/09	Acceptable
Terphenyl-d14	105	20-140	04/01/09	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0902262-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Bis(2-chloroethyl) Ether	ND	U	0.20	0.035	1	03/20/09	04/01/09	KWG0902262	
Phenol	ND	U	0.50	0.063	1	03/20/09	04/01/09	KWG0902262	
2-Chlorophenol	ND	U	0.50	0.054	1	03/20/09	04/01/09	KWG0902262	
1,3-Dichlorobenzene	ND	U	0.20	0.021	1	03/20/09	04/01/09	KWG0902262	
1,4-Dichlorobenzene	ND	U	0.20	0.029	1	03/20/09	04/01/09	KWG0902262	
1,2-Dichlorobenzene	ND	U	0.20	0.022	1	03/20/09	04/01/09	KWG0902262	
Benzyl Alcohol	ND	U	0.50	0.073	1	03/20/09	04/01/09	KWG0902262	
Bis(2-chloroisopropyl) Ether	ND	U	0.20	0.026	1	03/20/09	04/01/09	KWG0902262	
2-Methylphenol	ND	U	0.50	0.11	1	03/20/09	04/01/09	KWG0902262	
Hexachloroethane	ND	U	0.20	0.024	1	03/20/09	04/01/09	KWG0902262	
N-Nitrosodi-n-propylamine	ND	U	0.20	0.037	1	03/20/09	04/01/09	KWG0902262	
4-Methylphenol†	ND	U	0.50	0.12	1	03/20/09	04/01/09	KWG0902262	
Nitrobenzene	ND	U	0.20	0.028	1	03/20/09	04/01/09	KWG0902262	
Isophorone	ND	U	0.20	0.016	1	03/20/09	04/01/09	KWG0902262	
2-Nitrophenol	ND	U	0.50	0.063	1	03/20/09	04/01/09	KWG0902262	
2,4-Dimethylphenol	ND	U	4.0	2.2	1	03/20/09	04/01/09	KWG0902262	
Bis(2-chloroethoxy)methane	ND	U	0.20	0.024	1	03/20/09	04/01/09	KWG0902262	
2,4-Dichlorophenol	ND	U	0.50	0.047	1	03/20/09	04/01/09	KWG0902262	
Benzoic Acid	ND	U	5.0	1.1	1	03/20/09	04/01/09	KWG0902262	
1,2,4-Trichlorobenzene	ND	U	0.20	0.016	1	03/20/09	04/01/09	KWG0902262	
Naphthalene	ND	U	0.20	0.022	1	03/20/09	04/01/09	KWG0902262	
4-Chloroaniline	ND	U	0.20	0.025	1	03/20/09	04/01/09	KWG0902262	
Hexachlorobutadiene	ND	U	0.20	0.027	1	03/20/09	04/01/09	KWG0902262	
4-Chloro-3-methylphenol	ND	U	0.50	0.037	1	03/20/09	04/01/09	KWG0902262	
2-Methylnaphthalene	ND	U	0.20	0.026	1	03/20/09	04/01/09	KWG0902262	
Hexachlorocyclopentadiene	ND	U	1.0	0.19	1	03/20/09	04/01/09	KWG0902262	
2,4,6-Trichlorophenol	ND	U	0.50	0.058	1	03/20/09	04/01/09	KWG0902262	
2,4,5-Trichlorophenol	ND	U	0.50	0.031	1	03/20/09	04/01/09	KWG0902262	
2-Chloronaphthalene	ND	U	0.20	0.041	1	03/20/09	04/01/09	KWG0902262	
2-Nitroaniline	ND	U	0.20	0.024	1	03/20/09	04/01/09	KWG0902262	
Acenaphthylene	ND	U	0.20	0.015	1	03/20/09	04/01/09	KWG0902262	
Dimethyl Phthalate	ND	U	0.20	0.021	1	03/20/09	04/01/09	KWG0902262	
2,6-Dinitrotoluene	ND	U	0.20	0.033	1	03/20/09	04/01/09	KWG0902262	

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0902262-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acenaphthene	ND	U	0.20	0.026	1	03/20/09	04/01/09	KWG0902262	
3-Nitroaniline	ND	U	1.0	0.029	1	03/20/09	04/01/09	KWG0902262	
2,4-Dinitrophenol	ND	U	4.0	0.17	1	03/20/09	04/01/09	KWG0902262	
Dibenzofuran	ND	U	0.20	0.018	1	03/20/09	04/01/09	KWG0902262	
4-Nitrophenol	ND	U	2.0	0.28	1	03/20/09	04/01/09	KWG0902262	
2,4-Dinitrotoluene	ND	U	0.20	0.018	1	03/20/09	04/01/09	KWG0902262	
Fluorene	ND	U	0.20	0.027	1	03/20/09	04/01/09	KWG0902262	
4-Chlorophenyl Phenyl Ether	ND	U	0.20	0.027	1	03/20/09	04/01/09	KWG0902262	
Diethyl Phthalate	**0.022**	J	0.20	0.012	1	03/20/09	04/01/09	KWG0902262	
4-Nitroaniline	ND	U	1.0	0.019	1	03/20/09	04/01/09	KWG0902262	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	0.025	1	03/20/09	04/01/09	KWG0902262	
N-Nitrosodiphenylamine	ND	U	0.20	0.048	1	03/20/09	04/01/09	KWG0902262	
4-Bromophenyl Phenyl Ether	ND	U	0.20	0.026	1	03/20/09	04/01/09	KWG0902262	
Hexachlorobenzene	ND	U	0.20	0.022	1	03/20/09	04/01/09	KWG0902262	
Pentachlorophenol	ND	U	1.0	0.34	1	03/20/09	04/01/09	KWG0902262	
Phenanthrene	ND	U	0.20	0.022	1	03/20/09	04/01/09	KWG0902262	
Anthracene	ND	U	0.20	0.024	1	03/20/09	04/01/09	KWG0902262	
Di-n-butyl Phthalate	**0.091**	J	0.20	0.023	1	03/20/09	04/01/09	KWG0902262	
Fluoranthene	ND	U	0.20	0.020	1	03/20/09	04/01/09	KWG0902262	
Pyrene	ND	U	0.20	0.019	1	03/20/09	04/01/09	KWG0902262	
Butyl Benzyl Phthalate	**0.047**	J	0.20	0.018	1	03/20/09	04/01/09	KWG0902262	
3,3'-Dichlorobenzidine	ND	U	2.0	0.43	1	03/20/09	04/01/09	KWG0902262	
Benz(a)anthracene	ND	U	0.20	0.018	1	03/20/09	04/01/09	KWG0902262	
Chrysene	ND	U	0.20	0.028	1	03/20/09	04/01/09	KWG0902262	
Bis(2-ethylhexyl) Phthalate	ND	U	1.0	0.13	1	03/20/09	04/01/09	KWG0902262	
Di-n-octyl Phthalate	ND	U	0.20	0.018	1	03/20/09	04/01/09	KWG0902262	
Benzo(b)fluoranthene	ND	U	0.20	0.017	1	03/20/09	04/01/09	KWG0902262	
Benzo(k)fluoranthene	ND	U	0.20	0.024	1	03/20/09	04/01/09	KWG0902262	
Benzo(a)pyrene	ND	U	0.20	0.031	1	03/20/09	04/01/09	KWG0902262	
Indeno(1,2,3-cd)pyrene	ND	U	0.20	0.021	1	03/20/09	04/01/09	KWG0902262	
Dibenz(a,h)anthracene	ND	U	0.20	0.017	1	03/20/09	04/01/09	KWG0902262	
Benzo(g,h,i)perylene	ND	U	0.20	0.019	1	03/20/09	04/01/09	KWG0902262	

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG0902262-3

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	87	21-119	04/01/09	Acceptable
Phenol-d6	87	31-121	04/01/09	Acceptable
Nitrobenzene-d5	87	29-121	04/01/09	Acceptable
2-Fluorobiphenyl	78	25-109	04/01/09	Acceptable
2,4,6-Tribromophenol	85	30-131	04/01/09	Acceptable
Terphenyl-d14	105	20-140	04/01/09	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
FO095330	K0902283-001	56 D	56 D	69 D	71 D	81 D	105 D
Method Blank	KWG0902262-3	87	87	87	78	85	105
Lab Control Sample	KWG0902262-1	86	83	80	77	93	102
Duplicate Lab Control Sample	KWG0902262-2	78	76	76	73	87	95

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorophenol	21-119	Sur5 =	2,4,6-Tribromophenol	30-131
Sur2 =	Phenol-d6	31-121	Sur6 =	Terphenyl-d14	20-140
Sur3 =	Nitrobenzene-d5	29-121			
Sur4 =	2-Fluorobiphenyl	25-109			

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Extracted: 03/20/2009
Date Analyzed: 04/01/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0902262

	Lab Control Sample KWG0902262-1 Lab Control Spike			Duplicate Lab Control Sample KWG0902262-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bis(2-chloroethyl) Ether	4.33	5.00	87	4.05	5.00	81	39-115	7	30
Phenol	4.54	5.00	91	3.79	5.00	76	39-117	18	30
2-Chlorophenol	4.32	5.00	86	3.99	5.00	80	40-113	8	30
1,3-Dichlorobenzene	2.66	5.00	53	2.99	5.00	60	18-71	12	30
1,4-Dichlorobenzene	2.70	5.00	54	2.98	5.00	60	19-73	10	30
1,2-Dichlorobenzene	2.95	5.00	59	3.13	5.00	63	22-78	6	30
Benzyl Alcohol	4.43	5.00	89	4.37	5.00	87	37-119	1	30
Bis(2-chloroisopropyl) Ether	4.05	5.00	81	3.82	5.00	76	35-113	6	30
2-Methylphenol	3.67	5.00	73	3.45	5.00	69	26-113	6	30
Hexachloroethane	1.94	5.00	39	2.54	5.00	51	11-62	27	30
N-Nitrosodi-n-propylamine	4.38	5.00	88	4.15	5.00	83	32-117	5	30
4-Methylphenol	3.93	5.00	79	3.62	5.00	72	25-118	8	30
Nitrobenzene	4.13	5.00	83	3.94	5.00	79	37-116	5	30
Isophorone	4.36	5.00	87	4.18	5.00	84	39-112	4	30
2-Nitrophenol	4.69	5.00	94	4.32	5.00	86	42-116	8	30
2,4-Dimethylphenol	1.97	5.00	39	1.64	5.00	33	10-113	18	30
Bis(2-chloroethoxy)methane	4.28	5.00	86	4.13	5.00	83	40-113	4	30
2,4-Dichlorophenol	4.45	5.00	89	4.10	5.00	82	39-115	8	30
Benzoic Acid	10.4	15.0	69	9.03	15.0	60	10-102	14	30
1,2,4-Trichlorobenzene	2.89	5.00	58	3.24	5.00	65	21-78	11	30
Naphthalene	4.03	5.00	81	3.81	5.00	76	33-98	6	30
4-Chloroaniline	3.76	5.00	75	3.42	5.00	68	10-119	9	30
Hexachlorobutadiene	1.89	5.00	38	2.54	5.00	51	10-61	29	30
4-Chloro-3-methylphenol	4.32	5.00	86	4.08	5.00	82	37-119	6	30
2-Methylnaphthalene	3.73	5.00	75	3.84	5.00	77	32-95	3	30
Hexachlorocyclopentadiene	1.27	5.00	25	1.67	5.00	33	10-39	27	30
2,4,6-Trichlorophenol	4.52	5.00	90	4.14	5.00	83	40-117	9	30
2,4,5-Trichlorophenol	4.48	5.00	90	4.19	5.00	84	44-116	7	30
2-Chloronaphthalene	3.79	5.00	76	3.84	5.00	77	21-115	2	30
2-Nitroaniline	4.59	5.00	92	4.23	5.00	85	43-124	8	30
Acenaphthylene	4.35	5.00	87	4.12	5.00	82	41-114	6	30
Dimethyl Phthalate	4.60	5.00	92	4.35	5.00	87	47-117	5	30
2,6-Dinitrotoluene	4.73	5.00	95	4.62	5.00	92	45-120	2	30
Acenaphthene	4.24	5.00	85	4.10	5.00	82	38-106	3	30
3-Nitroaniline	4.47	5.00	89	4.29	5.00	86	31-125	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Portland, City of
Project: NPDES Stormwater
Sample Matrix: Water

Service Request: K0902283
Date Extracted: 03/20/2009
Date Analyzed: 04/01/2009

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 8270C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG0902262

	Lab Control Sample KWG0902262-1 Lab Control Spike			Duplicate Lab Control Sample KWG0902262-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
2,4-Dinitrophenol	4.12	5.00	82	3.77	5.00	75	10-121	9	30
Dibenzofuran	4.07	5.00	81	3.94	5.00	79	40-107	3	30
4-Nitrophenol	4.57	5.00	91	3.98	5.00	80	43-133	14	30
2,4-Dinitrotoluene	4.80	5.00	96	4.37	5.00	87	47-125	9	30
Fluorene	4.23	5.00	85	4.08	5.00	82	40-112	4	30
4-Chlorophenyl Phenyl Ether	3.87	5.00	77	3.86	5.00	77	39-108	0	30
Diethyl Phthalate	4.73	5.00	95	4.41	5.00	88	47-120	7	30
4-Nitroaniline	4.77	5.00	95	4.27	5.00	85	36-128	11	30
2-Methyl-4,6-dinitrophenol	4.64	5.00	93	4.07	5.00	81	19-127	13	30
N-Nitrosodiphenylamine	4.31	5.00	86	4.05	5.00	81	36-114	6	30
4-Bromophenyl Phenyl Ether	4.08	5.00	82	3.93	5.00	79	43-110	4	30
Hexachlorobenzene	4.06	5.00	81	3.80	5.00	76	42-107	6	30
Pentachlorophenol	4.65	5.00	93	4.49	5.00	90	28-114	3	30
Phenanthrene	4.13	5.00	83	4.01	5.00	80	43-110	3	30
Anthracene	4.27	5.00	85	3.91	5.00	78	40-110	9	30
Di-n-butyl Phthalate	4.87	5.00	97	4.48	5.00	90	45-135	8	30
Fluoranthene	4.45	5.00	89	4.24	5.00	85	42-119	5	30
Pyrene	4.50	5.00	90	4.35	5.00	87	43-118	3	30
Butyl Benzyl Phthalate	4.86	5.00	97	4.71	5.00	94	48-124	3	30
3,3'-Dichlorobenzidine	3.28	5.00	66	2.97	5.00	59	15-108	10	30
Benz(a)anthracene	4.37	5.00	87	4.14	5.00	83	45-112	5	30
Chrysene	4.30	5.00	86	4.07	5.00	81	47-112	5	30
Bis(2-ethylhexyl) Phthalate	4.88	5.00	98	4.66	5.00	93	32-149	5	30
Di-n-octyl Phthalate	4.56	5.00	91	4.48	5.00	90	49-127	2	30
Benzo(b)fluoranthene	4.46	5.00	89	4.26	5.00	85	45-115	5	30
Benzo(k)fluoranthene	4.25	5.00	85	4.24	5.00	85	46-115	0	30
Benzo(a)pyrene	3.95	5.00	79	3.98	5.00	80	40-117	1	30
Indeno(1,2,3-cd)pyrene	4.52	5.00	90	4.45	5.00	89	44-119	2	30
Dibenz(a,h)anthracene	4.46	5.00	89	4.33	5.00	87	45-118	3	30
Benzo(g,h,i)perylene	4.47	5.00	89	4.28	5.00	86	45-116	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services, Inc.
An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K0902283

PAGE 1 OF 1 COC #

PROJECT NAME: NPDES Stormwtr Mon
PROJECT NUMBER:
PROJECT MANAGER: Jennifer Shackelford
COMPANY/ADDRESS: City of Portland
CITY/STATE/ZIP:
E-MAIL ADDRESS:
PHONE #: FAX#:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☑	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	☐Fuel Fingerprint (FIQ) ☐NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐	1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☑	Chlorophenolics 8141A☐ 8151A☐ Tri☐ Tetra☐ 8151M PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle) NO2+NO3	TOX 9020☐ AOX 1650☐ 506☐	REMARKS
F0095330	3/4/09	1442		W	1	X																
F0095332	↓	0805		W	2								X									

19

REPORT REQUIREMENTS

- ✓ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ✓ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Low-level 8270. Thanks.
8081.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Jennifer Shackelford	Signature: DWight	Signature: DWight	Signature:
Date/Time: 3/17/09 0848	Date/Time: 3/17/09 849	Date/Time: 3/17/09 2:30	Date/Time: 3/17/09 1430
Printed Name: Jennifer Shackelford	Printed Name: DWight	Printed Name: DWight	Printed Name:
Firm: City of Portland	Firm: CAS	Firm: CAS	Firm: CAS

RCOC #1 06/03

PC PB

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: City of Portland. Service Request K09 02283

Received: 3-17-09 Opened: 3-17-09 By: BW

1. Samples were received via? *US Mail* *Fed Ex* *UPS* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA Y N

5. Temperature of cooler(s) upon receipt (°C): 4.3
   Temperature Blank (°C): 4.7
   Thermometer ID: SMO-245
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA Y N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA Y N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials and 1631 Mercury bottles received without headspace? *Indicate in the table below.* NA Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** NA Y N
16. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

ORELAP#: OR100021

April 02, 2009

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: NPDES

Enclosed are the results of analyses for samples received by the laboratory on 03/17/09 18:10. The following list is a summary of the Work Orders contained in this report, generated on 04/02/09 12:22.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PSC0533	NPDES	36238

TestAmerica Portland

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO095330	PSC0533-01	Water	03/14/09 14:42	03/17/09 18:10
FO095332	PSC0533-02	Water	03/14/09 08:05	03/17/09 18:10

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSC0533-01 (FO095330)			**Water**			**Sampled: 03/14/09 14:42**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.16**	-----	0.980	ug/l	1x	9030570	03/18/09 19:30	03/25/09 00:34	
Butyl benzyl phthalate	"	**1.28**	-----	0.980	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	0.980	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	0.980	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	0.980	"	"	"	"	"	
Dimethyl phthalate	"	**1.07**	-----	0.980	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0196	"	"	"	"	03/24/09 02:57	
Acenaphthylene	"	ND	-----	0.0196	"	"	"	"	"	
Anthracene	"	ND	-----	0.0196	"	"	"	"	"	
Benzo (a) anthracene	"	**0.0430**	-----	0.00980	"	"	"	"	"	
Benzo (a) pyrene	"	**0.0488**	-----	0.00980	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0613**	-----	0.00980	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0631**	-----	0.0196	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0425**	-----	0.00980	"	"	"	"	"	
Chrysene	"	**0.0968**	-----	0.00980	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0123**	-----	0.00980	"	"	"	"	"	
Fluoranthene	"	**0.148**	-----	0.0196	"	"	"	"	"	
Fluorene	"	ND	-----	0.0196	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0373**	-----	0.00980	"	"	"	"	"	
Naphthalene	"	ND	-----	0.0196	"	"	"	"	"	
Phenanthrene	"	**0.101**	-----	0.0196	"	"	"	"	"	
Pyrene	"	**0.133**	-----	0.0196	"	"	"	"	"	
Surrogate(s): Fluorene-d10				*70.4%*		*25 - 125 %*	"			"
Pyrene-d10				*69.8%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*77.5%*		*10 - 125 %*	"			"
PSC0533-02 (FO095332)			**Water**			**Sampled: 03/14/09 08:05**				
Bis(2-ethylhexyl)phthalate	EPA 8270m	**2.53**	-----	1.05	ug/l	1x	9030570	03/18/09 19:30	03/25/09 03:36	
Butyl benzyl phthalate	"	**1.53**	-----	1.05	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	1.05	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	1.05	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	1.05	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	1.05	"	"	"	"	"	
Acenaphthene	"	ND	-----	0.0211	"	"	"	"	03/24/09 03:29	
Acenaphthylene	"	ND	-----	0.0211	"	"	"	"	"	
Anthracene	"	ND	-----	0.0211	"	"	"	"	"	

TestAmerica Portland

Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PSC0533-02 (FO095332)			**Water**			**Sampled: 03/14/09 08:05**				
Benzo (a) anthracene	EPA 8270m	**0.0290**	-----	0.0105	ug/l	1x	9030570	03/18/09 19:30	03/24/09 03:29	
Benzo (a) pyrene	"	**0.0318**	-----	0.0105	"	"	"	"	"	
Benzo (b) fluoranthene	"	**0.0379**	-----	0.0105	"	"	"	"	"	
Benzo (ghi) perylene	"	**0.0459**	-----	0.0211	"	"	"	"	"	
Benzo (k) fluoranthene	"	**0.0289**	-----	0.0105	"	"	"	"	"	
Chrysene	"	**0.0693**	-----	0.0105	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**0.0107**	-----	0.0105	"	"	"	"	"	
Fluoranthene	"	**0.0796**	-----	0.0211	"	"	"	"	"	
Fluorene	"	ND	-----	0.0211	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**0.0253**	-----	0.0105	"	"	"	"	"	
Naphthalene	"	**0.0358**	-----	0.0211	"	"	"	"	"	
Phenanthrene	"	**0.0630**	-----	0.0211	"	"	"	"	"	
Pyrene	"	**0.0829**	-----	0.0211	"	"	"	"	"	
Surrogate(s): *Fluorene-d10*				*74.1%*		*25 - 125 %*	"			"
Pyrene-d10				*68.1%*		*23 - 150 %*	"			"
Benzo (a) pyrene-d12				*77.0%*		*10 - 125 %*	"			"

TestAmerica Portland

Howard Holmes, Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9030570 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9030570-BLK1)								**Extracted: 03/18/09 19:30**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	03/23/09 19:07	
Butyl benzyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	03/20/09 16:28	
Acenaphthylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.0100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.0200	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 102%*			*Limits: 25-125%*	"							*03/20/09 16:28*	
Pyrene-d10		*78.7%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*113%*			*10-125%*	"							"	
LCS (9030570-BS1)								**Extracted: 03/18/09 19:30**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	4.76	---	1.00	ug/l	1x	--	4.00	119%	(20-150)	--	--	03/23/09 19:44	
Butyl benzyl phthalate	"	4.57	---	1.00	"	"	--	"	114%	"	--	--	"	
Di-n-butyl phthalate	"	4.15	---	1.00	"	"	--	"	104%	"	--	--	"	
Di-n-octyl phthalate	"	4.78	---	1.00	"	"	--	"	120%	"	--	--	"	
Diethyl phthalate	"	3.64	---	1.00	"	"	--	"	90.9%	"	--	--	"	
Dimethyl phthalate	"	3.52	---	1.00	"	"	--	"	88.0%	"	--	--	"	
Acenaphthene	"	2.66	---	0.0200	"	"	--	2.50	106%	(35-120)	--	--	03/20/09 16:57	
Acenaphthylene	"	2.42	---	0.0200	"	"	--	"	96.7%	(34-116)	--	--	"	
Anthracene	"	2.40	---	0.0200	"	"	--	"	96.1%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.71	---	0.0100	"	"	--	"	108%	(36-128)	--	--	"	
Benzo (a) pyrene	"	2.83	---	0.0100	"	"	--	"	113%	(17-128)	--	--	"	
Benzo (b) fluoranthene	"	2.83	---	0.0100	"	"	--	"	113%	(37-131)	--	--	"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9030570 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (9030570-BS1)								**Extracted: 03/18/09 19:30**						
Benzo (ghi) perylene	EPA 8270m	2.34	---	0.0200	ug/l	1x	--	2.50	93.4%	(26-126)	--	--	03/20/09 16:57	
Benzo (k) fluoranthene	"	2.73	---	0.0100	"	"	--	"	109%	(18-145)	--	--	"	
Chrysene	"	2.98	---	0.0100	"	"	--	"	119%	(16-137)	--	--	"	
Dibenzo (a,h) anthracene	"	2.51	---	0.0100	"	"	--	"	100%	(20-141)	--	--	"	
Fluoranthene	"	2.67	---	0.0200	"	"	--	"	107%	(31-125)	--	--	"	
Fluorene	"	2.58	---	0.0200	"	"	--	"	103%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	2.45	---	0.0100	"	"	--	"	97.9%	(30-135)	--	--	"	
Naphthalene	"	2.43	---	0.0200	"	"	--	"	97.0%	(30-113)	--	--	"	
Phenanthrene	"	2.74	---	0.0200	"	"	--	"	110%	(34-126)	--	--	"	
Pyrene	"	1.87	---	0.0200	"	"	--	"	74.8%	(21-141)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 109%*			*Limits: 25-125%*	"							*03/20/09 16:57*	
Pyrene-d10		*83.3%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*114%*			*10-125%*	"							"	
Matrix Spike (9030570-MS1)					**QC Source: PSC0534-05**			**Extracted: 03/18/09 19:30**						
Bis(2-ethylhexyl)phthalate	EPA 8270m	7.53	---	4.21	ug/l	4x	7.89	4.21	-8.46%	(10-150)	--	--	03/23/09 23:59	M8
Butyl benzyl phthalate	"	5.79	---	4.21	"	"	ND	"	137%	"	--	--	"	
Di-n-butyl phthalate	"	4.99	---	4.21	"	"	ND	"	118%	"	--	--	"	
Di-n-octyl phthalate	"	6.47	---	4.21	"	"	ND	"	154%	"	--	--	"	M7
Diethyl phthalate	"	4.26	---	4.21	"	"	ND	"	101%	"	--	--	"	
Dimethyl phthalate	"	3.97	---	4.21	"	"	ND	"	94.3%	"	--	--	"	
Acenaphthene	"	2.40	---	0.0842	"	"	ND	2.63	91.2%	(35-120)	--	--	03/23/09 19:20	
Acenaphthylene	"	2.38	---	0.0842	"	"	ND	"	90.5%	(34-116)	--	--	"	
Anthracene	"	2.39	---	0.0842	"	"	ND	"	90.7%	(24-119)	--	--	"	
Benzo (a) anthracene	"	2.23	---	0.0421	"	"	0.0214	"	84.0%	(22-129)	--	--	"	
Benzo (a) pyrene	"	1.87	---	0.0421	"	"	0.0324	"	69.8%	(4-112)	--	--	"	
Benzo (b) fluoranthene	"	2.08	---	0.0421	"	"	0.0490	"	77.3%	(0-136)	--	--	"	
Benzo (ghi) perylene	"	1.65	---	0.0842	"	"	0.0629	"	60.3%	(0-126)	--	--	"	
Benzo (k) fluoranthene	"	2.01	---	0.0421	"	"	0.0470	"	74.7%	(0-145)	--	--	"	
Chrysene	"	2.49	---	0.0421	"	"	0.148	"	88.8%	(7-137)	--	--	"	
Dibenzo (a,h) anthracene	"	1.59	---	0.0421	"	"	0.0376	"	58.9%	(0-141)	--	--	"	
Fluoranthene	"	2.28	---	0.0842	"	"	0.137	"	81.3%	(30-125)	--	--	"	
Fluorene	"	2.39	---	0.0842	"	"	ND	"	91.0%	(27-124)	--	--	"	
Indeno (1,2,3-cd) pyrene	"	1.62	---	0.0421	"	"	0.0462	"	59.9%	(0-135)	--	--	"	
Naphthalene	"	2.34	---	0.0842	"	"	ND	"	88.7%	(30-126)	--	--	"	
Phenanthrene	"	2.68	---	0.0842	"	"	0.115	"	97.6%	(34-126)	--	--	"	
Pyrene	"	2.35	---	0.0842	"	"	0.102	"	85.4%	(14-168)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 84.9%*			*Limits: 25-125%*	"							*03/23/09 19:20*	
Pyrene-d10		*81.5%*			*23-150%*	"							"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9030570 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (9030570-MS1)					**QC Source: PSC0534-05**				**Extracted: 03/18/09 19:30**					
Surrogate(s): Benzo (a) pyrene-d12		*Recovery: 81.1%*			*Limits: 10-125%*	*4x*							*03/23/09 19:20*	
Matrix Spike Dup (9030570-MSD1)					**QC Source: PSC0534-05**				**Extracted: 03/18/09 19:30**					
Bis(2-ethylhexyl)phthalate	EPA 8270m	6.72	---	4.00	ug/l	4x	7.89	4.00	-29.2%	(10-150)	-110%	(50)	03/24/09 00:35	M8
Butyl benzyl phthalate	"	5.17	---	4.00	"	"	ND	"	129%	"	6.07%	"	"	
Di-n-butyl phthalate	"	4.23	---	4.00	"	"	ND	"	106%	"	11.4%	"	"	
Di-n-octyl phthalate	"	5.78	---	4.00	"	"	ND	"	144%	"	6.14%	"	"	
Diethyl phthalate	"	3.56	---	4.00	"	"	ND	"	89.1%	"	12.7%	"	"	
Dimethyl phthalate	"	3.29	---	4.00	"	"	ND	"	82.2%	"	13.8%	"	"	
Acenaphthene	"	2.07	---	0.0800	"	"	ND	2.50	82.8%	(35-120)	9.55%	(45)	03/23/09 19:52	
Acenaphthylene	"	2.06	---	0.0800	"	"	ND	"	82.6%	(34-116)	9.14%	"	"	
Anthracene	"	2.15	---	0.0800	"	"	ND	"	86.1%	(24-119)	5.16%	"	"	
Benzo (a) anthracene	"	2.05	---	0.0400	"	"	0.0214	"	81.0%	(22-129)	3.59%	"	"	
Benzo (a) pyrene	"	1.78	---	0.0400	"	"	0.0324	"	69.8%	(4-112)	0.0814%	"	"	
Benzo (b) fluoranthene	"	1.98	---	0.0400	"	"	0.0490	"	77.2%	(0-136)	0.257%	"	"	
Benzo (ghi) perylene	"	1.58	---	0.0800	"	"	0.0629	"	60.7%	(0-126)	0.617%	"	"	
Benzo (k) fluoranthene	"	1.90	---	0.0400	"	"	0.0470	"	74.1%	(0-145)	0.782%	"	"	
Chrysene	"	2.19	---	0.0400	"	"	0.148	"	81.8%	(7-137)	8.20%	"	"	
Dibenzo (a,h) anthracene	"	1.52	---	0.0400	"	"	0.0376	"	59.4%	(0-141)	0.825%	"	"	
Fluoranthene	"	2.05	---	0.0800	"	"	0.137	"	76.4%	(30-125)	6.32%	"	"	
Fluorene	"	2.12	---	0.0800	"	"	ND	"	85.0%	(27-124)	6.86%	"	"	
Indeno (1,2,3-cd) pyrene	"	1.56	---	0.0400	"	"	0.0462	"	60.7%	(0-135)	1.39%	"	"	
Naphthalene	"	1.99	---	0.0800	"	"	ND	"	79.5%	(30-126)	11.0%	"	"	
Phenanthrene	"	2.31	---	0.0800	"	"	0.115	"	87.8%	(34-126)	10.6%	"	"	
Pyrene	"	2.13	---	0.0800	"	"	0.102	"	81.0%	(14-168)	5.27%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 82.9%*			*Limits: 25-125%*	"							*03/23/09 19:52*	
Pyrene-d10		*84.0%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*84.8%*			*10-125%*	"							"	

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City of Portland Water Pollution Laboratory	Project Name:	**NPDES**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	04/02/09 12:22

Notes and Definitions

Report Specific Notes:

M7 - The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).

M8 - The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland

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11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave.Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PSC0533

CLIENT: City of Portland

REPORT TO:
ADDRESS: Jennifer Shackelford

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 340238

PROJECT NAME:
PROJECT NUMBER: NPDES Stormwater Mon

SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses: [X] STD. [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD. [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	(*)	(*)	REQUESTED ANALYSES										MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
				PAH + Phthalates	PCB 209 Congeners														
1	F0095330	3/14/09 1442		X	X											W	3		
2	F0095332	↓ 0805		X												W	2		
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

RELEASED BY: Kristen Wright		DATE: 3/17/9	RECEIVED BY: Bob Fong		DATE: 3/17/9
PRINT NAME: Kristen Wright	FIRM: City of Portland	TIME: 16:30	PRINT NAME: Bob F	FIRM: TAP	TIME: 16:30
RELEASED BY: Bob Fong		DATE: 3/17/9	RECEIVED BY: Peggy Seefried		DATE: 3/17/09
PRINT NAME: Bob F	FIRM: TAP	TIME: 18:10	PRINT NAME: Peggy Seefried	FIRM: TAP	TIME: 1810

ADDITIONAL REMARKS:
(*) Please use custom VIC list Thanks
(*)(*) PCB all 209 Congeners to PACE Analytical

TEMP: 0.6 PAGE OF

0.2
0.6
1.2
0.3

TAL-1000(0408)

TestAmerica Portland

Sample Receiving Checklist

Work Order #: PSC0533 Date/Time Received: 3/17/09 1810

Client Name and Project: City of Portland / NPDES

PM to Complete This Section: Yes ☐ No ☐ Residual Chlorine Check Required: Yes ☐ No ☐ Quarantined:

Quote #:

Special Instructions:

Time Zone:

☐EDT/EST ☐CDT/CST ☐MDT/MST ☐PDT/PST ☐OTHER

Unpacking Checks:

Cooler #(s): 2 1 1 1

Temperatures: 0.6 0.2 1.2 0.3

Digi #1 ☐ Digi #2 ☐ IR Gun ☒ (☐Plastic ☒Glass)

Temperature out of Range:

__Not enough or No Ice

__Ice Melted

__W/in 4 Hrs of collection

__Other:_____

Initials: JM

N/A	Yes	No	
☒	☐	☐	1. If ESI client, were temp blanks received? If no, document on NOD.
☒	☐	☐	2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD.
	☒	☐	3. Chain of Custody present? If no, document on NOD.
	☒	☐	4. Bottles received intact? If no, document on NOD.
	☒	☐	5. Sample is not multiphasic? If no, document on NOD.
	☒	☐	6. Proper Container and preservatives used? If no, document on NOD.
☐	☒	☐	7. pH of all samples checked and meet requirements? If no, document on NOD.
☒	☐	☐	8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
☒	☐	☐	9. HF Dilution required?
	☒	☐	10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding.
	☒	☐	11. Did chain of custody agree with samples received? If no, document on NOD.
☒	☐	☐	12. Were VOA/Oil Syringe samples without headspace?
☒	☐	☐	13. Were VOA vials preserved? ☐HCL ☐Sodium Thiosulfate ☐Ascorbic Acid
	☐	☒	14. Did samples require preservation with sodium thiosulfate?
☒	☐	☐	15. If yes to #14, was the residual chlorine test negative? If no, document on NOD.
☒	☐	☐	16. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
☒	☐	☐	17. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding.
☒	☐	☐	18. Are analyses with short holding times received in hold?
	☒	☐	19. Was Standard Turn Around (TAT) requested?
	☒	☒	20. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM.

JM

TestAmerica Portland

Sample Receiving Checklist

Work Order #: PSC0533

Login Checks:

Initials: JM

N/A	Yes	No	
	X	☐	21. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
X	☐	☐	22. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM.
	X	☐	23. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
☐	X	☐	24. Were special log in instructions read and followed?
	X	☐	25. Were tests logged checked against the COC?
X	☐	☐	26. Were rush notices printed and delivered?
X	☐	☐	27. Were short hold notices printed and delivered?
☐	X	☐	28. Were subcontract COCs printed?
X	☐	☐	29. Was HF dilution logged?

Labeling and Storage Checks:

Initials: JM

N/A	Yes	No	
☐	X	☐	30. Were the subcontracted samples/containers put in Sx fridge?
X	☐	☐	31. Were sample bottles and COC double checked for dissolved/filtered metals?
	X	☐	32. Did the sample ID, Date, and Time from label match what was logged?
X	☐	☐	33. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
X	☐	☐	34. Were HF stickers affixed to each container, and containers stored in Sx fridge?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).

Appendix C

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Appendix C

Harborwide Stormwater Data Evaluation

City of Portland Outfall Project
ECSI No. 2425

February 2010

Prepared by
City of Portland
Bureau of Environmental Services

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List of Abbreviations and Acronyms

ARAR	applicable or relevant and appropriate requirement
BEHP	di(2-ethylhexyl)phthalate or bis(2-ethylhexyl)phthalate
BES	City of Portland Bureau of Environmental Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
City	City of Portland
CSM	conceptual site model
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DDx	sum of DDD, DDE and DDT
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Site Information
EPA	U.S. Environmental Protection Agency
JSCS	Joint Source Control Strategy
LWG	Lower Willamette Group
µg/L	micrograms per liter
mg/L	milligrams per liter
MRL	method reporting limit
NPDES	National Pollutant Discharge Elimination System
OF	Outfall
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
Port	Port of Portland
PQL	practical quantification limit
ROD	Record of Decision
SAP	Sampling and Analysis Plan
SCD	source control decision
SLV	screening level value
Study Area	Portland Harbor Study Area
SVOC	semi-volatile organic compound
TBD	to be determined
UIC	underground injection control

C1 Introduction

This appendix describes the methodology and approach for statistically evaluating the stormwater data collected at City of Portland (City) outfalls discharging to the Willamette River within the Portland Harbor Study Area. The purpose of the evaluation is to identify City outfall basins and associated stormwater analytes that may warrant further source tracing to identify potentially significant uncontrolled upland sources in City outfall basins. This appendix is intended to provide background, technical details, and supporting information regarding the statistical evaluation presented in Section 4 of the *Stormwater Evaluation Report* (BES, 2010).

The evaluation of the stormwater data for City outfalls comprises a multiple-step process, summarized below in Sections C2 through C5. The approach includes screening and statistical analyses to provide context for interpreting the potential significance of stormwater results and as a basis for identifying City outfall basins where further source tracing may be warranted for specific analytes. The available stormwater data used in these analyses were collected by the City, Lower Willamette Group (LWG), and others for City and non-City outfalls discharging to the Study Area (harborwide data set). The results of the stormwater data evaluation are carried forward into the basin-specific assessments of source-tracing needs, presented in Section 5 of the *Stormwater Evaluation Report* (BES, 2010).

C2 Preliminary Harborwide Data Evaluation

This section describes the process used to evaluate the 2007/2008 stormwater data and inform the development of the statistical evaluation approach described in Section C4. Data sources are described in Section 3 of the *Stormwater Evaluation Report* (BES, 2010).

C2.1 Preliminary Summary Statistics

Characteristics of the data set were initially assessed by calculating various summary statistics of the stormwater concentration data for each outfall (such as the mean, maximum, minimum, and range) for use in comparing harborwide concentrations and assessing potential stormwater concentration variables (e.g., land use) using graphical methods. Understanding the general characteristics of the stormwater data set was important in selecting appropriate data analyses and statistical evaluation procedures.

C2.2 Preliminary Data Plots

Stormwater data were plotted in several ways to help assess potential data evaluation methodologies. One of the original objectives for preparing these preliminary graphics was to attempt to identify outfall basins for further source tracing using natural breaks in the harborwide stormwater concentrations. One set of graphics (i.e., bar graphs) that was initially generated to assess the distribution of stormwater concentrations is presented in Attachment C1. These bar graphs rank harborwide outfalls by mean concentration and also provide individual sampling event concentrations for each outfall. Plots were prepared for total polychlorinated biphenyls (PCBs), total polycyclic aromatic hydrocarbons (PAHs), bis(2-ethylhexyl)phthalate (BEHP), total DDx, and selected metals (arsenic, chromium, copper, lead, mercury, and zinc). The bar graphs were generated using the following assumptions and conventions:

A. Arithmetic mean concentrations were calculated for each individual outfall sample location using the results of all individual sampling events (typically 3 to 5 events per location).
B. Concentration values reported as below the laboratory method reporting limit (MRL) were set to zero for calculating the mean concentration.
C. Results for duplicate samples were averaged with the corresponding primary sample results to achieve a mean value for that sample event that was then used to calculate the basin arithmetic mean concentrations shown on the bar graphs.
D. Extreme data values (i.e., potential outliers) are included.

C2.3 Data Set Characteristics

The stormwater data set was characterized by reviewing the representativeness of sampling locations and using the preliminary summary statistics and data plots to aid in the selection of an appropriate statistical method for data evaluation. Characteristics of the stormwater data set are listed below:

- The sample population includes more than 50 outfalls, including both City and non-City outfalls.
- Analytical stormwater discharge data collected at or near the end of the conveyance system is assumed to be representative of "basin" conditions.
- Outfall sampling locations are spatially distributed throughout the Portland Harbor Study Area.
- The number of individual storm events sampled at each outfall location is small (typically 3 to 5 samples per location).
- Analytical results have a lower concentration bound of zero (i.e., no negative values).
- Analytical results are censored (i.e., some concentration data are reported as below MRLs).
- Some individual event concentrations appear high or extreme when compared to harborwide concentrations (i.e., possible outliers). These higher values may be due to:
    - A measurement or recording error;
    - An observation from a population different from the rest of the data; or
    - A rare event from a single population that is heavily skewed (i.e., log normal distribution).
- Data from individual outfalls appear to be right or positively skewed (i.e., data are not symmetric around the mean or median and the asymmetric tail extends to the right).

C2.4 Preliminary Data Evaluation Findings

The harborwide stormwater concentration bar graphs presented in Attachment C1 were evaluated to assess whether City outfall basins that might require additional source tracing activities could be readily identified. The following general observations were made, based on these bar graphs:

- About half of the sampled outfall basins have low concentrations falling within a narrow range of values; this outcome is attributable in part to the convention of assigning all non-detected results a value of zero.
- The higher mean values are distributed along curves with gradual or steeper increases in slope; however, the graphs do not exhibit breaks in the slopes that are sufficiently abrupt to define a "natural" boundary of "high" stormwater analyte concentrations relative to the harborwide range of average values.
- Stormwater data from individual outfall basins are generally positively skewed (asymmetric tail extends to the right of the mean).
- Plots are useful for:
    - Presenting the variability of concentrations (range of concentration values) between individual stormwater sampling events at each location.
    - Providing context of the mean stormwater concentration for an individual outfall basin against harborwide outfall basin data.
    - Identifying a few outfalls with concentrations that are clearly elevated compared to general harborwide concentrations

- The graphs do not readily lend themselves to the primary objective of the City's stormwater data evaluation (i.e., identifying City basins that might warrant additional source tracing activities).

The preliminary data evaluation did not clearly identify individual or groups of City outfall basins that might be considered for additional source tracing activities, based on individual event or mean stormwater concentrations. Therefore, it was determined that more robust evaluation of the stormwater data was needed to identify City outfall basins with higher analyte concentrations within the Harborwide data set that could indicate the presence of significant upland sources and the need for additional source tracing. The statistical evaluation methodology is described in the following sections of this appendix.

C3 Selection of Stormwater Analytes for Statistical Evaluation

This section describes the process used to select analytes for the harborwide statistical evaluation. The objective of this process is to identify analytes in each City outfall basin sampled for consideration of further source tracing activities.

Steps in Selection of Stormwater Analytes for Statistical Evaluation

1. Screen individual stormwater event data points for City outfall basins against JSCS SLVs (Appendix A)
2. For any analyte >SLV in at least one sample, calculate arithmetic and geometric mean concentrations for each City and non-City outfall basin (Attachment C-2)
3. Screen geometric mean concentrations for City outfall basins against JSCS SLVs (Appendix D).
4. For any analyte with geometric mean concentration >JSCS SLV, carry forward to harborwide statistical analysis (Section C4).

C3.1 Step 1 – Screen Individual Stormwater Event Concentrations

Stormwater sampling results from City outfall basins were compared to the recommended screening level values (SLVs) identified in the Joint Source Control Strategy (JSCS; DEQ and EPA 2005 [amended in 2007]) and DEQ's *Guidance for Evaluating the Stormwater Pathway at Upland Sites* (DEQ, 2009a). Data tables for City outfall basins sampled by the City are presented in Appendix A of the *Stormwater Evaluation Report*.

Analytes[1], including individual PAHs, that exceeded their respective SLVs in at least one sample event at one or more outfall basins were identified and carried forward to Step 2 for further evaluation. Analytes were carried forward regardless of how much the concentration exceeded the JSCS SLVs or how many outfalls exceeded the SLVs. It should be noted that "…exceedance of an SLV does not necessarily indicate the upland source of contamination poses an unacceptable risk to human or ecological receptors" (DEQ and EPA, 2005). DEQ and EPA recognize the conservative nature (i.e., low concentrations) of the SLVs in the JSCS and that some SLVs are less than laboratory practical quantification limits (PQLs) using standard methods. As stated in the JSCS:

> "The SLVs were developed to conservatively identify potential threats to human health and the environment including potential toxicity to ecological receptors and bioaccumulation... It should be noted that the SLVs are not cleanup levels; they are comparisons used to establish priority for potential source control. The EPA Portland Harbor ROD(s) will establish contaminant specific cleanup levels for the Superfund Site using applicable or relevant and appropriate requirements (ARARs) or risk-based levels…. DEQ and EPA recognize that some of the SLVs are below naturally occurring background levels. Both DEQ cleanup regulations and CERCLA allow consideration of naturally occurring background in site characterization, risk assessment, and when developing cleanup levels."

[1] Only detected concentrations were used to select the analytes for statistical analysis; results reported as non-detected were not considered for further source tracing even if the method reporting limit (MRL) exceeded the JSCS SLV.

The stormwater data for all City outfall basins include numerous SLV exceedances, due in part to the very low SLVs established for some analytes (e.g., PAHs). For this reason, and due to the inherent variability of stormwater, SLV screening of individual storm events alone was not effective in targeting City outfall basins or analytes for potential future City source tracing efforts. The outcome of this step indicated that the City needed a process other than comparing individual stormwater sample results to the JSCS SLVs to differentiate significant sources from lower contributing sources. Because the SLVs are conservative screening values selected to be protective of inriver receptors, application of these values to in-pipe media (stormwater and stormwater solids) results in the identification of analytes that in some cases are below estimated background concentrations or concentrations from areas with no sources, such as Forest Park. Additionally, SLVs do not recognize state-authorized NPDES discharges to the City's system (i.e., metals benchmarks are one to two orders of magnitude higher than the SLVs) and therefore are not always useful in evaluating where significant sources may be present. In light of these limitations, and given the City's primary objective in the stormwater data evaluation, the City's evaluation approach (described in Section C4) is to compare City outfall data to a broader harborwide dataset to identify where more significant sources occur.

C3.2 Step 2 – Screen Mean Outfall Basin Stormwater Concentrations

Stormwater discharges are highly variable both in terms of rain event conditions (e.g. intensity, duration, antecedent dry period), resulting flow characteristics (i.e., intermittent vs. continuous) and pollutant concentrations, making the relationship between discharges and water quality complex. Therefore, mean concentrations for each basin in the harborwide data set were calculated to provide an estimate of "representative" stormwater outfall concentrations. For each analyte identified in Step 1, both the arithmetic and geometric means for each outfall basin were calculated. The arithmetic mean and geometric mean concentrations for the outfall basins included in the harborwide data set are shown with the data presented in Attachment C2. The following assumptions and conventions were used in calculating the mean concentrations:

- Arithmetic and geometric mean concentrations were calculated for each outfall using the results of all individual sampling events (typically 3 to 5 events per location).
- Concentration values reported as below the laboratory method reporting limit were set to the concentration of the MRL for calculating the mean concentrations. (Note: This assumption is conservative and may overestimate the true mean concentration.)
- Extreme data values (i.e., potential outlier concentrations) were included in the calculations.
- Duplicate samples from a single storm event were first averaged (each duplicate sample averaged together with its corresponding primary sample), and the average concentration was then included as a single value in the basin mean calculations.
- All stormwater data collected to represent the same basin — including data collected by different sampling methods (i.e., grab sampling and flow-weighted composite sampling) — were combined in calculating the mean concentrations (e.g., OF 19, OF 53).
- Samples that were collected from different locations within a given outfall basin were not combined if they represented different drainage areas (i.e., OF M-1, OF M-2, and OF 22C).

- Total PCBs, total PAHs, total DDx, and total Chlordane concentrations for results including one or more detections of an individual constituent were calculated by assigning a value of zero to non-detected concentrations. For results in which *no* individual constituents were detected, the total concentration is reported as the highest MRL among the individual constituents.

The mean and geometric mean concentrations calculated for City outfalls were compared to JSCS SLVs, and the results are presented in Appendix D of the *Stormwater Evaluation Report.* Analytes whose geometric mean concentration exceeded the JSCS SLV in at least one City outfall basin were selected for statistical evaluation. These analytes are summarized in Table C-1, below.

Twenty-two analytes (identified in Table C-1), including 13 individual PAH compounds, were carried forward into the harborwide statistical evaluation to categorize City outfall basins for potential source tracing activities.

The mean and geometric mean concentrations for the outfall basins are generally comparable, and geometric mean concentrations were used to estimate the central tendency of individual stormwater outfall basin concentrations. The arithmetic mean values are provided in Attachment C-3 and *Stormwater Evaluation Report* Appendix D for informational purposes only. Geometric means are appropriate to describe data which are lognormally distributed (EPA, 1992), can take on only positive values, can vary significantly (e.g., by orders of magnitude), and are positively skewed. Use of the geometric mean is consistent with DEQ's use of the annual geometric mean concentration as a protective compliance limit in the City's Underground Injection Control (UIC) permit (DEQ, 2005), DEQ-issued NPDES 1200Z permits (DEQ, 2006), and DEQ's Industrial Stormwater Advisory Committee discussions regarding monitoring approaches under DEQ's NPDES program (DEQ 2009b, 2009c, and 2009d).

Table C-1. Stormwater Analytes Selected for Statistical Evaluation. (1), (2)

PCB Congeners:
Total PCBs

PAHs:
Acenaphthene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Indeno(1,2,3-cd)pyrene
Naphthalene
Phenanthrene
Pyrene
Total PAHs (3)

Pesticides:
2,4'-DDD
2,4'-DDE
2,4'-DDT
4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
Total chlordane
Dieldrin
Heptachlor
Heptachlor epoxide

Phthalates:
Bis(2-ethylhexyl)phthalate (BEHP)

Metals (total metals):
Arsenic
Cadmium
Copper
Lead
Manganese
Silver
Zinc

Other SVOCs:
Pentachlorophenol

Notes:

(1) This list includes all detected analytes for which any City outfall basin geometric mean concentration exceeded the JSCS SLV. The analytes identified above are listed regardless of the magnitude by which the geometric mean exceeds the conservative JSCS SLV. Exceedance of an SLV does not necessarily indicate an unacceptable risk to human or ecological receptors (DEQ and EPA, 2005). DEQ and EPA recognize the conservative nature (i.e., low concentrations) of the SLVs in the JSCS (DEQ and EPA, 2005, Table 3-1 revised July 2007) and that some SLVs are less than laboratory practical quantification limits (PQLs) using standard methods.

(2) Analytes shown in italics were analyzed and/or detected in a limited number of outfall basins (one to three basins); therefore, adequate data are not available to perform a meaningful statistical evaluation. These analytes are further evaluated in Section 5 for those basins in which these analytes were detected.

(3) The JSCS does not include an SLV for total PAHs; however, because individual PAH compounds do not typically occur alone, total PAHs were carried forward as an analyte for the harborwide statistical analysis.

C4 Statistical Evaluation of Stormwater Discharge Data

The methodology and results of the statistical analysis of harborwide stormwater data are described in this section. The objective of the statistical analysis was to identify City outfall basins with stormwater analyte concentrations in the upper end of the harborwide range as a basis for identifying outfall basins where additional source tracing activities may be needed. Harborwide stormwater data used in the statistical analyses are tabulated in Attachment C2.

Steps in Statistical Evaluation

1. Select analytes for statistical evaluation (Section C3, Table C-1).
2. For each analyte, selected:
   a. Statistically group harborwide outfalls by geometric mean concentrations (Section C4)
   b. Categorize concentrations to identify those City outfalls with the highest likelihood of having significant unidentified sources. (Section C5, Table 4-2 of *Stormwater Evaluation Report*)
3. Carry analytes identified as Category 2 or 3 in each basin forward for further evaluation/screening (Section 4.2 of *Stormwater Evaluation Report*).

C4.1 Statistical Evaluation Methodology

A statistical model was selected that would identify groups of stormwater outfalls basins with similar levels of contamination (by analyte) within the stormwater data set. The conceptual model for the evaluation is that there are three groups of outfall basins in the stormwater data set with similar characteristics (described below). The conceptual model used for the statistical evaluation assumes that those outfall basins falling into the higher concentration group warrant consideration for further source tracing activities.

Statistical analysis was performed on selected stormwater analytes without consideration of the significance of the outfall basin concentration (i.e., greater than or less than applicable screening levels, background concentrations, etc.). Use of the full harborwide data set allowed stormwater concentrations in City outfall basins to be ranked and analyzed relative to other stormwater discharges to the Portland Harbor Study Area. City outfall basins with analyte concentrations in the upper range of the concentration distribution were identified for further evaluation of the need for source tracing.

This approach provides the City a means to determine if additional source tracing may be warranted. It does not include evaluation of the inriver sediment data from the vicinity of City outfalls to determine if there is a complete pathway for upland contributions (e.g., an outfall may be identified for further source tracing even if there are no elevated sediment concentrations adjacent to the outfall).

C4.1.1 Approach

A finite mixture model was selected to identify group membership of outfall basins within the stormwater data set with similar concentrations and to define the characteristics of the groups. In statistical terminology, the problem of finding groups of observations within a dataset is

called "unsupervised learning" or "clustering". A simplified description of the problem is that the observed data are a mixture of data from several groups where the group labels have been lost. The goal of the analysis is to recover the group labels and to learn something about the group characteristics.

A three-component normal mixture model was used to analyze the distribution of the geometric (i.e., logarithmic) mean concentrations of the outfall basins. For each analyte, the model assumes that three distinct groups (subpopulations) of stormwater basins, as defined based on unique group statistical characteristics (e.g., mean, standard deviation), are represented in the harborwide stormwater data set. This concept is consistent with the JSCS process for identifying low, medium, and high priority sites. As illustrated conceptually in Figure C-1, these groups were defined in the conceptual site model (CSM) as follows:

- Group A: Lower analyte concentrations (CSM assumes lower concentrations likely associated with open space or residential land uses);
- Group B: Moderate analyte concentrations (CSM assumes moderate concentrations likely associated with commercial or light industrial land uses); and
- Group C: Higher analyte concentrations (CSM assumes higher concentrations likely associated with heavy industrial land use).

A Bayesian finite mixture model was used in the analyses. The Bayesian methodology employed was selected to explicitly model results below the MRL using censored data methods. The use of a Bayesian model eliminated the need to use a substitution method for including concentrations below the MRL, such as replacing such values with ½ the detection limit.

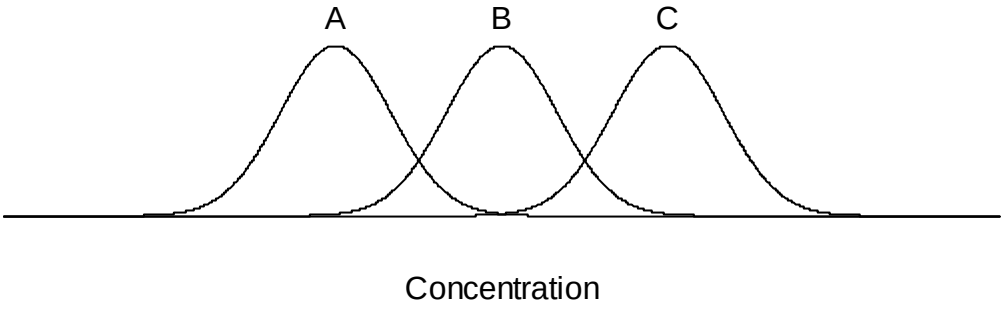

Figure C-1. Mixture Model Assumed Groups.

Assumptions included in the conceptual model for the finite mixture model include:

- Stormwater concentration data from each outfall basin are lognormally distributed with a different logarithmic mean concentration (i.e., geometric mean) and the same log standard deviation (i.e., geometric standard deviation) for each basin.
- At least one outfall basin in each of these groups for each analyte is evaluated.
- A high degree of variability exists in the stormwater data set, related to factors including the following:

  - Characteristics of the outfall basins in this study vary widely, ranging from basins that primarily represent heavy industrial land uses to basins that represent mostly forest and open space.
  - A number of pollutants evaluated may have numerous sources (e.g., upland sites, source materials) and characteristics (e.g., concentrations, source material media, transport pathways).
- Grab and flow-weighted composite data are both representative of basin discharges and can be combined to estimate of the "true mean" concentration of the outfall basin.
- There is no known bias in the data set.

C4.1.2 Technical Model Description

This section provides a technical summary of the Bayesian finite mixture model used to evaluate the stormwater data set. Simplistically, the model can be written in the following form:

$$\log(y_{ij}) \sim N(\mu_j, \sigma_y^2),$$
$$\mu_j \sim N(\boldsymbol{\theta}^T \mathbf{m}_j, \sigma_\mu),$$
$$\mathbf{m}_j \sim Multinomial(1, \boldsymbol{\lambda})$$

Where:

y_{ij} represents the i^{th} sample result from outfall basin j

μ_j represents the mean concentration of the natural logarithms of the sample results from outfall basin j which are assumed to be normally distributed

σ^2_y represents the variance of the natural logarithms of the sample results from outfall basin j which are normally distributed with mean μ_j and variance σ_y^2

$\boldsymbol{\theta}^T$ represents the vector of group mean concentrations.

$\mathbf{m}_j$ represents the choice of whether the basin mean μ_j is from subpopulation (group) A, B, or C.

$\boldsymbol{\lambda}$ represents the vector of probabilities that the basin mean comes subpopulation (group) A, B, or C.

Thus, the natural logarithms of the sample results from outfall basin j are normally distributed with mean μ_j and variance σ_y^2 (Note: the variance was assumed to be the same for every basin). The variation among basins is handled by modeling the basin means (μ_j) as a three-component normal mixture model, as described in Section C4.1.1. The vector $\boldsymbol{\theta}$ is a three-dimensional random vector (a vector with three components) containing the subpopulation means (i.e., group means θ_1, θ_2, and θ_3). The vector $\boldsymbol{\lambda}$ is a three dimensional random vector containing the overall probabilities that an outfall basin mean concentration is from subpopulation one (i.e., Group A), two (i.e., Group B), or three (i.e., Group C). The variance of each subpopulation is assumed to be the same and is modeled with a common variance parameter (σ_y^2).

The multinomial distribution is a multivariate version of the binomial distribution. For this model, the multinomial vector $\mathbf{m}_j$ represents the unobserved "label" that determines which subpopulation (lower, moderate, or higher concentration) each basin was drawn from. The product $\boldsymbol{\theta}^T\mathbf{m}_j$ (dot or inner product of the vectors) is a single value equal to the subpopulation means (θ_1, θ_2, or θ_3). To make the model numerically stable and to prevent the "label switching" problem common in fitting mixture models, two positive random variables: the difference in mean concentrations for subpopulations one and two (θ_{dist12}) and the difference in mean concentrations for subpopulations two and three (θ_{dist23}) were introduced as follows:

$$\theta_2 = \theta_1 + \theta_{dist12}$$
$$\theta_3 = \theta_2 + \theta_{dist23}$$

In this way, the model can enforce the conceptual model constraint that $\theta_1 < \theta_2 < \theta_3$ (mean of Group A is less than the mean of Group B, etc.)

Draws from the posterior distribution of model parameters were generated using Markov chain Monte Carlo with the software WinBUGS (Lunn et al., 2000), R (R Development Core Team, 2009), and R2WinBUGS (Sturtz et al., 2005). Vague priors (i.e., initial model inputs) were used in the model for θ_1, $\boldsymbol{\lambda}$, σ_y and σ_μ. Priors for θ_{dist12} and θ_{dist23} were half-normal distributions with mean 0 and variance 10. The assumed prior distributions were used to constrain the distances between subpopulation means (θ_1, θ_2, and θ_3) such that extremely large differences between these values are unlikely. This prevents the estimated proportion of the population in one of the groups from approaching zero during the simulation. The fit of the model was obtained by attempting to match the model results with the parameterized subpopulation distributions used in the set up of WinBUGS. Five chains of 40,000 samples each were run for each analyte. The first half (20,000 samples) of each chain were discarded as the burn-in period. Every 100th sample was selected from each of the five chains (for a total of 1,000 samples), to estimate the $\hat{R}$ statistic (Gelman and Rubin, 1992) calculated using the R *coda* package (Plummer et al., 2009) to monitor convergence of the samples. The simulation was determined to converge when all $\hat{R} < 1.1$ for all parameters of interest (Gelman et al., 2004).

C4.2 Statistical Evaluation Results

The finite mixture model evaluated group membership for each outfall basin sampled for each of the 22 analytes identified in Section C3.2. For each analyte, the model assigned each outfall basin within the harborwide data set to one of the three concentration groups (i.e., A - lower, B - moderate, or C - higher) based on the posterior probabilities of the basin belonging to each group. These posterior probabilities were calculated by averaging the simulated values of $\mathbf{m}_j$ for each basin and selecting the group with the largest posterior probability as the predicted group for that basin.

Attachment C3 presents figures depicting the results the harborwide statistical evaluation by analyte. These figures rank the harborwide outfall concentrations by the basin geometric mean concentrations for each analyte. The figures include the concentrations of the individual

sampling events and the geometric mean concentration for each basin. For each analyte, the figures identify the group assigned by the mixture model for each outfall by color [blue (Group A), black (Group B), red (Group C)]. Figure C-2 provides a key to results.

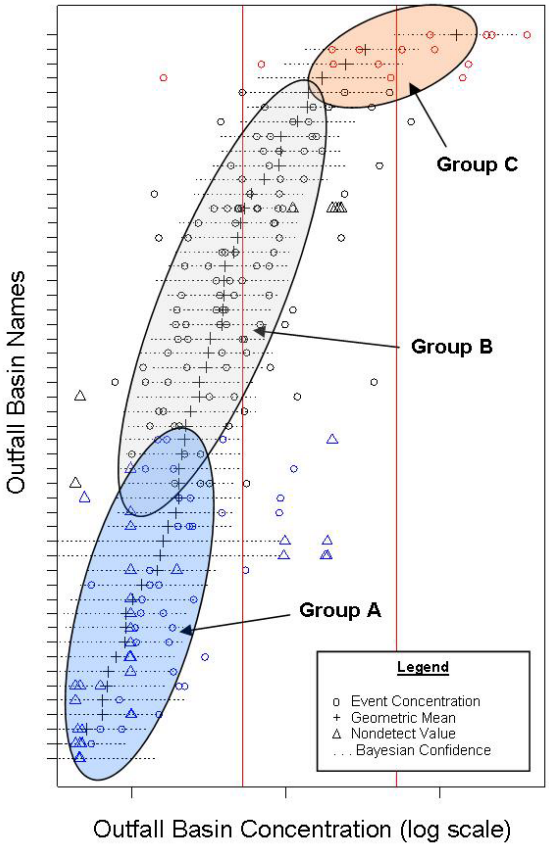

Figure C-2. Key to Basin Mixture Model Results.

C4.3 Model Uncertainties

The finite mixture model was built to reflect the City's conceptual model of stormwater basin discharge concentrations (see Section C4.1.1). There are many assumptions associated with the development of the conceptual model and the mathematical model used for the analysis of this stormwater dataset. A summary of uncertainties in the statistical evaluation is provided below:

- The distribution and pattern of stormwater analyte concentrations may be much more complicated than observed. For example, the analyte distribution plots, presented in Attachment C3, often do not show distinct breaks between subpopulations (i.e., groups), but rather a continuous spread of concentrations. This indicates the use of a three-component model may be an oversimplification of a much more complex system. However, the three-component model is useful as a data driven method for identifying groups of basins that are most similar in order to simplify a complex system for policy purposes (i.e., source tracing).

- Stormwater sample results for individual sampling events are assumed to be random samples of the underlying distribution of analyte concentrations in each outfall basin.

To the extent that these samples are not random, they may provide a biased view of the conditions in each basin.

- The model fits well enough to represent the stormwater data set for the purpose of identifying basins for consideration of additional source tracing activities. Inferences obtained from a faulty or ill fitting model may be misleading. There is no gross evidence of lack of fit in the model for the analytes evaluated. However, some variances were noted. For example, the stormwater sample concentrations from one non-City outfall were noted to be more variable than concentrations in other outfall basins; all four copper concentrations in this basin were outside the model estimated 95% confidence intervals for copper. The chance for this condition to have occurred randomly if the variances were the same in each basin is small. It is more likely that the variance of analyte concentrations varies from basin to basin according to other factors. However, investigating factors (grab versus composite sampling, size of basin) that might affect concentration variance did not reveal any way to explain this excess variance in some basins. In addition, the problem seems to affect a small number of basins, with most basins having variability that is consistent from basin to basin.

- In the model, composite and grab samples are pooled to calculate geometric mean concentrations within each basin. This pooling assumes that grab and composite samples are identically distributed. This is unlikely to be true. For basins where grab and composite data were collected there does not appear to be a consistent difference in grab versus composite results. Therefore, this approach is not assumed to introduce significant error or bias for identifying City outfall basins for potential source tracing activities.

C5 Outfall Basin Categorization

Prior to performing the statistical evaluation, it was assumed that for most analytes the three groups would have natural breaks to distinguish them from each other, and then could be used to identify City outfall basins for further source tracing. While the initial application of the model accomplished the intended grouping function, there was significant overlap among the groups (i.e., group concentration ranges), and only a few outfalls were assigned to Group C (higher concentration group) for each analyte. One of the working assumptions when the statistical evaluation was initiated was that City outfalls identified as belonging to Group C (higher relative concentrations) would be further evaluated to determine if additional City source tracing activities were needed. While the application of the model accomplished the intended grouping of the harborwide outfalls, there was significant overlap among the groups (i.e., group concentration ranges), and only a few outfall basins were assigned to concentration Group C for each analyte. Consideration of only the upper group for source tracing may have excluded basins with significant unidentified sources. Therefore, additional statistical analysis was performed to categorize the City's outfall basins in the upper end of the concentration distribution to identify City outfall basins potentially needing further source tracing

Starting with the output from initial application of the mixture model, source tracing categories were defined by evaluating confidence limits for each of the three outfall groups initially defined by the model. Table 4-2 of the *Stormwater Evaluation Report* summarizes the source tracing categorization results by City outfall basin and by analyte.

For each analyte included in the statistical evaluation, each outfall basin is assigned to one of three source tracing categories defined by the 50th percentile confidence interval of concentration Group C. Category break lines are shown on the figures included in Attachment C3, and Figure C-3 provides a key of the categorization results. The statistical model assigned outfall basins to groups and categories, based on the distribution of harborwide outfall concentrations and without consideration of JSCS SLVs or background concentrations. Therefore, care should be taken in the use of the groups and categories, and the categories should not be perceived as an indication of potential threat to the river, or the need or priority for source control.

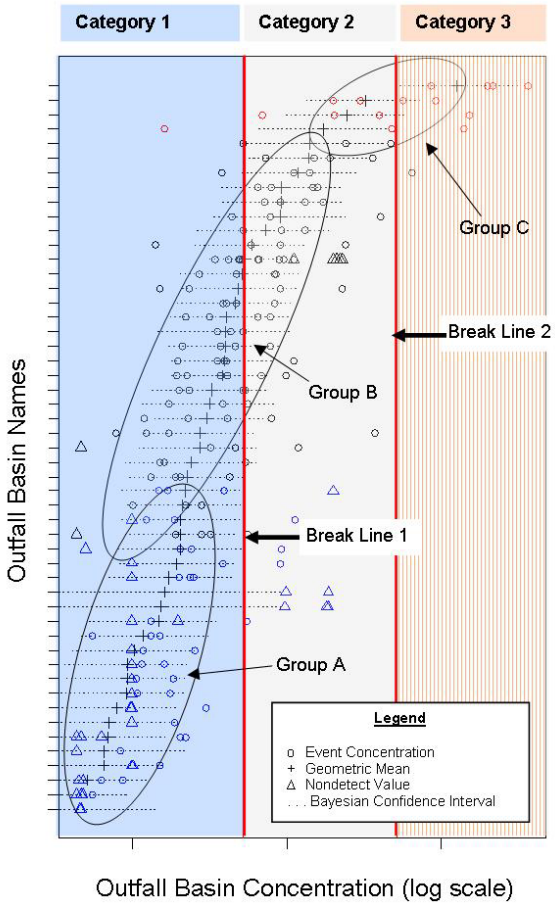

Figure C-3. Key to Basin Categorization Results. Three categories are defined to identify outfalls for further source tracing activities. Category break lines are based on concentration Group C confidence intervals.

Source tracing category definitions are provided below:

- **Category 1**. This category is defined as those outfalls with geometric mean concentrations less than or equal to the concentration of Break Line 1 shown on the figures presented in Attachment C3 (see Figure C-3). Break Line 1 represents the 25th percentile line of Group C (red) (i.e., 25% percent of the Group C outfalls theoretically fall below this line or 75% percent of Group C outfalls theoretically fall above this line). *Significance*: Stormwater analyte concentrations in these basins are lower relative to stormwater concentrations harborwide (i.e., relative to other private and public outfalls) and are least likely to have significant unidentified sources. The need for performing additional source tracing in City outfall basins within Category 1 basins is low.
- **Category 2**. This category is defined as those outfalls with geometric mean concentrations greater than the concentration of Break Line 1 and less than or equal to the concentration of Break Line 2 shown on the figures presented in Attachment C3 (see Figure C-3). Break Line 2 represents the 75th percentile line of Group C (i.e., 75% percent of the Group C (red) outfalls theoretically fall below this line or 25% percent of Group C outfalls theoretically fall above this line). *Significance*: Stormwater analyte concentrations in these basins generally fall within a narrow moderate range and may or

may not have significant unidentified sources. The need for performing additional source tracing in City outfall basins within this category should be considered, unless otherwise indicated.

- **Category 3**. This category is defined as those outfalls with geometric mean concentrations greater than the concentration of Break Line 2 shown on the figures presented in Attachment C3. Break Line 2 represents the 75th Percentile line of Group C (red) (i.e., 25% percent of the Group C (red) outfalls theoretically fall above this line). *Significance*: Stormwater analyte concentrations in these basins are higher relative to harborwide concentrations presented in this report and are the most likely to have significant unidentified sources. The need for performing additional source tracing in City outfall basins in this category should be considered.

Table C-2 summarizes the distribution of source tracing categories by major analyte type for City outfall basins. As indicated in Table C-2, for each analyte, a predominance of the basins were as assigned to Category 1 and less than a third were as assigned to Category 2. Three basins had analytes identified as Category 3:

- OF 22B – cadmium
- OF 22C – acenaphthene
- OF S-1 – fluoranthene and total PAHs

Table C-2. Summary City Outfall Basin Source Tracing Categorization for Selected Analytes (1)

Category	Definition	Percent of City Outfall Basins Assigned to Category (by analyte)		
		Total PCBs (2	**PAHs** (2, 3)	**Metals** (2, 4)
1 (lower)	Least Likely to Have Unidentified Significant Sources	64 %	80 %	69 %
2 (moderate) (5)	May or May Not Have Unidentified Significant Sources	36 %	27 %	31 %
3 (higher) (5)	Most Likely to Have Unidentified Significant Sources	0 %	1 %	1 %

Notes:

(1) Categories ≠ Risk. Categories are based on distribution of harborwide concentrations and without consideration of the significance of the outfall basin concentration (i.e., greater than or less than applicable screening levels, background concentrations, etc.).

(2) The percentage of City Outfalls within each category was estimated by combining the results for outfalls with multiple locations (OF M1, OF M2). For these outfalls the higher category was used. The results representative of Forest Park (OF 22C – Tualatin Hills) were not included in the results presented in this table.

(3) The percentage of City Outfalls within each category for PAHs is based on the cumulative results of the thirteen individual PAHs presented in Table 4-2 of the *Stormwater Evaluation Report.*

(4) The percentage of City Outfalls within each category for metals is based on the cumulative results of the six individual metals presented in Table 4-2 of the *Stormwater Evaluation Report.*

(5) Use of the full harborwide data set allowed stormwater concentrations in City Outfall basins to be ranked and evaluated relative to other stormwater discharges to the Portland Harbor Study Area. City outfall basins with analyte concentrations potentially in the upper range of the concentration distribution were identified for further evaluation of the need source tracing.

C6 References

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Attachment C1

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Attachment C1

Bar Graphs of Results (Simple Averages) for Selected Contaminants, 2007 – 2008 City Outfall Stormwater Data

Attachment C1 -- Notes

General notes regarding figures showing analyte concentrations in stormwater discharging to Portland Harbor Study Area:

(1) Section 3 and Table 3-1 of the *Stormwater Evaluation Report* (BES, 2010) presents the sources of data used in these figures. Appendix C presents the assumptions and data used in calculating the arithmetic mean concentrations for outfall basins presented on these figures. Appendix D presents the individual analyte data used in calculating the mean concentration for City outfall basins. The mean concentrations shown on these figures differ from those presented in Appendix D in the way non-detected (ND) values were used in the calculations. For these figures, ND values were set to zero and in Appendix D, ND values were set to the analytical method reporting limit (MRL).

(2) Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin arithmetic mean concentrations shown on these figures.

(3) Flow-weighted composite and grab sample results from City and LWG/Port sampling activities are not combined in these figures; however, sampling locations utilized in two basins (i.e., OF 19 and OF 53) are representative of the same respective basin area. Paired sample locations include:
- OF 19 LW3 / OF 19 MS4 City
- OF 53 Port / OF 53 City

(4) Outfall basin sampling locations utilized by the City and the LWG in three basins (OF M-1, OF M-2, and OF 22C) represent different drainage areas. In each of these three basins, the City sampling location represents a larger drainage area that includes the drainage area evaluated by LWG. City sampling locations were selected to represent stormwater discharges from the entire basin, to the extent feasible. Flow-weighted composite and grab sample results from City and LWG sampling activities are not combined in these figures. Basins with multiple sample locations include:
- OF M-1
- OF M-2
- OF 22C

(5) Sample location nomenclature on X axis: Sample Location_Sampling Entity. Examples include:
- OF 45 City - indicates City Outfall Basin 45 sampled and analyzed by the City of Portland
- Sulzer LW3 – indicates private Sulzer outfall sampled and analyzed by the LWG
- WR183 Basin R Port – indicates private Port of Portland Outfall WR183 (also referred to as Basin R) sampled and analyzed by the Port.

(6) Total PAH and total PCB concentrations for results including one or more detections of individual PAH/PCB constituents were calculated by assigning a value of zero to non-detected concentrations. For results in which *no* individual PAH or PCB constituents

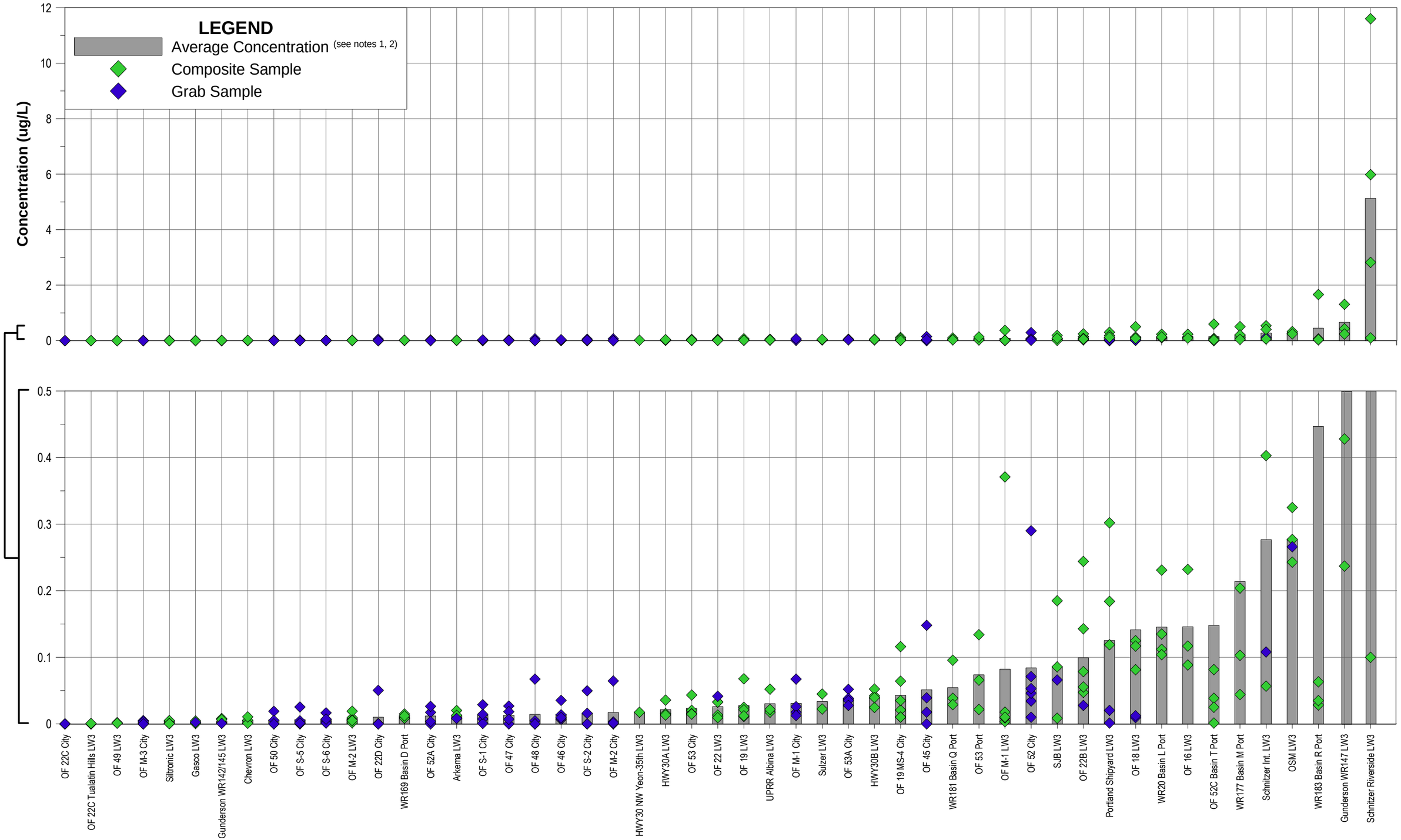
were detected, the total concentration is reported as the highest MRL among the individual PAH/PCB constituents.

Summary of Acronyms included on the figures:

ug/L = micrograms per liter
OF = City of Portland (City) outfall
LW3 = sample collected by the Lower Willamette Group (LWG) during the LWG's Round 3 stormwater sampling
Port = sample collected by the Port of Portland (Port)
SJB = outfall adjacent to St. Johns Bridge
MS4 = sample collected for the stormwater conveyance system discharge monitoring conducted under the City's NPDES Municipal Separate Storm Sewer System (MS4) Discharge Permit
WR = non-City outfall to the Willamette River

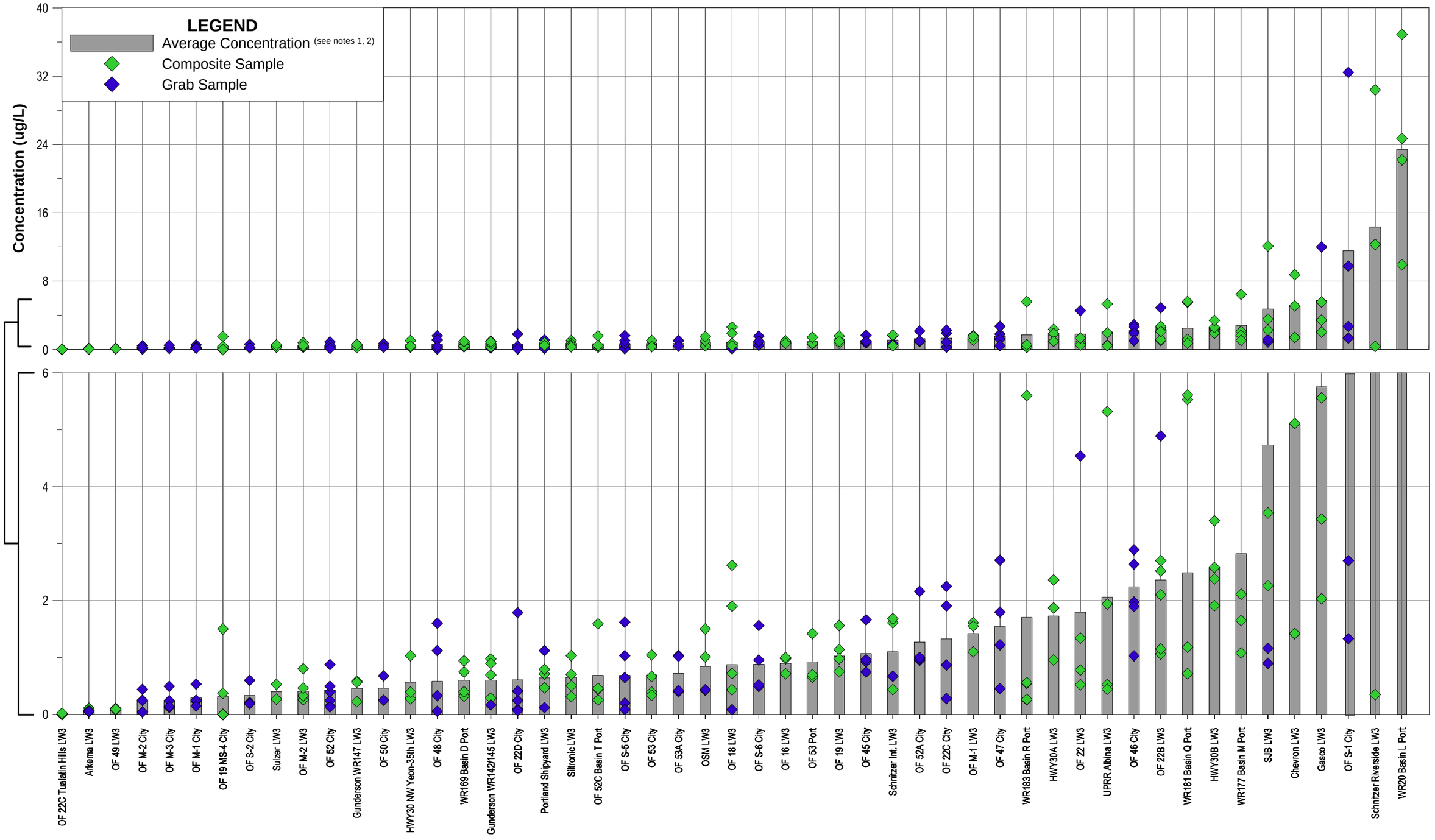
Total PCB Congeners Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



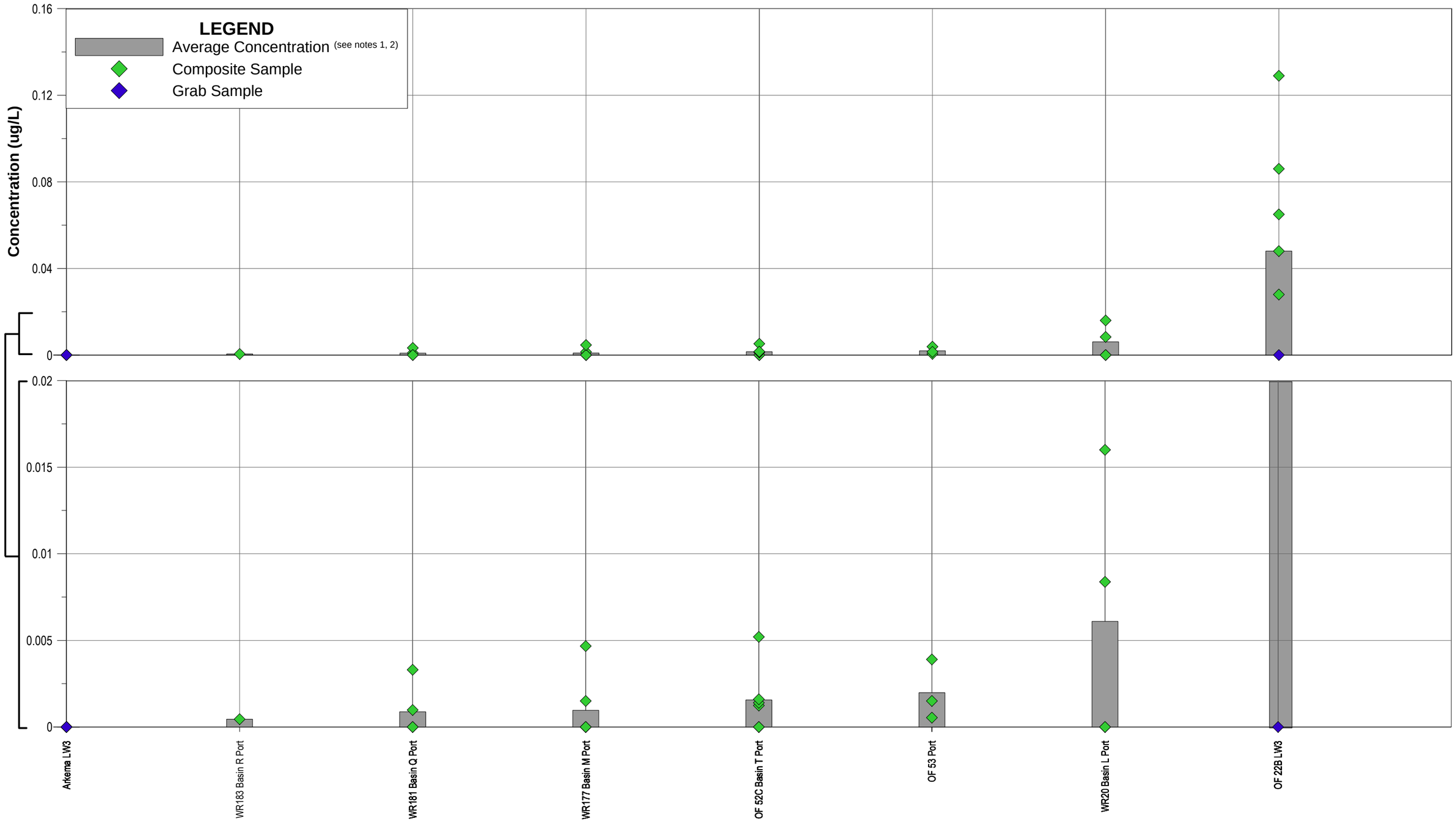
Total PAH Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



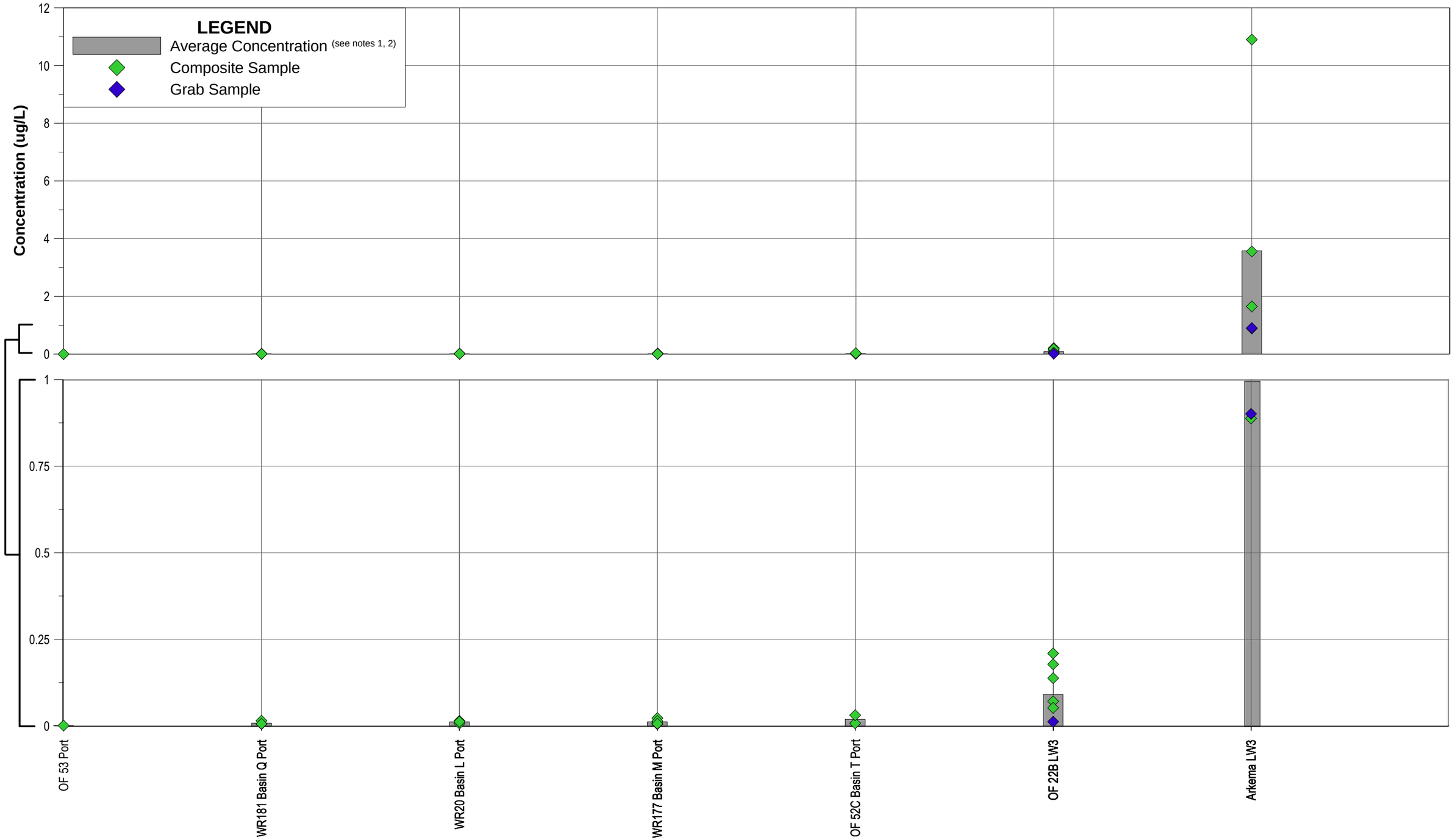
Total Chlordane Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



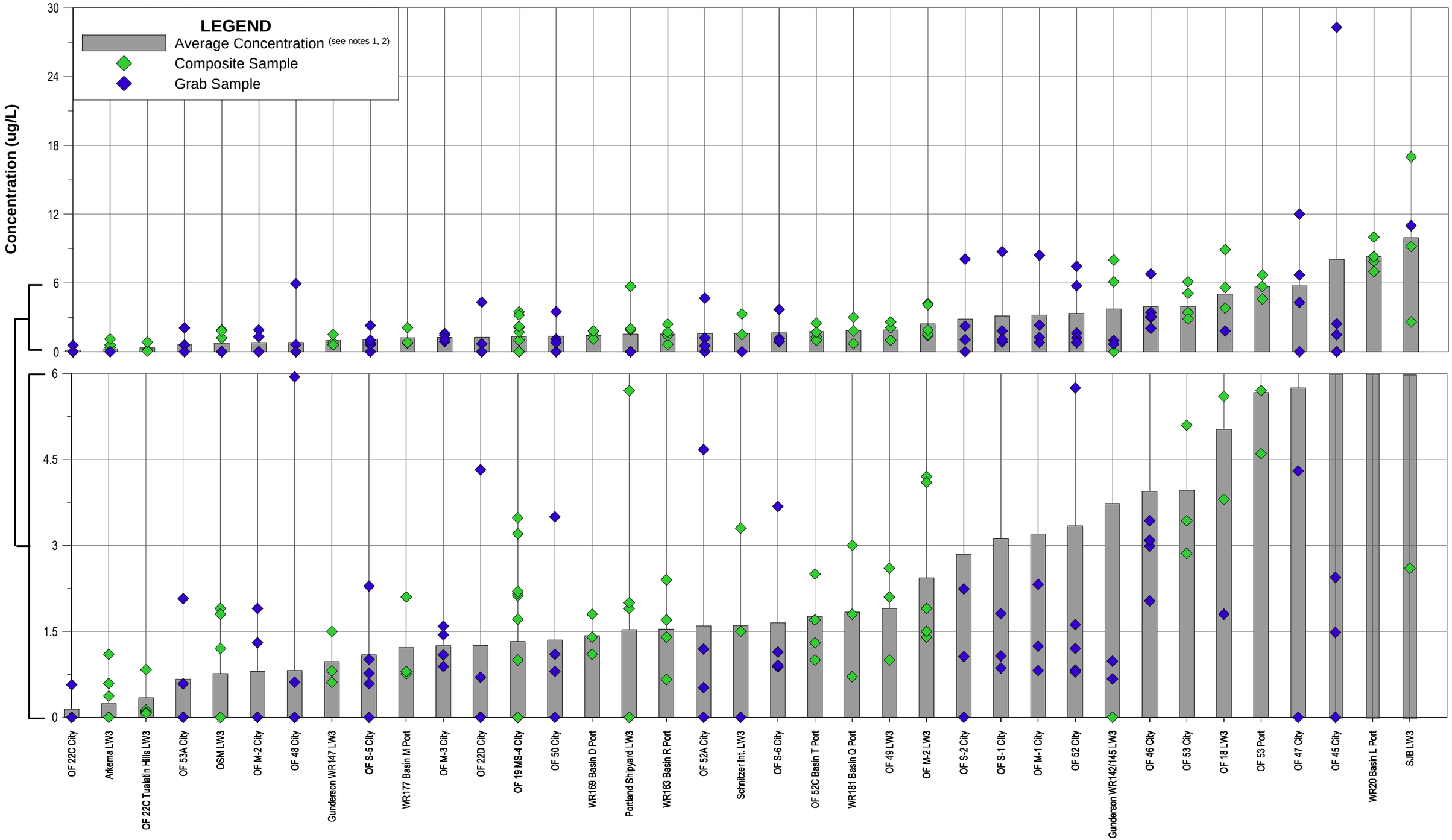
Total DDx Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



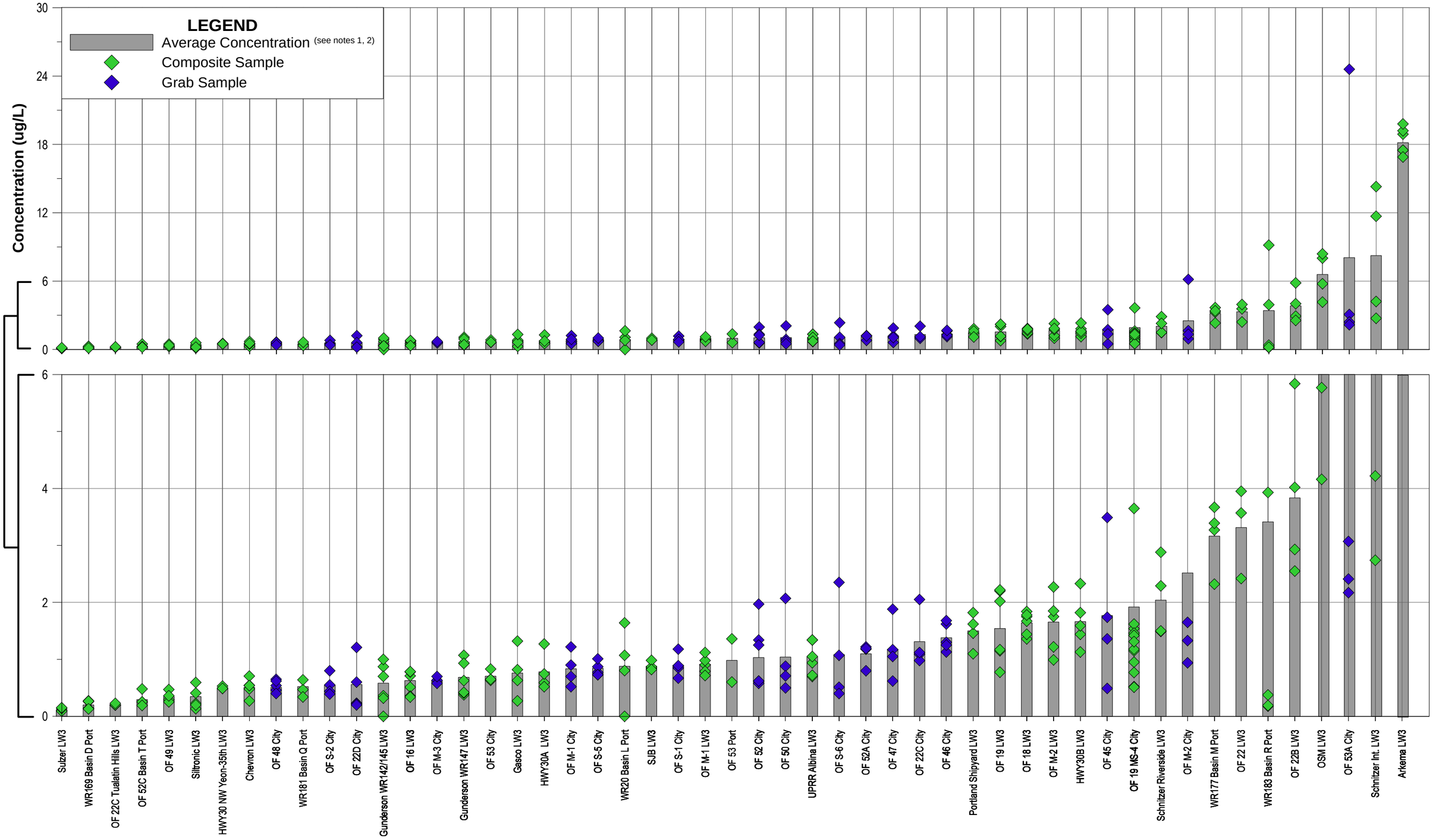
Total BEHP Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



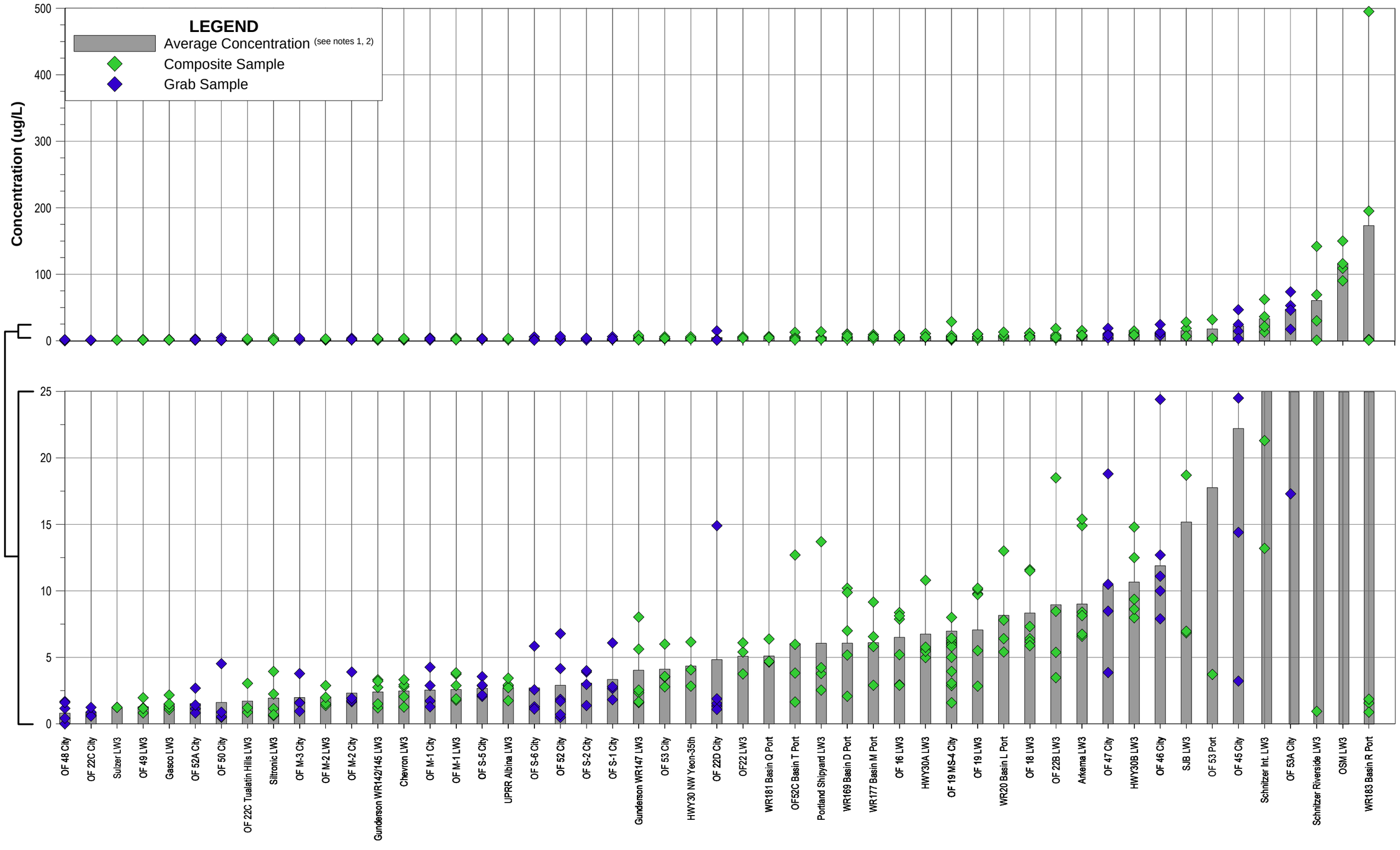
Total Arsenic Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



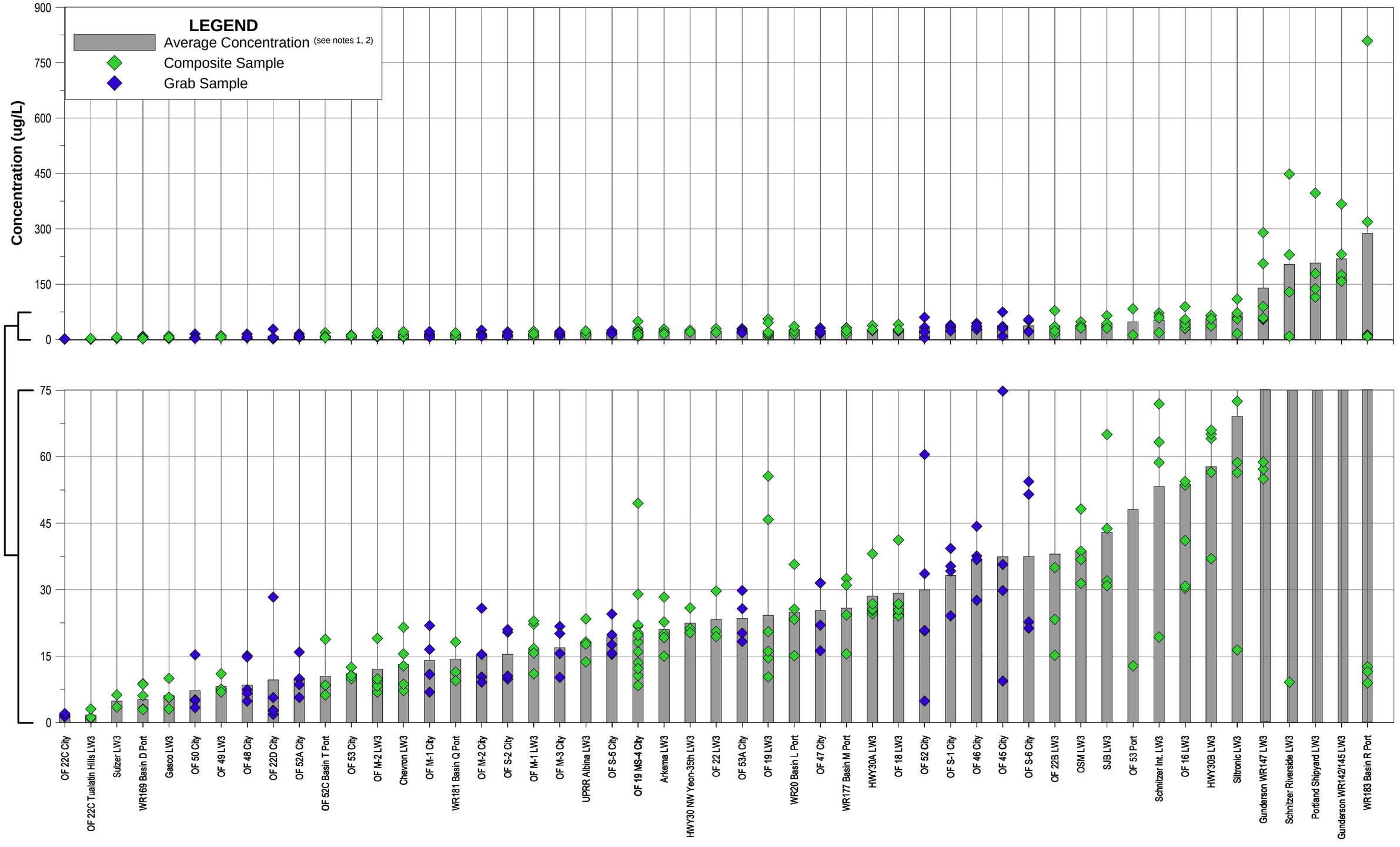
Total Chromium Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



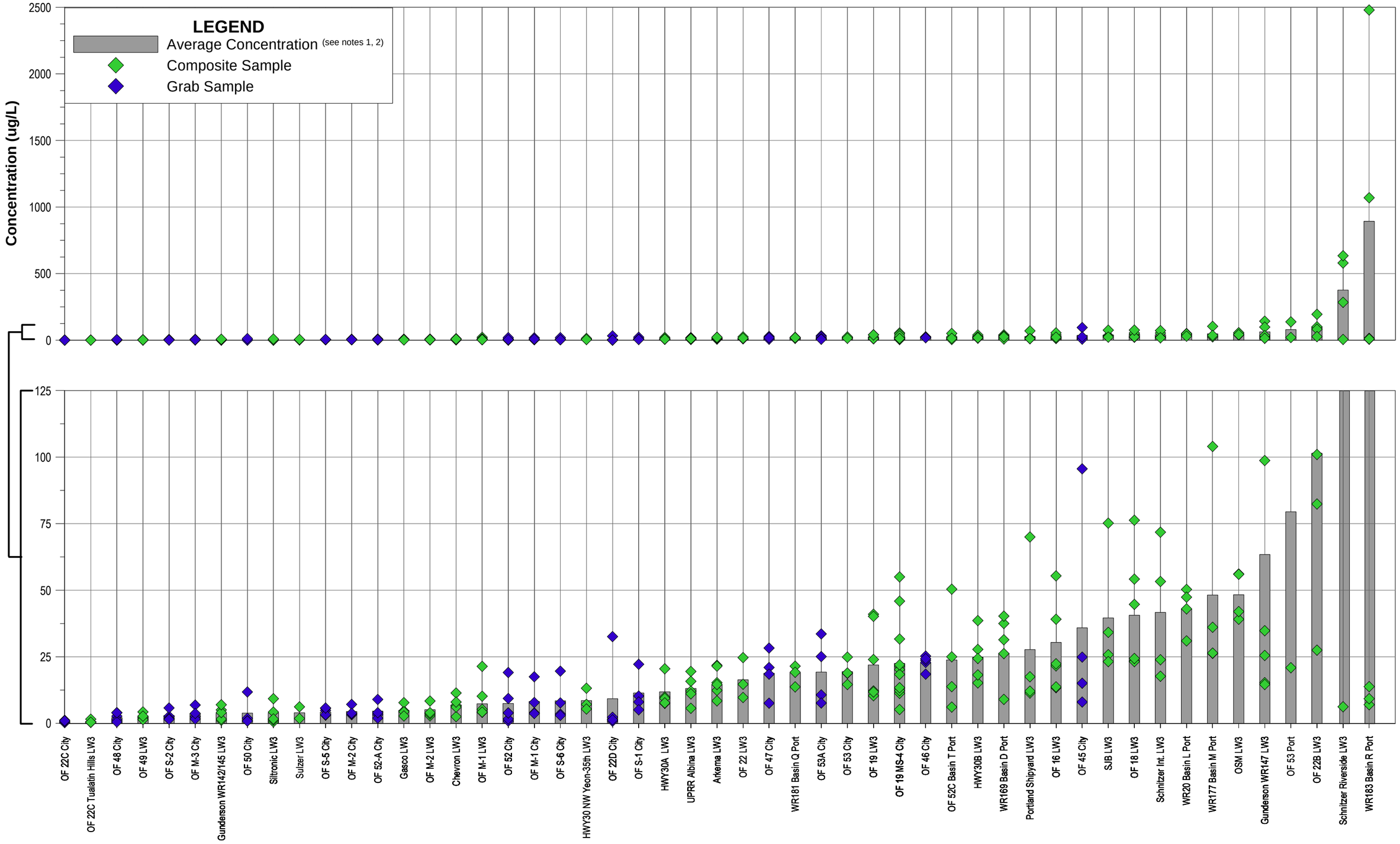
Total Copper Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



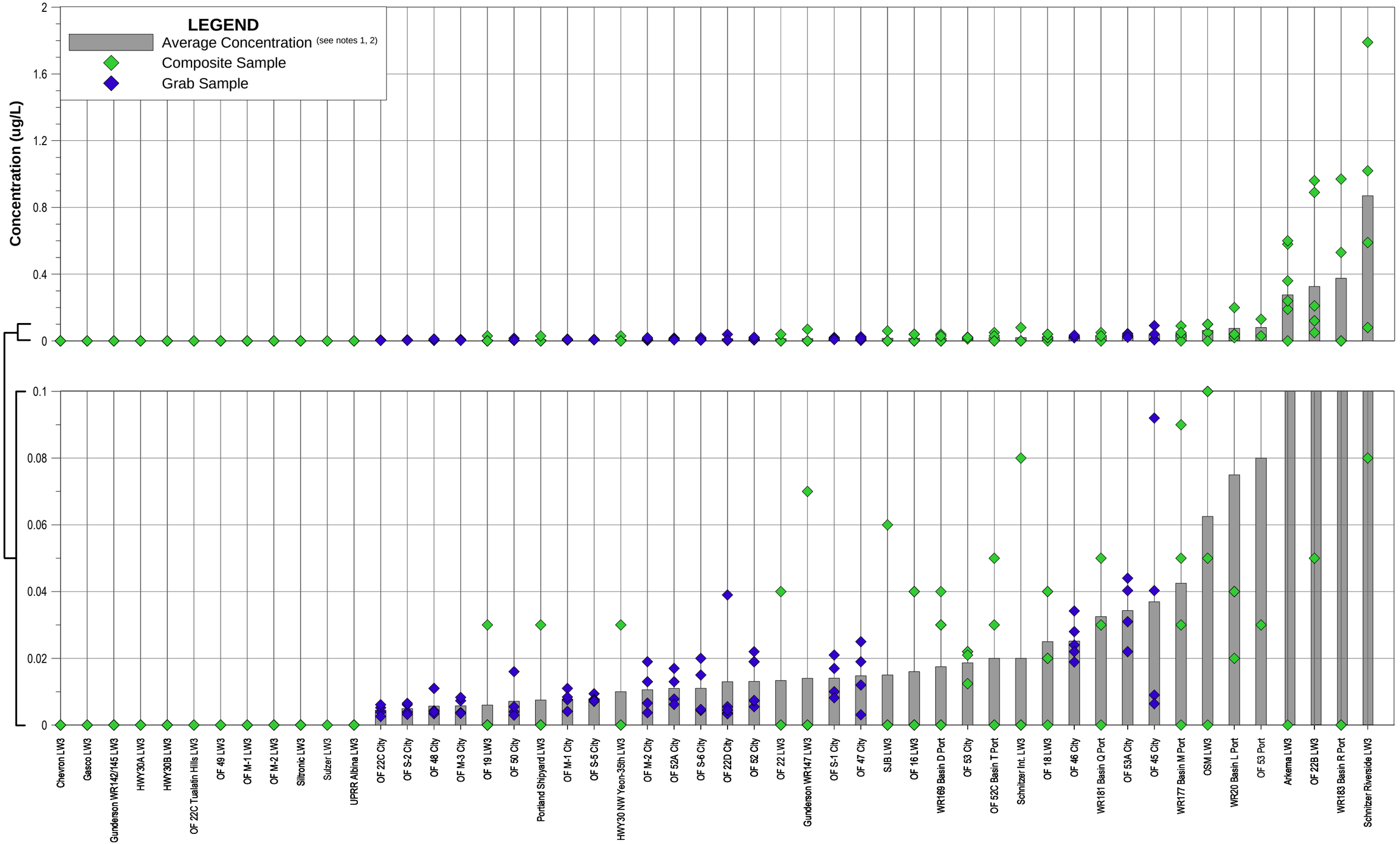
Total Lead Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



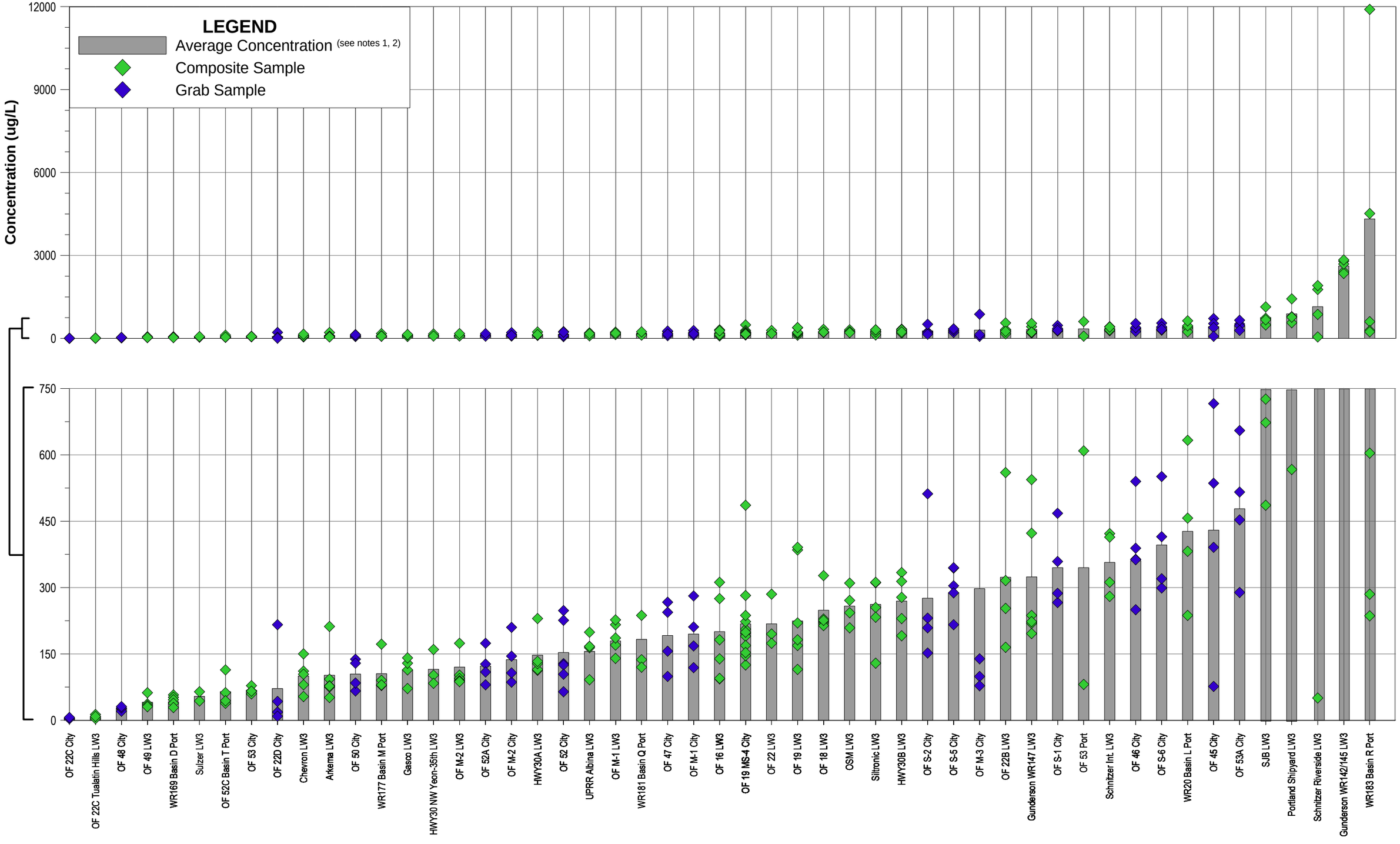
Total Mercury Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



Total Zinc Concentrations in Stormwater Runoff Discharging to Portland Harbor Study Area*

*(See Notes and Assumptions on attached page.)



Attachment C2

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Attachment C2

Summary of Analytical Results Used in Harborwide Statistical Evaluation

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Arkema LW3	2,4'-ddd	3/26/2007	FALSE	composite		0.12	ug/l	0.1606	0.1149
Arkema LW3	2,4'-ddd	4/23/2007	FALSE	composite		0.068	ug/l	0.1606	0.1149
Arkema LW3	2,4'-ddd	5/3/2007	FALSE	composite		0.47	ug/l	0.1606	0.1149
Arkema LW3	2,4'-ddd	6/5/2007	FALSE	grab	U	0.078	ug/l	0.1606	0.1149
Arkema LW3	2,4'-ddd	11/27/2007	FALSE	composite		0.067	ug/l	0.1606	0.1149
OF22B LW3	2,4'-ddd	3/27/2007	FALSE	composite	U	0.0071	ug/l	0.0129	0.0117
OF22B LW3	2,4'-ddd	3/27/2007	TRUE	composite	U	0.013	ug/l	0.0129	0.0117
OF22B LW3	2,4'-ddd	5/3/2007	FALSE	composite	U	0.037	ug/l	0.0129	0.0117
OF22B LW3	2,4'-ddd	5/3/2007	TRUE	composite	U	0.0052	ug/l	0.0129	0.0117
OF22B LW3	2,4'-ddd	6/5/2007	FALSE	grab	U	0.014	ug/l	0.0129	0.0117
OF22B LW3	2,4'-ddd	11/16/2007	FALSE	composite	U	0.0064	ug/l	0.0129	0.0117
OF52C Basin T Port	2,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0015	ug/l	0.0035	0.0022
OF52C Basin T Port	2,4'-ddd	4/7/2007	FALSE	composite	U	0.00097	ug/l	0.0035	0.0022
OF52C Basin T Port	2,4'-ddd	4/7/2007	TRUE	composite	J	0.0053	ug/l	0.0035	0.0022
OF52C Basin T Port	2,4'-ddd	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0035	0.0022
OF52C Basin T Port	2,4'-ddd	11/16/2007	TRUE	composite	U	0.00055	ug/l	0.0035	0.0022
OF52C Basin T Port	2,4'-ddd	11/16/2007	FALSE	composite	U	0.00058	ug/l	0.0035	0.0022
OF53 City+Port	2,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0015	ug/l	0.0027	0.0020
OF53 City+Port	2,4'-ddd	4/7/2007	FALSE	composite	U	0.00099	ug/l	0.0027	0.0020
OF53 City+Port	2,4'-ddd	5/3/2007	FALSE	composite	UJ	0.0055	ug/l	0.0027	0.0020
WR177 Basin M Port	2,4'-ddd	3/24/2007	FALSE	composite	U	0.00097	ug/l	0.0018	0.0016
WR177 Basin M Port	2,4'-ddd	4/7/2007	FALSE	composite	U	0.00097	ug/l	0.0018	0.0016
WR177 Basin M Port	2,4'-ddd	5/3/2007	TRUE	composite	J	0.0029	ug/l	0.0018	0.0016
WR177 Basin M Port	2,4'-ddd	5/3/2007	FALSE	composite	J	0.0022	ug/l	0.0018	0.0016
WR177 Basin M Port	2,4'-ddd	9/28/2007	FALSE	composite		0.0027	ug/l	0.0018	0.0016
WR181 Basin Q Port	2,4'-ddd	3/24/2007	TRUE	composite	UJ	0.003	ug/l	0.0018	0.0016
WR181 Basin Q Port	2,4'-ddd	3/24/2007	FALSE	composite	J	0.0027	ug/l	0.0018	0.0016
WR181 Basin Q Port	2,4'-ddd	4/7/2007	FALSE	composite	U	0.00098	ug/l	0.0018	0.0016
WR181 Basin Q Port	2,4'-ddd	9/28/2007	FALSE	composite	U	0.0016	ug/l	0.0018	0.0016
WR183 Basin R Port	2,4'-ddd	3/24/2007	FALSE	composite	U	0.0011	ug/l	0.0011	0.0011
WR20 Basin L Port	2,4'-ddd	3/24/2007	FALSE	composite		0.0024	ug/l	0.0054	0.0032
WR20 Basin L Port	2,4'-ddd	5/3/2007	FALSE	composite		0.0087	ug/l	0.0054	0.0032
WR20 Basin L Port	2,4'-ddd	5/20/2007	FALSE	composite	J	0.01	ug/l	0.0054	0.0032
WR20 Basin L Port	2,4'-ddd	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0054	0.0032
Arkema LW3	2,4'-dde	3/26/2007	FALSE	composite	J	0.21	ug/l	0.1414	0.1113
Arkema LW3	2,4'-dde	4/23/2007	FALSE	composite		0.091	ug/l	0.1414	0.1113
Arkema LW3	2,4'-dde	5/3/2007	FALSE	composite		0.29	ug/l	0.1414	0.1113
Arkema LW3	2,4'-dde	6/5/2007	FALSE	grab		0.041	ug/l	0.1414	0.1113
Arkema LW3	2,4'-dde	11/27/2007	FALSE	composite		0.075	ug/l	0.1414	0.1113
OF22B LW3	2,4'-dde	3/27/2007	FALSE	composite	J	0.023	ug/l	0.0177	0.0124
OF22B LW3	2,4'-dde	3/27/2007	TRUE	composite	J	0.031	ug/l	0.0177	0.0124
OF22B LW3	2,4'-dde	5/3/2007	FALSE	composite	NJ	0.032	ug/l	0.0177	0.0124
OF22B LW3	2,4'-dde	5/3/2007	TRUE	composite	U	0.023	ug/l	0.0177	0.0124
OF22B LW3	2,4'-dde	6/5/2007	FALSE	grab	U	0.0023	ug/l	0.0177	0.0124
OF22B LW3	2,4'-dde	11/16/2007	FALSE	composite	J	0.014	ug/l	0.0177	0.0124
OF52C Basin T Port	2,4'-dde	3/24/2007	FALSE	composite	U	0.00049	ug/l	0.0029	0.0016
OF52C Basin T Port	2,4'-dde	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0029	0.0016
OF52C Basin T Port	2,4'-dde	4/7/2007	TRUE	composite	UJ	0.002	ug/l	0.0029	0.0016
OF52C Basin T Port	2,4'-dde	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0029	0.0016
OF52C Basin T Port	2,4'-dde	11/16/2007	TRUE	composite	U	0.0011	ug/l	0.0029	0.0016
OF52C Basin T Port	2,4'-dde	11/16/2007	FALSE	composite	U	0.0012	ug/l	0.0029	0.0016
OF53 City+Port	2,4'-dde	3/24/2007	FALSE	composite	UJ	0.0013	ug/l	0.0024	0.0015
OF53 City+Port	2,4'-dde	4/7/2007	FALSE	composite	UJ	0.0005	ug/l	0.0024	0.0015
OF53 City+Port	2,4'-dde	5/3/2007	FALSE	composite	U	0.0053	ug/l	0.0024	0.0015
WR177 Basin M Port	2,4'-dde	3/24/2007	FALSE	composite	U	0.00049	ug/l	0.0016	0.0010
WR177 Basin M Port	2,4'-dde	4/7/2007	FALSE	composite	J	0.00073	ug/l	0.0016	0.0010
WR177 Basin M Port	2,4'-dde	5/3/2007	TRUE	composite	U	0.0048	ug/l	0.0016	0.0010
WR177 Basin M Port	2,4'-dde	5/3/2007	FALSE	composite	U	0.0048	ug/l	0.0016	0.0010
WR177 Basin M Port	2,4'-dde	9/28/2007	FALSE	composite		0.00053	ug/l	0.0016	0.0010
WR181 Basin Q Port	2,4'-dde	3/24/2007	FALSE	composite	UJ	0.0016	ug/l	0.0010	0.0009
WR181 Basin Q Port	2,4'-dde	3/24/2007	TRUE	composite	U	0.00059	ug/l	0.0010	0.0009
WR181 Basin Q Port	2,4'-dde	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0010	0.0009
WR181 Basin Q Port	2,4'-dde	9/28/2007	FALSE	composite		0.0015	ug/l	0.0010	0.0009
WR183 Basin R Port	2,4'-dde	3/24/2007	FALSE	composite	UJ	0.0009	ug/l	0.0009	0.0009
WR20 Basin L Port	2,4'-dde	3/24/2007	FALSE	composite	UJ	0.0015	ug/l	0.0033	0.0022
WR20 Basin L Port	2,4'-dde	5/3/2007	FALSE	composite	U	0.0059	ug/l	0.0033	0.0022
WR20 Basin L Port	2,4'-dde	5/20/2007	FALSE	composite	U	0.0052	ug/l	0.0033	0.0022
WR20 Basin L Port	2,4'-dde	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0033	0.0022
Arkema LW3	2,4'-ddt	3/26/2007	FALSE	composite		1.2	ug/l	0.8620	0.5321
Arkema LW3	2,4'-ddt	4/23/2007	FALSE	composite		0.42	ug/l	0.8620	0.5321
Arkema LW3	2,4'-ddt	5/3/2007	FALSE	composite		2.3	ug/l	0.8620	0.5321
Arkema LW3	2,4'-ddt	6/5/2007	FALSE	grab		0.23	ug/l	0.8620	0.5321

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Arkema LW3	2,4'-ddt	11/27/2007	FALSE	composite		0.16	ug/l	0.8620	0.5321
OF22B LW3	2,4'-ddt	3/27/2007	FALSE	composite		0.012	ug/l	0.0079	0.0069
OF22B LW3	2,4'-ddt	3/27/2007	TRUE	composite		0.014	ug/l	0.0079	0.0069
OF22B LW3	2,4'-ddt	5/3/2007	TRUE	composite	U	0.0078	ug/l	0.0079	0.0069
OF22B LW3	2,4'-ddt	5/3/2007	FALSE	composite	NJ	0.01	ug/l	0.0079	0.0069
OF22B LW3	2,4'-ddt	6/5/2007	FALSE	grab	NJ	0.0028	ug/l	0.0079	0.0069
OF22B LW3	2,4'-ddt	11/16/2007	FALSE	composite	U	0.007	ug/l	0.0079	0.0069
OF52C Basin T Port	2,4'-ddt	3/24/2007	FALSE	composite	UJ	0.00071	ug/l	0.0028	0.0015
OF52C Basin T Port	2,4'-ddt	4/7/2007	TRUE	composite	J	0.0018	ug/l	0.0028	0.0015
OF52C Basin T Port	2,4'-ddt	4/7/2007	FALSE	composite	UJ	0.00072	ug/l	0.0028	0.0015
OF52C Basin T Port	2,4'-ddt	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0028	0.0015
OF52C Basin T Port	2,4'-ddt	11/16/2007	FALSE	composite	U	0.00064	ug/l	0.0028	0.0015
OF52C Basin T Port	2,4'-ddt	11/16/2007	TRUE	composite	U	0.0006	ug/l	0.0028	0.0015
OF53 City+Port	2,4'-ddt	3/24/2007	FALSE	composite	UJ	0.00061	ug/l	0.0022	0.0013
OF53 City+Port	2,4'-ddt	4/7/2007	FALSE	composite	UJ	0.00067	ug/l	0.0022	0.0013
OF53 City+Port	2,4'-ddt	5/3/2007	FALSE	composite	UJ	0.0053	ug/l	0.0022	0.0013
WR177 Basin M Port	2,4'-ddt	3/24/2007	FALSE	composite	J	0.0015	ug/l	0.0017	0.0014
WR177 Basin M Port	2,4'-ddt	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0017	0.0014
WR177 Basin M Port	2,4'-ddt	5/3/2007	TRUE	composite	J	0.0019	ug/l	0.0017	0.0014
WR177 Basin M Port	2,4'-ddt	5/3/2007	FALSE	composite	J	0.0019	ug/l	0.0017	0.0014
WR177 Basin M Port	2,4'-ddt	9/28/2007	FALSE	composite	J	0.003	ug/l	0.0017	0.0014
WR181 Basin Q Port	2,4'-ddt	3/24/2007	FALSE	composite	J	0.0027	ug/l	0.0017	0.0014
WR181 Basin Q Port	2,4'-ddt	3/24/2007	TRUE	composite	UJ	0.00074	ug/l	0.0017	0.0014
WR181 Basin Q Port	2,4'-ddt	4/7/2007	FALSE	composite	UJ	0.00054	ug/l	0.0017	0.0014
WR181 Basin Q Port	2,4'-ddt	9/28/2007	FALSE	composite	J	0.0027	ug/l	0.0017	0.0014
WR183 Basin R Port	2,4'-ddt	3/24/2007	FALSE	composite	UJ	0.00055	ug/l	0.0006	0.0006
WR20 Basin L Port	2,4'-ddt	3/24/2007	FALSE	composite	J	0.00068	ug/l	0.0033	0.0026
WR20 Basin L Port	2,4'-ddt	5/3/2007	FALSE	composite	J	0.0034	ug/l	0.0033	0.0026
WR20 Basin L Port	2,4'-ddt	5/20/2007	FALSE	composite	UJ	0.0052	ug/l	0.0033	0.0026
WR20 Basin L Port	2,4'-ddt	9/28/2007	FALSE	composite	U	0.0041	ug/l	0.0033	0.0026
Arkema LW3	2,4-d	6/5/2007	FALSE	grab	U	0.38	ug/l	0.278	0.227
Arkema LW3	2,4-d	6/10/2007	FALSE	composite	U	0.37	ug/l	0.278	0.227
Arkema LW3	2,4-d	11/27/2007	FALSE	composite	J	0.083	ug/l	0.278	0.227
Chevron LW3	2,4-d	3/26/2007	FALSE	composite	U	0.036	ug/l	0.262	0.172
Chevron LW3	2,4-d	5/3/2007	FALSE	composite	U	0.38	ug/l	0.262	0.172
Chevron LW3	2,4-d	6/10/2007	FALSE	composite	U	0.37	ug/l	0.262	0.172
Gasco LW3	2,4-d	4/9/2007	FALSE	composite	U	0.036	ug/l	0.643	0.156
Gasco LW3	2,4-d	4/18/2007	FALSE	composite	U	0.036	ug/l	0.643	0.156
Gasco LW3	2,4-d	5/3/2007	FALSE	composite	U	2.3	ug/l	0.643	0.156
Gasco LW3	2,4-d	5/21/2007	FALSE	grab	U	0.2	ug/l	0.643	0.156
Gunderson WR142/145 LW3	2,4-d	5/21/2007	FALSE	grab	U	0.17	ug/l	0.154	0.102
Gunderson WR142/145 LW3	2,4-d	6/10/2007	FALSE	composite	U	0.36	ug/l	0.154	0.102
Gunderson WR142/145 LW3	2,4-d	11/16/2007	FALSE	composite	U	0.051	ug/l	0.154	0.102
Gunderson WR142/145 LW3	2,4-d	1/9/2008	FALSE	composite	U	0.035	ug/l	0.154	0.102
Gunderson WR147 LW3	2,4-d	5/3/2007	FALSE	composite	U	0.36	ug/l	0.350	0.350
Gunderson WR147 LW3	2,4-d	6/10/2007	FALSE	composite	U	0.34	ug/l	0.350	0.350
HWY30 NW Yeon-35th LW3	2,4-d	4/9/2007	FALSE	composite	J	0.22	ug/l	0.305	0.293
HWY30 NW Yeon-35th LW3	2,4-d	5/3/2007	FALSE	composite	U	0.39	ug/l	0.305	0.293
HWY30A Reed St. LW3	2,4-d	11/16/2007	FALSE	composite	J	0.12	ug/l	0.064	0.054
HWY30A Reed St. LW3	2,4-d	1/28/2008	FALSE	composite	U	0.036	ug/l	0.064	0.054
HWY30A Reed St. LW3	2,4-d	1/30/2008	FALSE	composite	U	0.036	ug/l	0.064	0.054
HWY30B 35th St. LW3	2,4-d	1/11/2008	FALSE	composite	J	0.072	ug/l	0.048	0.046
HWY30B 35th St. LW3	2,4-d	1/15/2008	FALSE	composite	U	0.037	ug/l	0.048	0.046
HWY30B 35th St. LW3	2,4-d	1/28/2008	FALSE	composite	U	0.037	ug/l	0.048	0.046
HWY30B 35th St. LW3	2,4-d	1/30/2008	FALSE	composite	U	0.045	ug/l	0.048	0.046
OF16 LW3	2,4-d	4/9/2007	FALSE	composite	NJ	0.28	ug/l	0.326	0.218
OF16 LW3	2,4-d	4/18/2007	FALSE	composite		0.64	ug/l	0.326	0.218
OF16 LW3	2,4-d	4/23/2007	FALSE	composite	NJ	0.058	ug/l	0.326	0.218
OF18 LW3	2,4-d	3/26/2007	FALSE	composite	U	0.034	ug/l	0.093	0.080
OF18 LW3	2,4-d	4/9/2007	FALSE	composite	NJ	0.097	ug/l	0.093	0.080
OF18 LW3	2,4-d	4/18/2007	FALSE	composite	J	0.067	ug/l	0.093	0.080
OF18 LW3	2,4-d	4/18/2007	TRUE	composite	J	0.076	ug/l	0.093	0.080
OF18 LW3	2,4-d	5/21/2007	FALSE	grab	U	0.17	ug/l	0.093	0.080
OF19_LW3+MS4	2,4-d	3/26/2007	FALSE	composite	NJ	0.15	ug/l	0.107	0.099
OF19_LW3+MS4	2,4-d	4/9/2007	FALSE	composite	U	0.14	ug/l	0.107	0.099
OF19_LW3+MS4	2,4-d	4/18/2007	FALSE	composite	J	0.081		0.107	0.099
OF19_LW3+MS4	2,4-d	4/23/2007	FALSE	composite	NJ	0.057	ug/l	0.107	0.099
OF22 LW3	2,4-d	4/9/2007	FALSE	composite	U	0.036	ug/l	0.445	0.230
OF22 LW3	2,4-d	5/3/2007	FALSE	composite	U	0.36	ug/l	0.445	0.230
OF22 LW3	2,4-d	6/10/2007	FALSE	composite	J	0.94	ug/l	0.445	0.230
OF22B LW3	2,4-d	3/27/2007	FALSE	composite		0.76	ug/l	1.565	1.228
OF22B LW3	2,4-d	5/3/2007	FALSE	composite	J	4.1	ug/l	1.565	1.228

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22B LW3	2,4-d	6/5/2007	FALSE	grab	NJ	0.78	ug/l	1.565	1.228
OF22B LW3	2,4-d	11/16/2007	FALSE	composite		1.3	ug/l	1.565	1.228
OF22B LW3	2,4-d	11/27/2007	FALSE	composite		0.86	ug/l	1.565	1.228
OF22B LW3	2,4-d	11/27/2007	TRUE	composite		0.91	ug/l	1.565	1.228
OF22C Tualatin Hills LW3	2,4-d	4/18/2007	FALSE	composite	U	0.034	ug/l	0.051	0.047
OF22C Tualatin Hills LW3	2,4-d	4/23/2007	FALSE	composite	U	0.036	ug/l	0.051	0.047
OF22C Tualatin Hills LW3	2,4-d	4/23/2007	TRUE	composite	U	0.037	ug/l	0.051	0.047
OF22C Tualatin Hills LW3	2,4-d	1/9/2008	FALSE	composite	J	0.083	ug/l	0.051	0.047
OF49 LW3	2,4-d	4/9/2007	FALSE	composite	J	0.34	ug/l	0.863	0.554
OF49 LW3	2,4-d	4/23/2007	FALSE	composite		2	ug/l	0.863	0.554
OF49 LW3	2,4-d	11/16/2007	FALSE	composite	J	0.25	ug/l	0.863	0.554
OFM1 LW3	2,4-d	3/26/2007	FALSE	composite	J	0.19	ug/l	0.111	0.089
OFM1 LW3	2,4-d	4/9/2007	FALSE	composite	NJ	0.11	ug/l	0.111	0.089
OFM1 LW3	2,4-d	4/18/2007	FALSE	composite	U	0.034	ug/l	0.111	0.089
OFM2 LW3	2,4-d	4/9/2007	FALSE	composite	J	0.19	ug/l	0.394	0.243
OFM2 LW3	2,4-d	4/23/2007	FALSE	composite	J	0.083	ug/l	0.394	0.243
OFM2 LW3	2,4-d	5/3/2007	TRUE	composite	J	0.72	ug/l	0.394	0.243
OFM2 LW3	2,4-d	5/3/2007	FALSE	composite	J	1.1	ug/l	0.394	0.243
OSM LW3	2,4-d	3/26/2007	FALSE	composite	U	0.036	ug/l	0.072	0.053
OSM LW3	2,4-d	4/9/2007	FALSE	composite	U	0.037	ug/l	0.072	0.053
OSM LW3	2,4-d	4/18/2007	FALSE	composite	U	0.034	ug/l	0.072	0.053
OSM LW3	2,4-d	5/21/2007	FALSE	grab	U	0.18	ug/l	0.072	0.053
Portland Shipyard LW3	2,4-d	4/9/2007	FALSE	composite	U	0.036	ug/l	0.955	0.373
Portland Shipyard LW3	2,4-d	4/9/2007	TRUE	composite	U	0.037	ug/l	0.955	0.373
Portland Shipyard LW3	2,4-d	5/3/2007	FALSE	composite	U	0.37	ug/l	0.955	0.373
Portland Shipyard LW3	2,4-d	5/22/2007	FALSE	grab	U	0.4	ug/l	0.955	0.373
Portland Shipyard LW3	2,4-d	6/5/2007	FALSE	grab	U	3.6	ug/l	0.955	0.373
Portland Shipyard LW3	2,4-d	6/10/2007	FALSE	composite	U	0.37	ug/l	0.955	0.373
Schnitzer Int. LW3	2,4-d	4/9/2007	FALSE	composite	J	0.13	ug/l	0.248	0.232
Schnitzer Int. LW3	2,4-d	5/3/2007	FALSE	composite	U	0.34	ug/l	0.248	0.232
Schnitzer Int. LW3	2,4-d	5/21/2007	FALSE	grab	J	0.3	ug/l	0.248	0.232
Schnitzer Int. LW3	2,4-d	6/11/2007	FALSE	composite	J	0.22	ug/l	0.248	0.232
Schnitzer Riverside LW3	2,4-d	4/9/2007	FALSE	composite	NJ	0.64	ug/l	1.013	0.973
Schnitzer Riverside LW3	2,4-d	5/3/2007	FALSE	composite	J	1.2	ug/l	1.013	0.973
Schnitzer Riverside LW3	2,4-d	6/11/2007	FALSE	composite	J	1.2	ug/l	1.013	0.973
Siltronic LW3	2,4-d	4/9/2007	FALSE	composite	U	0.099	ug/l	0.220	0.183
Siltronic LW3	2,4-d	6/10/2007	FALSE	composite	U	0.34	ug/l	0.220	0.183
SJB LW3	2,4-d	4/23/2007	FALSE	composite	U	0.42	ug/l	0.513	0.410
SJB LW3	2,4-d	5/3/2007	FALSE	composite	U	0.36	ug/l	0.513	0.410
SJB LW3	2,4-d	5/21/2007	FALSE	grab	U	0.17	ug/l	0.513	0.410
SJB LW3	2,4-d	6/10/2007	FALSE	composite	J	1.1	ug/l	0.513	0.410
Sulzer LW3	2,4-d	1/30/2008	FALSE	composite	U	0.037	ug/l	0.037	0.037
UPRR Albina LW3	2,4-d	5/3/2007	FALSE	composite		16	ug/l	8.035	1.051
UPRR Albina LW3	2,4-d	11/29/2007	FALSE	composite	J	0.069	ug/l	8.035	1.051
Arkema LW3	2,4-db	6/5/2007	FALSE	grab	U	0.45	ug/l	0.440	0.440
Arkema LW3	2,4-db	6/10/2007	FALSE	composite	U	0.44	ug/l	0.440	0.440
Arkema LW3	2,4-db	11/27/2007	FALSE	composite	U	0.43	ug/l	0.440	0.440
Chevron LW3	2,4-db	3/26/2007	FALSE	composite	U	0.043	ug/l	0.361	0.225
Chevron LW3	2,4-db	5/3/2007	FALSE	composite	U	0.45	ug/l	0.361	0.225
Chevron LW3	2,4-db	6/10/2007	FALSE	composite	U	0.59	ug/l	0.361	0.225
Gasco LW3	2,4-db	4/9/2007	FALSE	composite	U	0.043	ug/l	0.174	0.111
Gasco LW3	2,4-db	4/18/2007	FALSE	composite	U	0.042	ug/l	0.174	0.111
Gasco LW3	2,4-db	5/3/2007	FALSE	composite	U	0.4	ug/l	0.174	0.111
Gasco LW3	2,4-db	5/21/2007	FALSE	grab	U	0.21	ug/l	0.174	0.111
Gunderson WR142/145 LW3	2,4-db	5/21/2007	FALSE	grab	U	0.2	ug/l	0.753	0.569
Gunderson WR142/145 LW3	2,4-db	6/10/2007	FALSE	composite	J	1.6	ug/l	0.753	0.569
Gunderson WR142/145 LW3	2,4-db	11/16/2007	FALSE	composite	J	0.8	ug/l	0.753	0.569
Gunderson WR142/145 LW3	2,4-db	1/9/2008	FALSE	composite	U	0.41	ug/l	0.753	0.569
Gunderson WR147 LW3	2,4-db	5/3/2007	FALSE	composite	U	0.42	ug/l	0.410	0.410
Gunderson WR147 LW3	2,4-db	6/10/2007	FALSE	composite	U	0.4	ug/l	0.410	0.410
HWY30 NW Yeon-35th LW3	2,4-db	4/9/2007	FALSE	composite	U	2.6	ug/l	1.525	1.082
HWY30 NW Yeon-35th LW3	2,4-db	5/3/2007	FALSE	composite	U	0.45	ug/l	1.525	1.082
HWY30A Reed St. LW3	2,4-db	11/16/2007	FALSE	composite	U	0.044	ug/l	0.235	0.105
HWY30A Reed St. LW3	2,4-db	1/28/2008	FALSE	composite	U	0.62	ug/l	0.235	0.105
HWY30A Reed St. LW3	2,4-db	1/30/2008	FALSE	composite	U	0.042	ug/l	0.235	0.105
HWY30B 35th St. LW3	2,4-db	1/11/2008	FALSE	composite	U	0.043	ug/l	0.045	0.045
HWY30B 35th St. LW3	2,4-db	1/15/2008	FALSE	composite	U	0.043	ug/l	0.045	0.045
HWY30B 35th St. LW3	2,4-db	1/28/2008	FALSE	composite	U	0.043	ug/l	0.045	0.045
HWY30B 35th St. LW3	2,4-db	1/30/2008	FALSE	composite	U	0.052	ug/l	0.045	0.045
OF16 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.04	ug/l	0.162	0.090
OF16 LW3	2,4-db	4/18/2007	FALSE	composite	U	0.046	ug/l	0.162	0.090
OF16 LW3	2,4-db	4/23/2007	FALSE	composite	U	0.4	ug/l	0.162	0.090

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF18 LW3	2,4-db	3/26/2007	FALSE	composite	U	0.04	ug/l	0.431	0.102
OF18 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.043	ug/l	0.431	0.102
OF18 LW3	2,4-db	4/18/2007	TRUE	composite	U	0.04	ug/l	0.431	0.102
OF18 LW3	2,4-db	4/18/2007	FALSE	composite	U	0.04	ug/l	0.431	0.102
OF18 LW3	2,4-db	5/21/2007	FALSE	grab	U	1.6	ug/l	0.431	0.102
OF19_LW3+MS4	2,4-db	3/26/2007	FALSE	composite	U	0.044	ug/l	0.043	0.043
OF19_LW3+MS4	2,4-db	4/9/2007	FALSE	composite	U	0.043	ug/l	0.043	0.043
OF19_LW3+MS4	2,4-db	4/18/2007	FALSE	composite	U	0.04	ug/l	0.043	0.043
OF19_LW3+MS4	2,4-db	4/23/2007	FALSE	composite	U	0.044	ug/l	0.043	0.043
OF22 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.043	ug/l	0.201	0.136
OF22 LW3	2,4-db	5/3/2007	FALSE	composite	U	0.42	ug/l	0.201	0.136
OF22 LW3	2,4-db	6/10/2007	FALSE	composite	U	0.14	ug/l	0.201	0.136
OF22B LW3	2,4-db	3/27/2007	FALSE	composite	U	0.04	ug/l	1.731	0.303
OF22B LW3	2,4-db	5/3/2007	FALSE	composite	U	0.43	ug/l	1.731	0.303
OF22B LW3	2,4-db	6/5/2007	FALSE	grab	U	7.7	ug/l	1.731	0.303
OF22B LW3	2,4-db	11/16/2007	FALSE	composite	U	0.044	ug/l	1.731	0.303
OF22B LW3	2,4-db	11/27/2007	FALSE	composite	U	0.44	ug/l	1.731	0.303
OF22B LW3	2,4-db	11/27/2007	TRUE	composite	U	0.44	ug/l	1.731	0.303
OF22C Tualatin Hills LW3	2,4-db	4/18/2007	FALSE	composite	U	0.13	ug/l	0.176	0.172
OF22C Tualatin Hills LW3	2,4-db	4/23/2007	FALSE	composite	U	0.39	ug/l	0.176	0.172
OF22C Tualatin Hills LW3	2,4-db	4/23/2007	TRUE	composite	U	0.043	ug/l	0.176	0.172
OF22C Tualatin Hills LW3	2,4-db	1/9/2008	FALSE	composite	U	0.18	ug/l	0.176	0.172
OF49 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.062	ug/l	0.079	0.071
OF49 LW3	2,4-db	4/23/2007	FALSE	composite	U	0.13	ug/l	0.079	0.071
OF49 LW3	2,4-db	11/16/2007	FALSE	composite	U	0.044	ug/l	0.079	0.071
OFM1 LW3	2,4-db	3/26/2007	FALSE	composite	U	0.042	ug/l	0.041	0.041
OFM1 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.04	ug/l	0.041	0.041
OFM1 LW3	2,4-db	4/18/2007	FALSE	composite	U	0.04	ug/l	0.041	0.041
OFM2 LW3	2,4-db	4/9/2007	FALSE	composite	U	0.044	ug/l	0.308	0.204
OFM2 LW3	2,4-db	4/23/2007	FALSE	composite	U	0.44	ug/l	0.308	0.204
OFM2 LW3	2,4-db	5/3/2007	FALSE	composite	U	0.45	ug/l	0.308	0.204
OFM2 LW3	2,4-db	5/3/2007	TRUE	composite	U	0.43	ug/l	0.308	0.204
OSM LW3	2,4-db	3/26/2007	FALSE	composite	U	0.042	ug/l	0.282	0.093
OSM LW3	2,4-db	4/9/2007	FALSE	composite	U	0.044	ug/l	0.282	0.093
OSM LW3	2,4-db	4/18/2007	FALSE	composite	U	0.04	ug/l	0.282	0.093
OSM LW3	2,4-db	5/21/2007	FALSE	grab	J	1	ug/l	0.282	0.093
Portland Shipyard LW3	2,4-db	4/9/2007	TRUE	composite	U	0.044	ug/l	6.137	0.929
Portland Shipyard LW3	2,4-db	4/9/2007	FALSE	composite	U	0.042	ug/l	6.137	0.929
Portland Shipyard LW3	2,4-db	5/3/2007	FALSE	composite	U	0.92	ug/l	6.137	0.929
Portland Shipyard LW3	2,4-db	5/22/2007	FALSE	grab	U	0.52	ug/l	6.137	0.929
Portland Shipyard LW3	2,4-db	6/5/2007	FALSE	grab	U	28	ug/l	6.137	0.929
Portland Shipyard LW3	2,4-db	6/10/2007	FALSE	composite	U	1.2	ug/l	6.137	0.929
Schnitzer Int. LW3	2,4-db	4/9/2007	FALSE	composite	U	0.043	ug/l	0.172	0.111
Schnitzer Int. LW3	2,4-db	5/3/2007	FALSE	composite	U	0.4	ug/l	0.172	0.111
Schnitzer Int. LW3	2,4-db	5/21/2007	FALSE	grab	U	0.2	ug/l	0.172	0.111
Schnitzer Int. LW3	2,4-db	6/11/2007	FALSE	composite	U	0.044	ug/l	0.172	0.111
Schnitzer Riverside LW3	2,4-db	4/9/2007	FALSE	composite	U	0.044	ug/l	0.295	0.198
Schnitzer Riverside LW3	2,4-db	5/3/2007	FALSE	composite	U	0.4	ug/l	0.295	0.198
Schnitzer Riverside LW3	2,4-db	6/11/2007	FALSE	composite	U	0.44	ug/l	0.295	0.198
Siltronic LW3	2,4-db	4/9/2007	FALSE	composite	U	0.045	ug/l	0.223	0.134
Siltronic LW3	2,4-db	6/10/2007	FALSE	composite	U	0.4	ug/l	0.223	0.134
SJB LW3	2,4-db	4/23/2007	FALSE	composite	U	0.11	ug/l	0.743	0.544
SJB LW3	2,4-db	5/3/2007	FALSE	composite	U	1.1	ug/l	0.743	0.544
SJB LW3	2,4-db	5/21/2007	FALSE	grab	U	0.66	ug/l	0.743	0.544
SJB LW3	2,4-db	6/10/2007	FALSE	composite	U	1.1	ug/l	0.743	0.544
Sulzer LW3	2,4-db	1/30/2008	FALSE	composite	U	0.15	ug/l	0.150	0.150
UPRR Albina LW3	2,4-db	5/3/2007	FALSE	composite	U	0.43	ug/l	0.435	0.435
UPRR Albina LW3	2,4-db	11/29/2007	FALSE	composite	U	0.44	ug/l	0.435	0.435
Arkema LW3	4,4'-ddd	3/26/2007	FALSE	composite		0.16	ug/l	0.3036	0.1614
Arkema LW3	4,4'-ddd	4/23/2007	FALSE	composite	J	0.082	ug/l	0.3036	0.1614
Arkema LW3	4,4'-ddd	5/3/2007	FALSE	composite	J	1.1	ug/l	0.3036	0.1614
Arkema LW3	4,4'-ddd	6/5/2007	FALSE	grab		0.1	ug/l	0.3036	0.1614
Arkema LW3	4,4'-ddd	11/27/2007	FALSE	composite		0.076	ug/l	0.3036	0.1614
OF19_LW3+MS4	4,4'-ddd	2/23/2009	FALSE	composite	J	0.014	ug/L	0.0140	0.0140
OF22B LW3	4,4'-ddd	3/27/2007	FALSE	composite	NJ	0.026	ug/l	0.0618	0.0342
OF22B LW3	4,4'-ddd	3/27/2007	TRUE	composite	NJ	0.079	ug/l	0.0618	0.0342
OF22B LW3	4,4'-ddd	5/3/2007	FALSE	composite	J	0.15	ug/l	0.0618	0.0342
OF22B LW3	4,4'-ddd	5/3/2007	TRUE	composite	J	0.16	ug/l	0.0618	0.0342
OF22B LW3	4,4'-ddd	6/5/2007	FALSE	grab	U	0.0048	ug/l	0.0618	0.0342
OF22B LW3	4,4'-ddd	11/16/2007	FALSE	composite		0.035	ug/l	0.0618	0.0342
OF52C Basin T Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0012	ug/l	0.0037	0.0017
OF52C Basin T Port	4,4'-ddd	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0037	0.0017

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52C Basin T Port	4,4'-ddd	4/7/2007	TRUE	composite	UJ	0.00049	ug/l	0.0037	0.0017
OF52C Basin T Port	4,4'-ddd	5/3/2007	FALSE	composite	UJ	0.012	ug/l	0.0037	0.0017
OF52C Basin T Port	4,4'-ddd	11/16/2007	TRUE	composite	U	0.0011	ug/l	0.0037	0.0017
OF52C Basin T Port	4,4'-ddd	11/16/2007	FALSE	composite	U	0.0012	ug/l	0.0037	0.0017
OF53 City+Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.00064	ug/l	0.0032	0.0014
OF53 City+Port	4,4'-ddd	4/7/2007	FALSE	composite	UJ	5.00E-04	ug/l	0.0032	0.0014
OF53 City+Port	4,4'-ddd	5/3/2007	FALSE	composite	UJ	0.0085	ug/l	0.0032	0.0014
WR177 Basin M Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0062	ug/l	0.0032	0.0021
WR177 Basin M Port	4,4'-ddd	4/7/2007	FALSE	composite		5.00E-04	ug/l	0.0032	0.0021
WR177 Basin M Port	4,4'-ddd	5/3/2007	FALSE	composite	UJ	0.0048	ug/l	0.0032	0.0021
WR177 Basin M Port	4,4'-ddd	5/3/2007	TRUE	composite	UJ	0.0048	ug/l	0.0032	0.0021
WR177 Basin M Port	4,4'-ddd	9/28/2007	FALSE	composite	U	0.0014	ug/l	0.0032	0.0021
WR181 Basin Q Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0062	ug/l	0.0024	0.0016
WR181 Basin Q Port	4,4'-ddd	3/24/2007	TRUE	composite	UJ	0.0034	ug/l	0.0024	0.0016
WR181 Basin Q Port	4,4'-ddd	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0024	0.0016
WR181 Basin Q Port	4,4'-ddd	9/28/2007	FALSE	composite		0.0018	ug/l	0.0024	0.0016
WR183 Basin R Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.002	ug/l	0.0020	0.0020
WR20 Basin L Port	4,4'-ddd	3/24/2007	FALSE	composite	UJ	0.0033	ug/l	0.0036	0.0026
WR20 Basin L Port	4,4'-ddd	5/3/2007	FALSE	composite	UJ	0.0059	ug/l	0.0036	0.0026
WR20 Basin L Port	4,4'-ddd	5/20/2007	FALSE	composite	J	0.0045	ug/l	0.0036	0.0026
WR20 Basin L Port	4,4'-ddd	9/28/2007	FALSE	composite	U	5.00E-04	ug/l	0.0036	0.0026
Arkema LW3	4,4'-dde	3/26/2007	FALSE	composite		0.77	ug/l	0.7680	0.5912
Arkema LW3	4,4'-dde	4/23/2007	FALSE	composite		0.44	ug/l	0.7680	0.5912
Arkema LW3	4,4'-dde	5/3/2007	FALSE	composite		1.9	ug/l	0.7680	0.5912
Arkema LW3	4,4'-dde	6/5/2007	FALSE	grab		0.22	ug/l	0.7680	0.5912
Arkema LW3	4,4'-dde	11/27/2007	FALSE	composite		0.51	ug/l	0.7680	0.5912
OF19_LW3+MS4	4,4'-dde	2/23/2009	FALSE	composite	U	0.0091	ug/L	0.0091	0.0091
OF22B LW3	4,4'-dde	3/27/2007	TRUE	composite		0.014	ug/l	0.0105	0.0088
OF22B LW3	4,4'-dde	3/27/2007	FALSE	composite		0.01	ug/l	0.0105	0.0088
OF22B LW3	4,4'-dde	5/3/2007	TRUE	composite	NJ	0.018	ug/l	0.0105	0.0088
OF22B LW3	4,4'-dde	5/3/2007	FALSE	composite	J	0.017	ug/l	0.0105	0.0088
OF22B LW3	4,4'-dde	6/5/2007	FALSE	grab	NJ	0.0092	ug/l	0.0105	0.0088
OF22B LW3	4,4'-dde	11/16/2007	FALSE	composite	NJ	0.0031	ug/l	0.0105	0.0088
OF52C Basin T Port	4,4'-dde	3/24/2007	FALSE	composite	UJ	0.0026	ug/l	0.0038	0.0019
OF52C Basin T Port	4,4'-dde	4/7/2007	TRUE	composite	U	0.00049	ug/l	0.0038	0.0019
OF52C Basin T Port	4,4'-dde	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0038	0.0019
OF52C Basin T Port	4,4'-dde	5/3/2007	FALSE	composite	UJ	0.011	ug/l	0.0038	0.0019
OF52C Basin T Port	4,4'-dde	11/16/2007	FALSE	composite	U	0.001	ug/l	0.0038	0.0019
OF52C Basin T Port	4,4'-dde	11/16/2007	TRUE	composite	U	0.00095	ug/l	0.0038	0.0019
OF53 City+Port	4,4'-dde	3/24/2007	FALSE	composite	UJ	0.003	ug/l	0.0049	0.0030
OF53 City+Port	4,4'-dde	4/7/2007	FALSE	composite		0.00081	ug/l	0.0049	0.0030
OF53 City+Port	4,4'-dde	5/3/2007	FALSE	composite	UJ	0.011	ug/l	0.0049	0.0030
WR177 Basin M Port	4,4'-dde	3/24/2007	FALSE	composite	J	0.0079	ug/l	0.0037	0.0024
WR177 Basin M Port	4,4'-dde	4/7/2007	FALSE	composite	J	0.00076	ug/l	0.0037	0.0024
WR177 Basin M Port	4,4'-dde	5/3/2007	FALSE	composite	U	0.0048	ug/l	0.0037	0.0024
WR177 Basin M Port	4,4'-dde	5/3/2007	TRUE	composite	U	0.0048	ug/l	0.0037	0.0024
WR177 Basin M Port	4,4'-dde	9/28/2007	FALSE	composite	U	0.0012	ug/l	0.0037	0.0024
WR181 Basin Q Port	4,4'-dde	3/24/2007	TRUE	composite	UJ	0.0034	ug/l	0.0017	0.0014
WR181 Basin Q Port	4,4'-dde	3/24/2007	FALSE	composite	UJ	0.0027	ug/l	0.0017	0.0014
WR181 Basin Q Port	4,4'-dde	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0017	0.0014
WR181 Basin Q Port	4,4'-dde	9/28/2007	FALSE	composite	U	0.0017	ug/l	0.0017	0.0014
WR183 Basin R Port	4,4'-dde	3/24/2007	FALSE	composite	UJ	0.00061	ug/l	0.0006	0.0006
WR20 Basin L Port	4,4'-dde	3/24/2007	FALSE	composite	J	0.0038	ug/l	0.0042	0.0033
WR20 Basin L Port	4,4'-dde	5/3/2007	FALSE	composite	UJ	0.0059	ug/l	0.0042	0.0033
WR20 Basin L Port	4,4'-dde	5/20/2007	FALSE	composite	UJ	0.0063	ug/l	0.0042	0.0033
WR20 Basin L Port	4,4'-dde	9/28/2007	FALSE	composite	U	0.00082	ug/l	0.0042	0.0033
Arkema LW3	4,4'-ddt	3/26/2007	FALSE	composite		1.1	ug/l	1.4280	0.8069
Arkema LW3	4,4'-ddt	4/23/2007	FALSE	composite		0.55	ug/l	1.4280	0.8069
Arkema LW3	4,4'-ddt	5/3/2007	FALSE	composite		4.8	ug/l	1.4280	0.8069
Arkema LW3	4,4'-ddt	6/5/2007	FALSE	grab		0.31	ug/l	1.4280	0.8069
Arkema LW3	4,4'-ddt	11/27/2007	FALSE	composite	U	0.38	ug/l	1.4280	0.8069
OF19_LW3+MS4	4,4'-ddt	2/23/2009	FALSE	composite	U	0.023	ug/L	0.0230	0.0230
OF22B LW3	4,4'-ddt	3/27/2007	FALSE	composite	U	0.056	ug/l	0.0558	0.0448
OF22B LW3	4,4'-ddt	3/27/2007	TRUE	composite	U	0.087	ug/l	0.0558	0.0448
OF22B LW3	4,4'-ddt	5/3/2007	FALSE	composite	U	0.11	ug/l	0.0558	0.0448
OF22B LW3	4,4'-ddt	5/3/2007	TRUE	composite	U	0.071	ug/l	0.0558	0.0448
OF22B LW3	4,4'-ddt	6/5/2007	FALSE	grab	U	0.013	ug/l	0.0558	0.0448
OF22B LW3	4,4'-ddt	11/16/2007	FALSE	composite	U	0.048	ug/l	0.0558	0.0448
OF52C Basin T Port	4,4'-ddt	3/24/2007	FALSE	composite	J	0.031	ug/l	0.0112	0.0056
OF52C Basin T Port	4,4'-ddt	4/7/2007	TRUE	composite	UJ	0.0057	ug/l	0.0112	0.0056
OF52C Basin T Port	4,4'-ddt	4/7/2007	FALSE	composite	UJ	0.0024	ug/l	0.0112	0.0056
OF52C Basin T Port	4,4'-ddt	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0112	0.0056

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52C Basin T Port	4,4'-ddt	11/16/2007	FALSE	composite	U	0.0009	ug/l	0.0112	0.0056
OF52C Basin T Port	4,4'-ddt	11/16/2007	TRUE	composite	U	0.00085	ug/l	0.0112	0.0056
OF53 City+Port	4,4'-ddt	3/24/2007	FALSE	composite	UJ	0.0042	ug/l	0.0042	0.0036
OF53 City+Port	4,4'-ddt	4/7/2007	FALSE	composite	UJ	0.0017	ug/l	0.0042	0.0036
OF53 City+Port	4,4'-ddt	5/3/2007	FALSE	composite	UJ	0.0067	ug/l	0.0042	0.0036
WR177 Basin M Port	4,4'-ddt	3/24/2007	FALSE	composite		0.013	ug/l	0.0079	0.0074
WR177 Basin M Port	4,4'-ddt	4/7/2007	FALSE	composite		0.0061	ug/l	0.0079	0.0074
WR177 Basin M Port	4,4'-ddt	5/3/2007	FALSE	composite		0.01	ug/l	0.0079	0.0074
WR177 Basin M Port	4,4'-ddt	5/3/2007	TRUE	composite	UJ	0.0048	ug/l	0.0079	0.0074
WR177 Basin M Port	4,4'-ddt	9/28/2007	FALSE	composite	U	0.005	ug/l	0.0079	0.0074
WR181 Basin Q Port	4,4'-ddt	3/24/2007	TRUE	composite	J	0.015	ug/l	0.0048	0.0041
WR181 Basin Q Port	4,4'-ddt	3/24/2007	FALSE	composite	UJ	0.0022	ug/l	0.0048	0.0041
WR181 Basin Q Port	4,4'-ddt	4/7/2007	FALSE	composite	UJ	0.0024	ug/l	0.0048	0.0041
WR181 Basin Q Port	4,4'-ddt	9/28/2007	FALSE	composite	U	0.0034	ug/l	0.0048	0.0041
WR183 Basin R Port	4,4'-ddt	3/24/2007	FALSE	composite	UJ	0.0013	ug/l	0.0013	0.0013
WR20 Basin L Port	4,4'-ddt	3/24/2007	FALSE	composite	UJ	0.0028	ug/l	0.0108	0.0062
WR20 Basin L Port	4,4'-ddt	5/3/2007	FALSE	composite	UJ	0.017	ug/l	0.0108	0.0062
WR20 Basin L Port	4,4'-ddt	5/20/2007	FALSE	composite	UJ	0.022	ug/l	0.0108	0.0062
WR20 Basin L Port	4,4'-ddt	9/28/2007	FALSE	composite	U	0.0014	ug/l	0.0108	0.0062
Arkema LW3	acenaphthene	3/26/2007	FALSE	composite	U	0.0031	ug/l	0.0040	0.0040
Arkema LW3	acenaphthene	4/23/2007	FALSE	composite	J	0.0044	ug/l	0.0040	0.0040
Arkema LW3	acenaphthene	5/3/2007	FALSE	composite	U	0.0034	ug/l	0.0040	0.0040
Arkema LW3	acenaphthene	6/5/2007	FALSE	grab	U	0.0047	ug/l	0.0040	0.0040
Arkema LW3	acenaphthene	11/27/2007	FALSE	composite	U	0.0045	ug/l	0.0040	0.0040
Chevron LW3	acenaphthene	3/26/2007	FALSE	composite	J	0.021	ug/l	0.0159	0.0148
Chevron LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.018	ug/l	0.0159	0.0148
Chevron LW3	acenaphthene	4/23/2007	FALSE	composite	J	0.0086	ug/l	0.0159	0.0148
Gasco LW3	acenaphthene	3/26/2007	FALSE	composite	J	0.009	ug/l	0.3110	0.0411
Gasco LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.3110	0.0411
Gasco LW3	acenaphthene	4/18/2007	FALSE	composite		0.024	ug/l	0.3110	0.0411
Gasco LW3	acenaphthene	5/21/2007	FALSE	grab		1.2	ug/l	0.3110	0.0411
GE MH 2	acenaphthene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1437	0.1392
GE MH 2	acenaphthene	10/19/2007	FALSE	composite	U	0.167	ug/l	0.1437	0.1392
GE MH 2	acenaphthene	10/19/2007	TRUE	composite	U	0.163	ug/l	0.1437	0.1392
GE MH 2	acenaphthene	11/13/2007	FALSE	composite	U	0.17	ug/l	0.1437	0.1392
GE MH 2	acenaphthene	11/13/2007	TRUE	composite	U	0.17	ug/l	0.1437	0.1392
GE SV 1	acenaphthene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1460	0.1415
GE SV 1	acenaphthene	10/19/2007	FALSE	composite	U	0.17	ug/l	0.1460	0.1415
GE SV 1	acenaphthene	11/13/2007	FALSE	composite	U	0.17	ug/l	0.1460	0.1415
Gunderson WR142/145 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.019	ug/l	0.0124	0.0111
Gunderson WR142/145 LW3	acenaphthene	5/21/2007	FALSE	grab	U	0.0044	ug/l	0.0124	0.0111
Gunderson WR142/145 LW3	acenaphthene	6/10/2007	FALSE	composite	J	0.016	ug/l	0.0124	0.0111
Gunderson WR142/145 LW3	acenaphthene	11/16/2007	FALSE	composite	U	0.0098	ug/l	0.0124	0.0111
Gunderson WR142/145 LW3	acenaphthene	11/29/2007	FALSE	composite	J	0.013	ug/l	0.0124	0.0111
Gunderson WR147 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0154	0.0146
Gunderson WR147 LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0154	0.0146
Gunderson WR147 LW3	acenaphthene	4/23/2007	FALSE	composite	J	0.0092	ug/l	0.0154	0.0146
HWY30 NW Yeon-35th LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.0097	ug/l	0.0066	0.0062
HWY30 NW Yeon-35th LW3	acenaphthene	5/3/2007	FALSE	composite	J	0.0053	ug/l	0.0066	0.0062
HWY30 NW Yeon-35th LW3	acenaphthene	6/10/2007	FALSE	composite	U	0.0047	ug/l	0.0066	0.0062
HWY30A Reed St. LW3	acenaphthene	11/16/2007	FALSE	composite	U	0.0084	ug/l	0.0208	0.0168
HWY30A Reed St. LW3	acenaphthene	1/28/2008	FALSE	composite		0.04	ug/l	0.0208	0.0168
HWY30A Reed St. LW3	acenaphthene	1/30/2008	FALSE	composite	J	0.014	ug/l	0.0208	0.0168
HWY30B 35th St. LW3	acenaphthene	11/27/2007	FALSE	composite		0.026	ug/l	0.0198	0.0186
HWY30B 35th St. LW3	acenaphthene	1/11/2008	FALSE	composite	J	0.011	ug/l	0.0198	0.0186
HWY30B 35th St. LW3	acenaphthene	1/28/2008	FALSE	composite		0.026	ug/l	0.0198	0.0186
HWY30B 35th St. LW3	acenaphthene	1/30/2008	FALSE	composite	J	0.016	ug/l	0.0198	0.0186
OF16 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.0091	ug/l	0.0140	0.0133
OF16 LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.013	ug/l	0.0140	0.0133
OF16 LW3	acenaphthene	4/23/2007	FALSE	composite		0.02	ug/l	0.0140	0.0133
OF18 LW3	acenaphthene	3/26/2007	FALSE	composite	J	0.015	ug/l	0.0081	0.0069
OF18 LW3	acenaphthene	3/26/2007	TRUE	composite	J	0.018	ug/l	0.0081	0.0069
OF18 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.0046	ug/l	0.0081	0.0069
OF18 LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.0064	ug/l	0.0081	0.0069
OF18 LW3	acenaphthene	5/21/2007	FALSE	grab	U	0.0047	ug/l	0.0081	0.0069
OF19_LW3+MS4	acenaphthene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	2/14/2007	FALSE	composite		0.015	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	3/26/2007	FALSE	composite	J	0.0069	ug/l	0.0491	0.0327

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF19_LW3+MS4	acenaphthene	4/9/2007	TRUE	composite	J	0.02	ug/l	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	4/9/2007	FALSE	composite		0.027	ug/l	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	4/18/2007	FALSE	composite	J	0.013	ug/l	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	11/26/2007	FALSE	composite	U	0.02	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	3/7/2008	FALSE	composite	U	0.02	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	3/25/2008	FALSE	composite	U	0.019	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	11/20/2008	FALSE	composite		0.0197	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	2/23/2009	FALSE	composite	U	0.0392	ug/L	0.0491	0.0327
OF19_LW3+MS4	acenaphthene	3/14/2009	FALSE	composite	U	0.0196	ug/L	0.0491	0.0327
OF22 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.018	ug/l	0.1139	0.0258
OF22 LW3	acenaphthene	5/3/2007	FALSE	composite	J	0.013	ug/l	0.1139	0.0258
OF22 LW3	acenaphthene	6/5/2007	FALSE	grab		0.42	ug/l	0.1139	0.0258
OF22 LW3	acenaphthene	6/10/2007	FALSE	composite	U	0.0045	ug/l	0.1139	0.0258
OF22B LW3	acenaphthene	3/27/2007	FALSE	composite		0.027	ug/l	0.0321	0.0303
OF22B LW3	acenaphthene	5/3/2007	FALSE	composite		0.039	ug/l	0.0321	0.0303
OF22B LW3	acenaphthene	6/5/2007	FALSE	grab		0.049	ug/l	0.0321	0.0303
OF22B LW3	acenaphthene	11/16/2007	FALSE	composite	U	0.018	ug/l	0.0321	0.0303
OF22B LW3	acenaphthene	11/27/2007	FALSE	composite		0.029	ug/l	0.0321	0.0303
OF22B LW3	acenaphthene	11/27/2007	TRUE	composite		0.026	ug/l	0.0321	0.0303
OF22C City	acenaphthene	2/29/2008	FALSE	grab		1.5	ug/L	0.9823	0.8102
OF22C City	acenaphthene	3/20/2008	FALSE	grab	U	0.33	ug/L	0.9823	0.8102
OF22C City	acenaphthene	4/4/2008	FALSE	grab		0.569	ug/L	0.9823	0.8102
OF22C City	acenaphthene	5/13/2008	FALSE	grab		1.53	ug/L	0.9823	0.8102
OF22C Tualatin Hills LW3	acenaphthene	4/18/2007	TRUE	composite	U	0.0033	ug/l	0.0038	0.0037
OF22C Tualatin Hills LW3	acenaphthene	4/18/2007	FALSE	composite	U	0.0032	ug/l	0.0038	0.0037
OF22C Tualatin Hills LW3	acenaphthene	4/23/2007	TRUE	composite	U	0.0033	ug/l	0.0038	0.0037
OF22C Tualatin Hills LW3	acenaphthene	4/23/2007	FALSE	composite	U	0.0033	ug/l	0.0038	0.0037
OF22C Tualatin Hills LW3	acenaphthene	1/9/2008	FALSE	composite	U	0.0047	ug/l	0.0038	0.0037
OF22D City	acenaphthene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	acenaphthene	2/29/2008	TRUE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	acenaphthene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0389	0.0291
OF22D City	acenaphthene	4/4/2008	FALSE	grab	U	0.0196	ug/L	0.0389	0.0291
OF22D City	acenaphthene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF45 City	acenaphthene	2/5/2008	FALSE	grab	U	0.0385	ug/L	0.0290	0.0273
OF45 City	acenaphthene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0290	0.0273
OF45 City	acenaphthene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0290	0.0273
OF45 City	acenaphthene	4/4/2008	FALSE	grab	U	0.0385	ug/L	0.0290	0.0273
OF46 City	acenaphthene	2/5/2008	FALSE	grab	U	0.0396	ug/L	0.0535	0.0490
OF46 City	acenaphthene	2/29/2008	FALSE	grab	U	0.0385	ug/L	0.0535	0.0490
OF46 City	acenaphthene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0535	0.0490
OF46 City	acenaphthene	4/4/2008	TRUE	grab	U	0.0388	ug/L	0.0535	0.0490
OF46 City	acenaphthene	4/4/2008	FALSE	grab	U	0.0388	ug/L	0.0535	0.0490
OF47 City	acenaphthene	2/5/2008	FALSE	grab	U	0.0388	ug/L	0.0440	0.0350
OF47 City	acenaphthene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0440	0.0350
OF47 City	acenaphthene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0440	0.0350
OF47 City	acenaphthene	4/4/2008	FALSE	grab	U	0.02	ug/L	0.0440	0.0350
OF48 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0388	ug/L	0.0218	0.0215
OF48 City	acenaphthene	9/28/2007	TRUE	grab	U	0.0194	ug/L	0.0218	0.0215
OF48 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0218	0.0215
OF48 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0218	0.0215
OF48 City	acenaphthene	12/15/2007	FALSE	grab	U	0.0192	ug/L	0.0218	0.0215
OF49 LW3	acenaphthene	4/9/2007	FALSE	composite	U	0.0034	ug/l	0.0040	0.0039
OF49 LW3	acenaphthene	4/23/2007	FALSE	composite	U	0.0033	ug/l	0.0040	0.0039
OF49 LW3	acenaphthene	6/10/2007	FALSE	composite	U	0.0045	ug/l	0.0040	0.0039
OF49 LW3	acenaphthene	11/16/2007	FALSE	composite	U	0.0046	ug/l	0.0040	0.0039
OF50 City	acenaphthene	9/28/2007	FALSE	grab		0.0307	ug/L	0.0223	0.0218
OF50 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0223	0.0218
OF50 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0223	0.0218
OF50 City	acenaphthene	12/14/2007	FALSE	grab	U	0.0194	ug/L	0.0223	0.0218
OF52 City	acenaphthene	9/28/2007	FALSE	grab		0.0349	ug/L	0.0233	0.0225
OF52 City	acenaphthene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0233	0.0225
OF52 City	acenaphthene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.0233	0.0225
OF52 City	acenaphthene	10/16/2007	TRUE	grab	U	0.0196	ug/L	0.0233	0.0225
OF52 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0233	0.0225
OF52 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0233	0.0225
OF52A City	acenaphthene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0653	0.0360
OF52A City	acenaphthene	10/16/2007	FALSE	grab		0.0222	ug/L	0.0653	0.0360
OF52A City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0653	0.0360
OF52A City	acenaphthene	12/14/2007	FALSE	grab	U	0.0196	ug/L	0.0653	0.0360
OF52C Basin T Port	acenaphthene	3/24/2007	FALSE	composite	J	0.0085	ug/l	0.0098	0.0080
OF52C Basin T Port	acenaphthene	4/7/2007	FALSE	composite	J	0.0045	ug/l	0.0098	0.0080
OF52C Basin T Port	acenaphthene	5/3/2007	FALSE	composite	U	0.021	ug/l	0.0098	0.0080

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52C Basin T Port	acenaphthene	11/16/2007	FALSE	composite	U	0.005	ug/l	0.0098	0.0080
OF53 City+Port	acenaphthene	3/24/2007	FALSE	composite	J	0.0057	ug/l	0.0164	0.0129
OF53 City+Port	acenaphthene	4/7/2007	FALSE	composite	J	0.0058	ug/l	0.0164	0.0129
OF53 City+Port	acenaphthene	5/3/2007	FALSE	composite	J	0.01	ug/l	0.0164	0.0129
OF53 City+Port	acenaphthene	1/26/2008	FALSE	composite	U	0.019	ug/L	0.0164	0.0129
OF53 City+Port	acenaphthene	2/6/2008	FALSE	composite	U	0.0381	ug/L	0.0164	0.0129
OF53 City+Port	acenaphthene	3/12/2008	FALSE	composite	U	0.0196	ug/L	0.0164	0.0129
OF53 City+Port	acenaphthene	3/12/2008	TRUE	composite	U	0.0196	ug/L	0.0164	0.0129
OF53A City	acenaphthene	2/29/2008	FALSE	grab		0.0565	ug/L	0.2084	0.1249
OF53A City	acenaphthene	3/20/2008	FALSE	grab		0.056	ug/L	0.2084	0.1249
OF53A City	acenaphthene	4/4/2008	FALSE	grab		0.591	ug/L	0.2084	0.1249
OF53A City	acenaphthene	5/13/2008	FALSE	grab		0.13	ug/L	0.2084	0.1249
OFM1 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFM1 City	acenaphthene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFM1 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFM1 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFM1 LW3	acenaphthene	3/26/2007	FALSE	composite	J	0.008	ug/l	0.0217	0.0179
OFM1 LW3	acenaphthene	4/9/2007	FALSE	composite		0.038	ug/l	0.0217	0.0179
OFM1 LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.019	ug/l	0.0217	0.0179
OFM2 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0243	0.0231
OFM2 City	acenaphthene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.0098	0.0098
OFM2 LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.01	ug/l	0.0098	0.0098
OFM2 LW3	acenaphthene	4/23/2007	FALSE	composite	J	0.0078	ug/l	0.0098	0.0098
OFM2 LW3	acenaphthene	5/3/2007	FALSE	composite	J	0.012	ug/l	0.0098	0.0098
OFM2 LW3	acenaphthene	5/3/2007	TRUE	composite	J	0.0091	ug/l	0.0098	0.0098
OFM3 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0198	ug/L	0.0196	0.0195
OFM3 City	acenaphthene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFM3 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0196	0.0195
OFM3 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFS1 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0291	ug/L	0.0783	0.0531
OFS1 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0783	0.0531
OFS1 City	acenaphthene	11/16/2007	FALSE	grab		0.192	ug/L	0.0783	0.0531
OFS1 City	acenaphthene	12/15/2007	FALSE	grab		0.0724	ug/L	0.0783	0.0531
OFS2 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS2 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	acenaphthene	12/15/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS5 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0207	0.0206
OFS5 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0207	0.0206
OFS5 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0207	0.0206
OFS5 City	acenaphthene	11/16/2007	TRUE	grab	U	0.0291	ug/L	0.0207	0.0206
OFS5 City	acenaphthene	12/15/2007	FALSE	grab	U	0.0196	ug/L	0.0207	0.0206
OFS6 City	acenaphthene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OFS6 City	acenaphthene	10/16/2007	FALSE	grab	U	0.0192	ug/L	0.0194	0.0193
OFS6 City	acenaphthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OFS6 City	acenaphthene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OSM LW3	acenaphthene	3/26/2007	FALSE	composite		0.098	ug/l	0.0410	0.0316
OSM LW3	acenaphthene	4/9/2007	FALSE	composite		0.023	ug/l	0.0410	0.0316
OSM LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0410	0.0316
OSM LW3	acenaphthene	5/21/2007	FALSE	grab		0.026	ug/l	0.0410	0.0316
Portland Shipyard LW3	acenaphthene	3/26/2007	FALSE	composite	J	0.0093	ug/l	0.0157	0.0118
Portland Shipyard LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.012	ug/l	0.0157	0.0118
Portland Shipyard LW3	acenaphthene	5/3/2007	FALSE	composite	J	0.011	ug/l	0.0157	0.0118
Portland Shipyard LW3	acenaphthene	5/22/2007	FALSE	grab		0.042	ug/l	0.0157	0.0118
Portland Shipyard LW3	acenaphthene	6/5/2007	FALSE	grab	U	0.0044	ug/l	0.0157	0.0118
Schnitzer Int. LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.019	ug/l	0.0158	0.0144
Schnitzer Int. LW3	acenaphthene	4/18/2007	FALSE	composite		0.023	ug/l	0.0158	0.0144
Schnitzer Int. LW3	acenaphthene	4/23/2007	FALSE	composite	J	0.0071	ug/l	0.0158	0.0144
Schnitzer Int. LW3	acenaphthene	5/21/2007	FALSE	grab	J	0.014	ug/l	0.0158	0.0144
Schnitzer Riverside LW3	acenaphthene	4/9/2007	FALSE	composite	U	0.0034	ug/l	0.1078	0.0421
Schnitzer Riverside LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.22	ug/l	0.1078	0.0421
Schnitzer Riverside LW3	acenaphthene	4/23/2007	FALSE	composite		0.1	ug/l	0.1078	0.0421
Siltronic LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.015	ug/l	0.0163	0.0120
Siltronic LW3	acenaphthene	4/9/2007	FALSE	composite	J	0.0042	ug/l	0.0163	0.0120
Siltronic LW3	acenaphthene	4/18/2007	FALSE	composite		0.037	ug/l	0.0163	0.0120
Siltronic LW3	acenaphthene	6/10/2007	FALSE	composite	J	0.0089	ug/l	0.0163	0.0120
SJB LW3	acenaphthene	3/26/2007	FALSE	composite		0.42	ug/l	0.1269	0.0542
SJB LW3	acenaphthene	4/9/2007	FALSE	composite		0.024	ug/l	0.1269	0.0542
SJB LW3	acenaphthene	4/18/2007	FALSE	composite	J	0.044	ug/l	0.1269	0.0542

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
SJB LW3	acenaphthene	5/21/2007	TRUE	grab	J	0.018	ug/l	0.1269	0.0542
SJB LW3	acenaphthene	5/21/2007	FALSE	grab		0.021	ug/l	0.1269	0.0542
Sulzer LW3	acenaphthene	1/11/2008	FALSE	composite	J	0.02	ug/l	0.0200	0.0200
Sulzer LW3	acenaphthene	1/30/2008	FALSE	composite	J	0.02	ug/l	0.0200	0.0200
UPRR Albina LW3	acenaphthene	5/3/2007	FALSE	composite		0.022	ug/l	0.0473	0.0332
UPRR Albina LW3	acenaphthene	6/10/2007	FALSE	composite	J	0.014	ug/l	0.0473	0.0332
UPRR Albina LW3	acenaphthene	11/27/2007	FALSE	composite		0.033	ug/l	0.0473	0.0332
UPRR Albina LW3	acenaphthene	11/29/2007	FALSE	composite		0.12	ug/l	0.0473	0.0332
WR169 Basin D Port	acenaphthene	3/24/2007	FALSE	composite	J	0.0042	ug/l	0.0085	0.0067
WR169 Basin D Port	acenaphthene	4/7/2007	FALSE	composite	J	0.0053	ug/l	0.0085	0.0067
WR169 Basin D Port	acenaphthene	5/3/2007	FALSE	composite	U	0.02	ug/l	0.0085	0.0067
WR169 Basin D Port	acenaphthene	5/3/2007	TRUE	composite	U	0.02	ug/l	0.0085	0.0067
WR169 Basin D Port	acenaphthene	11/16/2007	FALSE	composite	U	0.0046	ug/l	0.0085	0.0067
WR177 Basin M Port	acenaphthene	3/24/2007	FALSE	composite		0.084	ug/l	0.0425	0.0372
WR177 Basin M Port	acenaphthene	4/7/2007	FALSE	composite		0.035	ug/l	0.0425	0.0372
WR177 Basin M Port	acenaphthene	5/3/2007	FALSE	composite		0.027	ug/l	0.0425	0.0372
WR177 Basin M Port	acenaphthene	9/28/2007	FALSE	composite		0.024	ug/l	0.0425	0.0372
WR181 Basin Q Port	acenaphthene	3/24/2007	TRUE	composite	J	0.013	ug/l	0.0098	0.0091
WR181 Basin Q Port	acenaphthene	3/24/2007	FALSE	composite	J	0.013	ug/l	0.0098	0.0091
WR181 Basin Q Port	acenaphthene	4/7/2007	FALSE	composite	J	0.0053	ug/l	0.0098	0.0091
WR181 Basin Q Port	acenaphthene	9/28/2007	FALSE	composite	J	0.011	ug/l	0.0098	0.0091
WR183 Basin R Port	acenaphthene	3/24/2007	FALSE	composite	U	0.027	ug/l	0.0192	0.0158
WR183 Basin R Port	acenaphthene	4/7/2007	FALSE	composite	U	0.02	ug/l	0.0192	0.0158
WR183 Basin R Port	acenaphthene	5/3/2007	FALSE	composite		0.025	ug/l	0.0192	0.0158
WR183 Basin R Port	acenaphthene	11/16/2007	TRUE	composite	U	0.0046	ug/l	0.0192	0.0158
WR183 Basin R Port	acenaphthene	11/16/2007	FALSE	composite	U	0.0046	ug/l	0.0192	0.0158
WR20 Basin L Port	acenaphthene	3/24/2007	FALSE	composite		0.032	ug/l	0.0340	0.0294
WR20 Basin L Port	acenaphthene	5/3/2007	FALSE	composite		0.029	ug/l	0.0340	0.0294
WR20 Basin L Port	acenaphthene	5/20/2007	FALSE	composite	J	0.013	ug/l	0.0340	0.0294
WR20 Basin L Port	acenaphthene	9/28/2007	FALSE	composite		0.062	ug/l	0.0340	0.0294
Arkema LW3	acenaphthylene	3/26/2007	FALSE	composite	U	0.0023	ug/l	0.0028	0.0028
Arkema LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0023	ug/l	0.0028	0.0028
Arkema LW3	acenaphthylene	5/3/2007	FALSE	composite	U	0.0025	ug/l	0.0028	0.0028
Arkema LW3	acenaphthylene	6/5/2007	FALSE	grab	U	0.0036	ug/l	0.0028	0.0028
Arkema LW3	acenaphthylene	11/27/2007	FALSE	composite	U	0.0035	ug/l	0.0028	0.0028
Chevron LW3	acenaphthylene	3/26/2007	FALSE	composite		0.027	ug/l	0.0211	0.0163
Chevron LW3	acenaphthylene	4/9/2007	FALSE	composite		0.031	ug/l	0.0211	0.0163
Chevron LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0052	ug/l	0.0211	0.0163
Gasco LW3	acenaphthylene	3/26/2007	FALSE	composite		0.044	ug/l	0.1060	0.0970
Gasco LW3	acenaphthylene	4/9/2007	FALSE	composite		0.12	ug/l	0.1060	0.0970
Gasco LW3	acenaphthylene	4/18/2007	FALSE	composite		0.14	ug/l	0.1060	0.0970
Gasco LW3	acenaphthylene	5/21/2007	FALSE	grab		0.12	ug/l	0.1060	0.0970
GE MH 2	acenaphthylene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1406	0.1366
GE MH 2	acenaphthylene	10/19/2007	TRUE	composite	U	0.159	ug/l	0.1406	0.1366
GE MH 2	acenaphthylene	10/19/2007	FALSE	composite	U	0.162	ug/l	0.1406	0.1366
GE MH 2	acenaphthylene	11/13/2007	TRUE	composite	U	0.165	ug/l	0.1406	0.1366
GE MH 2	acenaphthylene	11/13/2007	FALSE	composite	U	0.165	ug/l	0.1406	0.1366
GE SV 1	acenaphthylene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1427	0.1387
GE SV 1	acenaphthylene	10/19/2007	FALSE	composite	U	0.165	ug/l	0.1427	0.1387
GE SV 1	acenaphthylene	11/13/2007	FALSE	composite	U	0.165	ug/l	0.1427	0.1387
Gunderson WR142/145 LW3	acenaphthylene	4/9/2007	FALSE	composite	U	0.026	ug/l	0.0103	0.0077
Gunderson WR142/145 LW3	acenaphthylene	5/21/2007	FALSE	grab	U	0.0034	ug/l	0.0103	0.0077
Gunderson WR142/145 LW3	acenaphthylene	6/10/2007	FALSE	composite	U	0.0036	ug/l	0.0103	0.0077
Gunderson WR142/145 LW3	acenaphthylene	11/16/2007	FALSE	composite	J	0.0097	ug/l	0.0103	0.0077
Gunderson WR142/145 LW3	acenaphthylene	11/29/2007	FALSE	composite	J	0.009	ug/l	0.0103	0.0077
Gunderson WR147 LW3	acenaphthylene	4/9/2007	FALSE	composite		0.023	ug/l	0.0093	0.0051
Gunderson WR147 LW3	acenaphthylene	4/18/2007	FALSE	composite	U	0.0025	ug/l	0.0093	0.0051
Gunderson WR147 LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0023	ug/l	0.0093	0.0051
HWY30 NW Yeon-35th LW3	acenaphthylene	4/9/2007	FALSE	composite		0.042	ug/l	0.0169	0.0091
HWY30 NW Yeon-35th LW3	acenaphthylene	5/3/2007	FALSE	composite	J	0.005	ug/l	0.0169	0.0091
HWY30 NW Yeon-35th LW3	acenaphthylene	6/10/2007	FALSE	composite	U	0.0036	ug/l	0.0169	0.0091
HWY30A Reed St. LW3	acenaphthylene	11/16/2007	FALSE	composite	J	0.012	ug/l	0.0223	0.0205
HWY30A Reed St. LW3	acenaphthylene	1/28/2008	FALSE	composite		0.034	ug/l	0.0223	0.0205
HWY30A Reed St. LW3	acenaphthylene	1/30/2008	FALSE	composite		0.021	ug/l	0.0223	0.0205
HWY30B 35th St. LW3	acenaphthylene	11/27/2007	FALSE	composite		0.055	ug/l	0.0375	0.0334
HWY30B 35th St. LW3	acenaphthylene	1/11/2008	FALSE	composite	J	0.015	ug/l	0.0375	0.0334
HWY30B 35th St. LW3	acenaphthylene	1/28/2008	FALSE	composite		0.05	ug/l	0.0375	0.0334
HWY30B 35th St. LW3	acenaphthylene	1/30/2008	FALSE	composite		0.03	ug/l	0.0375	0.0334
OF16 LW3	acenaphthylene	4/9/2007	FALSE	composite		0.099	ug/l	0.0406	0.0231
OF16 LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.014	ug/l	0.0406	0.0231
OF16 LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0089	ug/l	0.0406	0.0231
OF18 LW3	acenaphthylene	3/26/2007	TRUE	composite	J	0.016	ug/l	0.0114	0.0087

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF18 LW3	acenaphthylene	3/26/2007	FALSE	composite	J	0.017	ug/l	0.0114	0.0087
OF18 LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.021	ug/l	0.0114	0.0087
OF18 LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.0045	ug/l	0.0114	0.0087
OF18 LW3	acenaphthylene	5/21/2007	FALSE	grab	U	0.0036	ug/l	0.0114	0.0087
OF19_LW3+MS4	acenaphthylene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	2/14/2007	FALSE	composite	U	0.0097	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	3/26/2007	FALSE	composite	J	0.0065	ug/l	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	4/9/2007	FALSE	composite	J	0.014	ug/l	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	4/9/2007	TRUE	composite	J	0.014	ug/l	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	4/18/2007	FALSE	composite	J	0.013	ug/l	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	11/26/2007	FALSE	composite		0.0226	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	3/7/2008	FALSE	composite	U	0.02	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	3/25/2008	FALSE	composite	U	0.019	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	11/20/2008	FALSE	composite	U	0.0194	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	2/23/2009	FALSE	composite	U	0.0392	ug/L	0.0482	0.0308
OF19_LW3+MS4	acenaphthylene	3/14/2009	FALSE	composite	U	0.0196	ug/L	0.0482	0.0308
OF22 LW3	acenaphthylene	4/9/2007	FALSE	composite		0.026	ug/l	0.0258	0.0113
OF22 LW3	acenaphthylene	5/3/2007	FALSE	composite	U	0.0025	ug/l	0.0258	0.0113
OF22 LW3	acenaphthylene	6/5/2007	FALSE	grab	U	0.071	ug/l	0.0258	0.0113
OF22 LW3	acenaphthylene	6/10/2007	FALSE	composite	U	0.0035	ug/l	0.0258	0.0113
OF22B LW3	acenaphthylene	3/27/2007	FALSE	composite	J	0.0097	ug/l	0.0113	0.0098
OF22B LW3	acenaphthylene	5/3/2007	FALSE	composite	J	0.016	ug/l	0.0113	0.0098
OF22B LW3	acenaphthylene	6/5/2007	FALSE	grab	U	0.0034	ug/l	0.0113	0.0098
OF22B LW3	acenaphthylene	11/16/2007	FALSE	composite	J	0.0099	ug/l	0.0113	0.0098
OF22B LW3	acenaphthylene	11/27/2007	TRUE	composite	J	0.019	ug/l	0.0113	0.0098
OF22B LW3	acenaphthylene	11/27/2007	FALSE	composite	J	0.016	ug/l	0.0113	0.0098
OF22C City	acenaphthylene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0194	0.0194
OF22C City	acenaphthylene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0194	0.0194
OF22C City	acenaphthylene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0194	0.0194
OF22C City	acenaphthylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0194	0.0194
OF22C Tualatin Hills LW3	acenaphthylene	4/18/2007	FALSE	composite	U	0.0024	ug/l	0.0029	0.0028
OF22C Tualatin Hills LW3	acenaphthylene	4/18/2007	TRUE	composite	U	0.0024	ug/l	0.0029	0.0028
OF22C Tualatin Hills LW3	acenaphthylene	4/23/2007	TRUE	composite	U	0.0025	ug/l	0.0029	0.0028
OF22C Tualatin Hills LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0025	ug/l	0.0029	0.0028
OF22C Tualatin Hills LW3	acenaphthylene	1/9/2008	FALSE	composite	U	0.0037	ug/l	0.0029	0.0028
OF22D City	acenaphthylene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	acenaphthylene	2/29/2008	TRUE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	acenaphthylene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0389	0.0291
OF22D City	acenaphthylene	4/4/2008	FALSE	grab	U	0.0196	ug/L	0.0389	0.0291
OF22D City	acenaphthylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF45 City	acenaphthylene	2/5/2008	FALSE	grab	U	0.0385	ug/L	0.0314	0.0302
OF45 City	acenaphthylene	2/29/2008	FALSE	grab	U	0.0291	ug/L	0.0314	0.0302
OF45 City	acenaphthylene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0314	0.0302
OF45 City	acenaphthylene	4/4/2008	FALSE	grab	U	0.0385	ug/L	0.0314	0.0302
OF46 City	acenaphthylene	2/5/2008	FALSE	grab		0.0597	ug/L	0.0585	0.0542
OF46 City	acenaphthylene	2/29/2008	FALSE	grab	U	0.0385	ug/L	0.0585	0.0542
OF46 City	acenaphthylene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0585	0.0542
OF46 City	acenaphthylene	4/4/2008	TRUE	grab	U	0.0388	ug/L	0.0585	0.0542
OF46 City	acenaphthylene	4/4/2008	FALSE	grab	U	0.0388	ug/L	0.0585	0.0542
OF47 City	acenaphthylene	2/5/2008	FALSE	grab	U	0.0388	ug/L	0.0342	0.0308
OF47 City	acenaphthylene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0342	0.0308
OF47 City	acenaphthylene	3/20/2008	FALSE	grab		0.0581	ug/L	0.0342	0.0308
OF47 City	acenaphthylene	4/4/2008	FALSE	grab	U	0.02	ug/L	0.0342	0.0308
OF48 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0388	ug/L	0.0218	0.0215
OF48 City	acenaphthylene	9/28/2007	TRUE	grab	U	0.0194	ug/L	0.0218	0.0215
OF48 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0218	0.0215
OF48 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0218	0.0215
OF48 City	acenaphthylene	12/15/2007	FALSE	grab	U	0.0192	ug/L	0.0218	0.0215
OF49 LW3	acenaphthylene	4/9/2007	FALSE	composite	U	0.0075	ug/l	0.0062	0.0060
OF49 LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0047	ug/l	0.0062	0.0060
OF49 LW3	acenaphthylene	6/10/2007	FALSE	composite	J	0.0085	ug/l	0.0062	0.0060
OF49 LW3	acenaphthylene	11/16/2007	FALSE	composite	J	0.0042	ug/l	0.0062	0.0060
OF50 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OF50 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0194
OF50 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OF50 City	acenaphthylene	12/14/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OF52 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OF52 City	acenaphthylene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52 City	acenaphthylene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.0195	0.0194
OF52 City	acenaphthylene	10/16/2007	TRUE	grab	U	0.0196	ug/L	0.0195	0.0194
OF52 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0194
OF52 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OF52A City	acenaphthylene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0661	0.0372
OF52A City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0661	0.0372
OF52A City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0661	0.0372
OF52A City	acenaphthylene	12/14/2007	FALSE	grab		0.0253	ug/L	0.0661	0.0372
OF52C Basin T Port	acenaphthylene	3/24/2007	FALSE	composite	J	0.016	ug/l	0.0104	0.0092
OF52C Basin T Port	acenaphthylene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0104	0.0092
OF52C Basin T Port	acenaphthylene	5/3/2007	FALSE	composite	J	0.0097	ug/l	0.0104	0.0092
OF52C Basin T Port	acenaphthylene	11/16/2007	FALSE	composite	U	0.0039	ug/l	0.0104	0.0092
OF53 City+Port	acenaphthylene	3/24/2007	FALSE	composite	J	0.0071	ug/l	0.0225	0.0186
OF53 City+Port	acenaphthylene	4/7/2007	FALSE	composite	J	0.009	ug/l	0.0225	0.0186
OF53 City+Port	acenaphthylene	5/3/2007	FALSE	composite	J	0.023	ug/l	0.0225	0.0186
OF53 City+Port	acenaphthylene	1/26/2008	FALSE	composite		0.0382	ug/L	0.0225	0.0186
OF53 City+Port	acenaphthylene	2/6/2008	FALSE	composite	U	0.0381	ug/L	0.0225	0.0186
OF53 City+Port	acenaphthylene	3/12/2008	FALSE	composite	U	0.0196	ug/L	0.0225	0.0186
OF53 City+Port	acenaphthylene	3/12/2008	TRUE	composite	U	0.0196	ug/L	0.0225	0.0186
OF53A City	acenaphthylene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0196	0.0195
OF53A City	acenaphthylene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OF53A City	acenaphthylene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OF53A City	acenaphthylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFM1 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0294	ug/L	0.0220	0.0216
OFM1 City	acenaphthylene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0220	0.0216
OFM1 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0220	0.0216
OFM1 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0220	0.0216
OFM1 LW3	acenaphthylene	3/26/2007	FALSE	composite	J	0.0057	ug/l	0.0266	0.0127
OFM1 LW3	acenaphthylene	4/9/2007	FALSE	composite		0.069	ug/l	0.0266	0.0127
OFM1 LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.0052	ug/l	0.0266	0.0127
OFM2 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0267	0.0255
OFM2 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0291	ug/L	0.0267	0.0255
OFM2 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0267	0.0255
OFM2 City	acenaphthylene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0267	0.0255
OFM2 LW3	acenaphthylene	4/9/2007	FALSE	composite	U	0.014	ug/l	0.0082	0.0066
OFM2 LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.0082	0.0066
OFM2 LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0023	ug/l	0.0082	0.0066
OFM2 LW3	acenaphthylene	5/3/2007	FALSE	composite	J	0.006	ug/l	0.0082	0.0066
OFM2 LW3	acenaphthylene	5/3/2007	TRUE	composite	J	0.0048	ug/l	0.0082	0.0066
OFM3 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0198	ug/L	0.0196	0.0195
OFM3 City	acenaphthylene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFM3 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0196	0.0195
OFM3 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFS1 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0241	0.0234
OFS1 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0241	0.0234
OFS1 City	acenaphthylene	11/16/2007	FALSE	grab		0.0348	ug/L	0.0241	0.0234
OFS1 City	acenaphthylene	12/15/2007	FALSE	grab		0.0227	ug/L	0.0241	0.0234
OFS2 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0202	0.0201
OFS2 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0202	0.0201
OFS2 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0202	0.0201
OFS2 City	acenaphthylene	12/15/2007	FALSE	grab		0.0223	ug/L	0.0202	0.0201
OFS5 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0243	ug/L	0.0209	0.0208
OFS5 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0209	0.0208
OFS5 City	acenaphthylene	11/16/2007	TRUE	grab	U	0.0194	ug/L	0.0209	0.0208
OFS5 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0209	0.0208
OFS5 City	acenaphthylene	12/15/2007	FALSE	grab		0.0205	ug/L	0.0209	0.0208
OFS6 City	acenaphthylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OFS6 City	acenaphthylene	10/16/2007	FALSE	grab	U	0.0192	ug/L	0.0194	0.0193
OFS6 City	acenaphthylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OFS6 City	acenaphthylene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0194	0.0193
OSM LW3	acenaphthylene	3/26/2007	FALSE	composite	J	0.01	ug/l	0.0078	0.0065
OSM LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.014	ug/l	0.0078	0.0065
OSM LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.003	ug/l	0.0078	0.0065
OSM LW3	acenaphthylene	5/21/2007	FALSE	grab	J	0.0043	ug/l	0.0078	0.0065
Portland Shipyard LW3	acenaphthylene	3/26/2007	FALSE	composite	J	0.0065	ug/l	0.0102	0.0067
Portland Shipyard LW3	acenaphthylene	4/9/2007	FALSE	composite		0.032	ug/l	0.0102	0.0067
Portland Shipyard LW3	acenaphthylene	5/3/2007	FALSE	composite	J	0.0055	ug/l	0.0102	0.0067
Portland Shipyard LW3	acenaphthylene	5/22/2007	FALSE	grab	U	0.0034	ug/l	0.0102	0.0067
Portland Shipyard LW3	acenaphthylene	6/5/2007	FALSE	grab	U	0.0034	ug/l	0.0102	0.0067
Schnitzer Int. LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0109	0.0097
Schnitzer Int. LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.0084	ug/l	0.0109	0.0097
Schnitzer Int. LW3	acenaphthylene	4/23/2007	FALSE	composite	U	0.0099	ug/l	0.0109	0.0097

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Schnitzer Int. LW3	acenaphthylene	5/21/2007	FALSE	grab	J	0.0053	ug/l	0.0109	0.0097
Schnitzer Riverside LW3	acenaphthylene	4/9/2007	FALSE	composite	U	0.0025	ug/l	0.0202	0.0127
Schnitzer Riverside LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.024	ug/l	0.0202	0.0127
Schnitzer Riverside LW3	acenaphthylene	4/23/2007	FALSE	composite		0.034	ug/l	0.0202	0.0127
Siltronic LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.017	ug/l	0.0081	0.0069
Siltronic LW3	acenaphthylene	4/9/2007	FALSE	composite	J	0.0052	ug/l	0.0081	0.0069
Siltronic LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.0039	ug/l	0.0081	0.0069
Siltronic LW3	acenaphthylene	6/10/2007	FALSE	composite	J	0.0064	ug/l	0.0081	0.0069
SJB LW3	acenaphthylene	3/26/2007	FALSE	composite		0.025	ug/l	0.0134	0.0099
SJB LW3	acenaphthylene	4/9/2007	FALSE	composite	U	0.0025	ug/l	0.0134	0.0099
SJB LW3	acenaphthylene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0134	0.0099
SJB LW3	acenaphthylene	5/21/2007	TRUE	grab	J	0.0095	ug/l	0.0134	0.0099
SJB LW3	acenaphthylene	5/21/2007	FALSE	grab	J	0.0083	ug/l	0.0134	0.0099
Sulzer LW3	acenaphthylene	1/11/2008	FALSE	composite	U	0.0034	ug/l	0.0066	0.0058
Sulzer LW3	acenaphthylene	1/30/2008	FALSE	composite	J	0.0098	ug/l	0.0066	0.0058
UPRR Albina LW3	acenaphthylene	5/3/2007	FALSE	composite	J	0.0079	ug/l	0.0196	0.0136
UPRR Albina LW3	acenaphthylene	6/10/2007	FALSE	composite	J	0.0045	ug/l	0.0196	0.0136
UPRR Albina LW3	acenaphthylene	11/27/2007	FALSE	composite		0.022	ug/l	0.0196	0.0136
UPRR Albina LW3	acenaphthylene	11/29/2007	FALSE	composite		0.044	ug/l	0.0196	0.0136
WR169 Basin D Port	acenaphthylene	3/24/2007	FALSE	composite	J	0.0089	ug/l	0.0076	0.0070
WR169 Basin D Port	acenaphthylene	4/7/2007	FALSE	composite	J	0.011	ug/l	0.0076	0.0070
WR169 Basin D Port	acenaphthylene	5/3/2007	TRUE	composite	J	0.0068	ug/l	0.0076	0.0070
WR169 Basin D Port	acenaphthylene	5/3/2007	FALSE	composite	J	0.0066	ug/l	0.0076	0.0070
WR169 Basin D Port	acenaphthylene	11/16/2007	FALSE	composite	U	0.0036	ug/l	0.0076	0.0070
WR177 Basin M Port	acenaphthylene	3/24/2007	FALSE	composite		0.22	ug/l	0.0697	0.0310
WR177 Basin M Port	acenaphthylene	4/7/2007	FALSE	composite		0.032	ug/l	0.0697	0.0310
WR177 Basin M Port	acenaphthylene	5/3/2007	FALSE	composite	J	0.02	ug/l	0.0697	0.0310
WR177 Basin M Port	acenaphthylene	9/28/2007	FALSE	composite	J	0.0066	ug/l	0.0697	0.0310
WR181 Basin Q Port	acenaphthylene	3/24/2007	FALSE	composite		0.043	ug/l	0.0216	0.0152
WR181 Basin Q Port	acenaphthylene	3/24/2007	TRUE	composite		0.038	ug/l	0.0216	0.0152
WR181 Basin Q Port	acenaphthylene	4/7/2007	FALSE	composite		0.02	ug/l	0.0216	0.0152
WR181 Basin Q Port	acenaphthylene	9/28/2007	FALSE	composite	J	0.0043	ug/l	0.0216	0.0152
WR183 Basin R Port	acenaphthylene	3/24/2007	FALSE	composite	J	0.0099	ug/l	0.0234	0.0131
WR183 Basin R Port	acenaphthylene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0234	0.0131
WR183 Basin R Port	acenaphthylene	5/3/2007	FALSE	composite		0.068	ug/l	0.0234	0.0131
WR183 Basin R Port	acenaphthylene	11/16/2007	FALSE	composite	U	0.0036	ug/l	0.0234	0.0131
WR183 Basin R Port	acenaphthylene	11/16/2007	TRUE	composite	U	0.0036	ug/l	0.0234	0.0131
WR20 Basin L Port	acenaphthylene	3/24/2007	FALSE	composite		0.2	ug/l	0.1672	0.0970
WR20 Basin L Port	acenaphthylene	5/3/2007	FALSE	composite		0.18	ug/l	0.1672	0.0970
WR20 Basin L Port	acenaphthylene	5/20/2007	FALSE	composite		0.28	ug/l	0.1672	0.0970
WR20 Basin L Port	acenaphthylene	9/28/2007	FALSE	composite	J	0.0088	ug/l	0.1672	0.0970
Arkema LW3	aldrin	3/26/2007	FALSE	composite	U	0.0054	ug/l	0.0029	0.0021
Arkema LW3	aldrin	4/23/2007	FALSE	composite	U	5.00E-04	ug/l	0.0029	0.0021
Arkema LW3	aldrin	5/3/2007	FALSE	composite	U	0.0053	ug/l	0.0029	0.0021
Arkema LW3	aldrin	6/5/2007	FALSE	grab	U	0.0016	ug/l	0.0029	0.0021
Arkema LW3	aldrin	11/27/2007	FALSE	composite	J	0.0018	ug/l	0.0029	0.0021
OF19_LW3+MS4	aldrin	2/23/2009	FALSE	composite	J	0.0037	ug/L	0.0037	0.0037
OF22B LW3	aldrin	3/27/2007	TRUE	composite		0.027	ug/l	0.0111	0.0078
OF22B LW3	aldrin	3/27/2007	FALSE	composite	J	0.02	ug/l	0.0111	0.0078
OF22B LW3	aldrin	5/3/2007	TRUE	composite	U	0.0071	ug/l	0.0111	0.0078
OF22B LW3	aldrin	5/3/2007	FALSE	composite	NJ	0.021	ug/l	0.0111	0.0078
OF22B LW3	aldrin	6/5/2007	FALSE	grab	U	0.0041	ug/l	0.0111	0.0078
OF22B LW3	aldrin	11/16/2007	FALSE	composite	U	0.0027	ug/l	0.0111	0.0078
OF52C Basin T Port	aldrin	3/24/2007	FALSE	composite	UJ	0.00069	ug/l	0.0031	0.0016
OF52C Basin T Port	aldrin	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0031	0.0016
OF52C Basin T Port	aldrin	4/7/2007	TRUE	composite	UJ	0.0038	ug/l	0.0031	0.0016
OF52C Basin T Port	aldrin	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0031	0.0016
OF52C Basin T Port	aldrin	11/16/2007	TRUE	composite	U	0.00055	ug/l	0.0031	0.0016
OF52C Basin T Port	aldrin	11/16/2007	FALSE	composite	U	0.00058	ug/l	0.0031	0.0016
OF53 City+Port	aldrin	3/24/2007	FALSE	composite	UJ	0.00077	ug/l	0.0025	0.0018
OF53 City+Port	aldrin	4/7/2007	FALSE	composite	UJ	0.0014	ug/l	0.0025	0.0018
OF53 City+Port	aldrin	5/3/2007	FALSE	composite	UJ	0.0053	ug/l	0.0025	0.0018
WR177 Basin M Port	aldrin	3/24/2007	FALSE	composite	UJ	0.00063	ug/l	0.0017	0.0011
WR177 Basin M Port	aldrin	4/7/2007	FALSE	composite	UJ	0.00085	ug/l	0.0017	0.0011
WR177 Basin M Port	aldrin	5/3/2007	FALSE	composite	UJ	0.0048	ug/l	0.0017	0.0011
WR177 Basin M Port	aldrin	5/3/2007	TRUE	composite	UJ	0.0048	ug/l	0.0017	0.0011
WR177 Basin M Port	aldrin	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0017	0.0011
WR181 Basin Q Port	aldrin	3/24/2007	TRUE	composite	UJ	0.0006	ug/l	0.0007	0.0006
WR181 Basin Q Port	aldrin	3/24/2007	FALSE	composite	UJ	0.00065	ug/l	0.0007	0.0006
WR181 Basin Q Port	aldrin	4/7/2007	FALSE	composite	UJ	0.0014	ug/l	0.0007	0.0006
WR181 Basin Q Port	aldrin	9/28/2007	FALSE	composite	J	0.00022	ug/l	0.0007	0.0006
WR183 Basin R Port	aldrin	3/24/2007	FALSE	composite	J	0.00071	ug/l	0.0007	0.0007

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	aldrin	3/24/2007	FALSE	composite	UJ	0.00048	ug/l	0.0030	0.0016
WR20 Basin L Port	aldrin	5/3/2007	FALSE	composite	U	0.0059	ug/l	0.0030	0.0016
WR20 Basin L Port	aldrin	5/20/2007	FALSE	composite	U	0.0052	ug/l	0.0030	0.0016
WR20 Basin L Port	aldrin	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0030	0.0016
Arkema LW3	anthracene	3/26/2007	FALSE	composite	J	0.0052	ug/l	0.0051	0.0050
Arkema LW3	anthracene	4/23/2007	FALSE	composite	UJ	0.0039	ug/l	0.0051	0.0050
Arkema LW3	anthracene	5/3/2007	FALSE	composite	J	0.0067	ug/l	0.0051	0.0050
Arkema LW3	anthracene	6/5/2007	FALSE	grab	J	0.0042	ug/l	0.0051	0.0050
Arkema LW3	anthracene	11/27/2007	FALSE	composite	J	0.0053	ug/l	0.0051	0.0050
Chevron LW3	anthracene	3/26/2007	FALSE	composite		0.14	ug/l	0.0993	0.0799
Chevron LW3	anthracene	4/9/2007	FALSE	composite		0.13	ug/l	0.0993	0.0799
Chevron LW3	anthracene	4/23/2007	FALSE	composite	J	0.028	ug/l	0.0993	0.0799
Gasco LW3	anthracene	3/26/2007	FALSE	composite		0.038	ug/l	0.1373	0.1109
Gasco LW3	anthracene	4/9/2007	FALSE	composite		0.19	ug/l	0.1373	0.1109
Gasco LW3	anthracene	4/18/2007	FALSE	composite		0.091	ug/l	0.1373	0.1109
Gasco LW3	anthracene	5/21/2007	FALSE	grab		0.23	ug/l	0.1373	0.1109
GE MH 2	anthracene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1272	0.1251
GE MH 2	anthracene	10/19/2007	TRUE	composite	U	0.139	ug/l	0.1272	0.1251
GE MH 2	anthracene	10/19/2007	FALSE	composite	U	0.142	ug/l	0.1272	0.1251
GE MH 2	anthracene	11/13/2007	TRUE	composite	U	0.145	ug/l	0.1272	0.1251
GE MH 2	anthracene	11/13/2007	FALSE	composite	U	0.145	ug/l	0.1272	0.1251
GE SV 1	anthracene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1293	0.1272
GE SV 1	anthracene	10/19/2007	FALSE	composite	U	0.145	ug/l	0.1293	0.1272
GE SV 1	anthracene	11/13/2007	FALSE	composite	U	0.145	ug/l	0.1293	0.1272
Gunderson WR142/145 LW3	anthracene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0170	0.0122
Gunderson WR142/145 LW3	anthracene	5/21/2007	FALSE	grab	U	0.0036	ug/l	0.0170	0.0122
Gunderson WR142/145 LW3	anthracene	6/10/2007	FALSE	composite		0.036	ug/l	0.0170	0.0122
Gunderson WR142/145 LW3	anthracene	11/16/2007	FALSE	composite	J	0.02	ug/l	0.0170	0.0122
Gunderson WR142/145 LW3	anthracene	11/29/2007	FALSE	composite	U	0.0052	ug/l	0.0170	0.0122
Gunderson WR147 LW3	anthracene	4/9/2007	FALSE	composite		0.04	ug/l	0.0273	0.0250
Gunderson WR147 LW3	anthracene	4/18/2007	FALSE	composite		0.028	ug/l	0.0273	0.0250
Gunderson WR147 LW3	anthracene	4/23/2007	FALSE	composite	J	0.014	ug/l	0.0273	0.0250
HWY30 NW Yeon-35th LW3	anthracene	4/9/2007	FALSE	composite	U	0.0039	ug/l	0.0058	0.0053
HWY30 NW Yeon-35th LW3	anthracene	5/3/2007	FALSE	composite	J	0.0098	ug/l	0.0058	0.0053
HWY30 NW Yeon-35th LW3	anthracene	6/10/2007	FALSE	composite	U	0.0038	ug/l	0.0058	0.0053
HWY30A Reed St. LW3	anthracene	11/16/2007	FALSE	composite		0.025	ug/l	0.0427	0.0405
HWY30A Reed St. LW3	anthracene	1/28/2008	FALSE	composite		0.052	ug/l	0.0427	0.0405
HWY30A Reed St. LW3	anthracene	1/30/2008	FALSE	composite		0.051	ug/l	0.0427	0.0405
HWY30B 35th St. LW3	anthracene	11/27/2007	FALSE	composite		0.033	ug/l	0.0405	0.0393
HWY30B 35th St. LW3	anthracene	1/11/2008	FALSE	composite		0.029	ug/l	0.0405	0.0393
HWY30B 35th St. LW3	anthracene	1/28/2008	FALSE	composite		0.048	ug/l	0.0405	0.0393
HWY30B 35th St. LW3	anthracene	1/30/2008	FALSE	composite		0.052	ug/l	0.0405	0.0393
OF16 LW3	anthracene	4/9/2007	FALSE	composite		0.024	ug/l	0.0153	0.0119
OF16 LW3	anthracene	4/18/2007	FALSE	composite	J	0.018	ug/l	0.0153	0.0119
OF16 LW3	anthracene	4/23/2007	FALSE	composite	UJ	0.0039	ug/l	0.0153	0.0119
OF18 LW3	anthracene	3/26/2007	FALSE	composite		0.041	ug/l	0.0175	0.0121
OF18 LW3	anthracene	3/26/2007	TRUE	composite		0.045	ug/l	0.0175	0.0121
OF18 LW3	anthracene	4/9/2007	FALSE	composite	J	0.013	ug/l	0.0175	0.0121
OF18 LW3	anthracene	4/18/2007	FALSE	composite	J	0.01	ug/l	0.0175	0.0121
OF18 LW3	anthracene	5/21/2007	FALSE	grab	U	0.0038	ug/l	0.0175	0.0121
OF19_LW3+MS4	anthracene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	2/14/2007	FALSE	composite		0.018	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	3/26/2007	FALSE	composite	J	0.013	ug/l	0.0569	0.0425
OF19_LW3+MS4	anthracene	4/9/2007	FALSE	composite		0.025	ug/l	0.0569	0.0425
OF19_LW3+MS4	anthracene	4/9/2007	TRUE	composite		0.04	ug/l	0.0569	0.0425
OF19_LW3+MS4	anthracene	4/18/2007	FALSE	composite	J	0.019	ug/l	0.0569	0.0425
OF19_LW3+MS4	anthracene	11/26/2007	FALSE	composite	U	0.08	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	3/7/2008	FALSE	composite		0.0513	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	3/25/2008	FALSE	composite	U	0.019	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	11/20/2008	FALSE	composite		0.0205	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	2/23/2009	FALSE	composite		0.0408	ug/L	0.0569	0.0425
OF19_LW3+MS4	anthracene	3/14/2009	FALSE	composite	U	0.0196	ug/L	0.0569	0.0425
OF22 LW3	anthracene	4/9/2007	FALSE	composite	J	0.019	ug/l	0.0367	0.0181
OF22 LW3	anthracene	5/3/2007	FALSE	composite	J	0.014	ug/l	0.0367	0.0181
OF22 LW3	anthracene	6/5/2007	FALSE	grab	U	0.11	ug/l	0.0367	0.0181
OF22 LW3	anthracene	6/10/2007	FALSE	composite	U	0.0037	ug/l	0.0367	0.0181
OF22B LW3	anthracene	3/27/2007	FALSE	composite		0.04	ug/l	0.0326	0.0254
OF22B LW3	anthracene	5/3/2007	FALSE	composite		0.078	ug/l	0.0326	0.0254

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22B LW3	anthracene	6/5/2007	FALSE	grab	J	0.014	ug/l	0.0326	0.0254
OF22B LW3	anthracene	11/16/2007	FALSE	composite	J	0.016	ug/l	0.0326	0.0254
OF22B LW3	anthracene	11/27/2007	TRUE	composite	J	0.017	ug/l	0.0326	0.0254
OF22B LW3	anthracene	11/27/2007	FALSE	composite	J	0.013	ug/l	0.0326	0.0254
OF22C City	anthracene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0210	0.0208
OF22C City	anthracene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0210	0.0208
OF22C City	anthracene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0210	0.0208
OF22C City	anthracene	5/13/2008	FALSE	grab		0.0256	ug/L	0.0210	0.0208
OF22C Tualatin Hills LW3	anthracene	4/18/2007	FALSE	composite	U	0.004	ug/l	0.0041	0.0040
OF22C Tualatin Hills LW3	anthracene	4/18/2007	TRUE	composite	U	0.0041	ug/l	0.0041	0.0040
OF22C Tualatin Hills LW3	anthracene	4/23/2007	FALSE	composite	UJ	0.0042	ug/l	0.0041	0.0040
OF22C Tualatin Hills LW3	anthracene	4/23/2007	TRUE	composite	UJ	0.0042	ug/l	0.0041	0.0040
OF22C Tualatin Hills LW3	anthracene	1/9/2008	FALSE	composite	U	0.0039	ug/l	0.0041	0.0040
OF22D City	anthracene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	anthracene	2/29/2008	TRUE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	anthracene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0389	0.0291
OF22D City	anthracene	4/4/2008	FALSE	grab	U	0.0196	ug/L	0.0389	0.0291
OF22D City	anthracene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF45 City	anthracene	2/5/2008	FALSE	grab		0.0676	ug/L	0.0406	0.0377
OF45 City	anthracene	2/29/2008	FALSE	grab		0.0322	ug/L	0.0406	0.0377
OF45 City	anthracene	3/20/2008	FALSE	grab		0.024	ug/L	0.0406	0.0377
OF45 City	anthracene	4/4/2008	FALSE	grab	U	0.0385	ug/L	0.0406	0.0377
OF46 City	anthracene	2/5/2008	FALSE	grab		0.141	ug/L	0.0726	0.0641
OF46 City	anthracene	2/29/2008	FALSE	grab		0.0427	ug/L	0.0726	0.0641
OF46 City	anthracene	3/20/2008	FALSE	grab		0.0588	ug/L	0.0726	0.0641
OF46 City	anthracene	4/4/2008	FALSE	grab		0.0568	ug/L	0.0726	0.0641
OF46 City	anthracene	4/4/2008	TRUE	grab	U	0.0388	ug/L	0.0726	0.0641
OF47 City	anthracene	2/5/2008	FALSE	grab		0.0405	ug/L	0.0435	0.0351
OF47 City	anthracene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0435	0.0351
OF47 City	anthracene	3/20/2008	FALSE	grab		0.0931	ug/L	0.0435	0.0351
OF47 City	anthracene	4/4/2008	FALSE	grab		0.0202	ug/L	0.0435	0.0351
OF48 City	anthracene	9/28/2007	TRUE	grab		0.0332	ug/L	0.0232	0.0224
OF48 City	anthracene	9/28/2007	FALSE	grab		0.0363	ug/L	0.0232	0.0224
OF48 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0232	0.0224
OF48 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0232	0.0224
OF48 City	anthracene	12/15/2007	FALSE	grab	U	0.0192	ug/L	0.0232	0.0224
OF49 LW3	anthracene	4/9/2007	FALSE	composite	U	0.0043	ug/l	0.0040	0.0040
OF49 LW3	anthracene	4/23/2007	FALSE	composite	UJ	0.0042	ug/l	0.0040	0.0040
OF49 LW3	anthracene	6/10/2007	FALSE	composite	U	0.0037	ug/l	0.0040	0.0040
OF49 LW3	anthracene	11/16/2007	FALSE	composite	U	0.0038	ug/l	0.0040	0.0040
OF50 City	anthracene	9/28/2007	FALSE	grab		0.0388	ug/L	0.0243	0.0231
OF50 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0243	0.0231
OF50 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OF50 City	anthracene	12/14/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OF52 City	anthracene	9/28/2007	FALSE	grab		0.0571	ug/L	0.0289	0.0255
OF52 City	anthracene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0289	0.0255
OF52 City	anthracene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.0289	0.0255
OF52 City	anthracene	10/16/2007	TRUE	grab	U	0.0196	ug/L	0.0289	0.0255
OF52 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0289	0.0255
OF52 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0289	0.0255
OF52A City	anthracene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0975	0.0837
OF52A City	anthracene	10/16/2007	FALSE	grab		0.0774	ug/L	0.0975	0.0837
OF52A City	anthracene	11/16/2007	FALSE	grab		0.054	ug/L	0.0975	0.0837
OF52A City	anthracene	12/14/2007	FALSE	grab		0.0587	ug/L	0.0975	0.0837
OF52C Basin T Port	anthracene	3/24/2007	FALSE	composite		0.033	ug/l	0.0150	0.0115
OF52C Basin T Port	anthracene	4/7/2007	FALSE	composite	J	0.01	ug/l	0.0150	0.0115
OF52C Basin T Port	anthracene	5/3/2007	FALSE	composite	J	0.013	ug/l	0.0150	0.0115
OF52C Basin T Port	anthracene	11/16/2007	FALSE	composite	U	0.0041	ug/l	0.0150	0.0115
OF53 City+Port	anthracene	3/24/2007	FALSE	composite	J	0.013	ug/l	0.0222	0.0205
OF53 City+Port	anthracene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0222	0.0205
OF53 City+Port	anthracene	5/3/2007	FALSE	composite		0.028	ug/l	0.0222	0.0205
OF53 City+Port	anthracene	1/26/2008	FALSE	composite		0.0227	ug/L	0.0222	0.0205
OF53 City+Port	anthracene	2/6/2008	FALSE	composite	U	0.0381	ug/L	0.0222	0.0205
OF53 City+Port	anthracene	3/12/2008	TRUE	composite	U	0.0196	ug/L	0.0222	0.0205
OF53 City+Port	anthracene	3/12/2008	FALSE	composite	U	0.0196	ug/L	0.0222	0.0205
OF53A City	anthracene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0291	0.0257
OF53A City	anthracene	3/20/2008	FALSE	grab		0.0577	ug/L	0.0291	0.0257
OF53A City	anthracene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0291	0.0257
OF53A City	anthracene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0291	0.0257
OFM1 City	anthracene	9/28/2007	FALSE	grab	U	0.0294	ug/L	0.0220	0.0216
OFM1 City	anthracene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0220	0.0216
OFM1 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0220	0.0216

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0220	0.0216
OFM1 LW3	anthracene	3/26/2007	FALSE	composite	U	0.0042	ug/l	0.0067	0.0058
OFM1 LW3	anthracene	4/9/2007	FALSE	composite	U	0.0039	ug/l	0.0067	0.0058
OFM1 LW3	anthracene	4/18/2007	FALSE	composite	J	0.012	ug/l	0.0067	0.0058
OFM2 City	anthracene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	anthracene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	anthracene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0243	0.0231
OFM2 City	anthracene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 LW3	anthracene	4/9/2007	FALSE	composite	U	0.0042	ug/l	0.0062	0.0058
OFM2 LW3	anthracene	4/9/2007	FALSE	composite	J	0.0094	ug/l	0.0062	0.0058
OFM2 LW3	anthracene	4/23/2007	FALSE	composite	J	0.004	ug/l	0.0062	0.0058
OFM2 LW3	anthracene	5/3/2007	TRUE	composite	J	0.0068	ug/l	0.0062	0.0058
OFM2 LW3	anthracene	5/3/2007	FALSE	composite	J	0.0073	ug/l	0.0062	0.0058
OFM3 City	anthracene	9/28/2007	FALSE	grab	U	0.0198	ug/L	0.0196	0.0195
OFM3 City	anthracene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFM3 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0196	0.0195
OFM3 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFS1 City	anthracene	9/28/2007	FALSE	grab		0.0546	ug/L	0.1727	0.1135
OFS1 City	anthracene	10/16/2007	FALSE	grab		0.042	ug/L	0.1727	0.1135
OFS1 City	anthracene	11/16/2007	FALSE	grab		0.423	ug/L	0.1727	0.1135
OFS1 City	anthracene	12/15/2007	FALSE	grab		0.171	ug/L	0.1727	0.1135
OFS2 City	anthracene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS2 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	anthracene	12/15/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS5 City	anthracene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0437	0.0349
OFS5 City	anthracene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0437	0.0349
OFS5 City	anthracene	11/16/2007	FALSE	grab		0.0219	ug/L	0.0437	0.0349
OFS5 City	anthracene	11/16/2007	TRUE	grab		0.167	ug/L	0.0437	0.0349
OFS5 City	anthracene	12/15/2007	FALSE	grab		0.0417	ug/L	0.0437	0.0349
OFS6 City	anthracene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0261	0.0249
OFS6 City	anthracene	10/16/2007	FALSE	grab		0.0255	ug/L	0.0261	0.0249
OFS6 City	anthracene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0261	0.0249
OFS6 City	anthracene	12/15/2007	FALSE	grab		0.0402	ug/L	0.0261	0.0249
OSM LW3	anthracene	3/26/2007	FALSE	composite		0.048	ug/l	0.0293	0.0262
OSM LW3	anthracene	4/9/2007	FALSE	composite		0.036	ug/l	0.0293	0.0262
OSM LW3	anthracene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0293	0.0262
OSM LW3	anthracene	5/21/2007	FALSE	grab	J	0.016	ug/l	0.0293	0.0262
Portland Shipyard LW3	anthracene	3/26/2007	FALSE	composite	J	0.011	ug/l	0.0124	0.0090
Portland Shipyard LW3	anthracene	4/9/2007	FALSE	composite		0.03	ug/l	0.0124	0.0090
Portland Shipyard LW3	anthracene	5/3/2007	FALSE	composite	J	0.014	ug/l	0.0124	0.0090
Portland Shipyard LW3	anthracene	5/22/2007	FALSE	grab	U	0.0036	ug/l	0.0124	0.0090
Portland Shipyard LW3	anthracene	6/5/2007	FALSE	grab	U	0.0036	ug/l	0.0124	0.0090
Schnitzer Int. LW3	anthracene	4/9/2007	FALSE	composite		0.048	ug/l	0.0244	0.0192
Schnitzer Int. LW3	anthracene	4/18/2007	FALSE	composite		0.03	ug/l	0.0244	0.0192
Schnitzer Int. LW3	anthracene	4/23/2007	FALSE	composite	J	0.0085	ug/l	0.0244	0.0192
Schnitzer Int. LW3	anthracene	5/21/2007	FALSE	grab	J	0.011	ug/l	0.0244	0.0192
Schnitzer Riverside LW3	anthracene	4/9/2007	FALSE	composite	U	0.063	ug/l	0.2343	0.1852
Schnitzer Riverside LW3	anthracene	4/18/2007	FALSE	composite	J	0.36	ug/l	0.2343	0.1852
Schnitzer Riverside LW3	anthracene	4/23/2007	FALSE	composite	J	0.28	ug/l	0.2343	0.1852
Siltronic LW3	anthracene	4/9/2007	FALSE	composite	J	0.0068	ug/l	0.0115	0.0102
Siltronic LW3	anthracene	4/9/2007	FALSE	composite	J	0.013	ug/l	0.0115	0.0102
Siltronic LW3	anthracene	4/18/2007	FALSE	composite		0.02	ug/l	0.0115	0.0102
Siltronic LW3	anthracene	6/10/2007	FALSE	composite	J	0.0061	ug/l	0.0115	0.0102
SJB LW3	anthracene	3/26/2007	FALSE	composite		0.6	ug/l	0.1969	0.1062
SJB LW3	anthracene	4/9/2007	FALSE	composite		0.09	ug/l	0.1969	0.1062
SJB LW3	anthracene	4/18/2007	FALSE	composite	J	0.053	ug/l	0.1969	0.1062
SJB LW3	anthracene	5/21/2007	FALSE	grab		0.048	ug/l	0.1969	0.1062
SJB LW3	anthracene	5/21/2007	TRUE	grab		0.041	ug/l	0.1969	0.1062
Sulzer LW3	anthracene	1/11/2008	FALSE	composite	U	0.0036	ug/l	0.0048	0.0046
Sulzer LW3	anthracene	1/30/2008	FALSE	composite	J	0.006	ug/l	0.0048	0.0046
UPRR Albina LW3	anthracene	5/3/2007	FALSE	composite		0.029	ug/l	0.0495	0.0429
UPRR Albina LW3	anthracene	6/10/2007	FALSE	composite		0.03	ug/l	0.0495	0.0429
UPRR Albina LW3	anthracene	11/27/2007	FALSE	composite		0.039	ug/l	0.0495	0.0429
UPRR Albina LW3	anthracene	11/29/2007	FALSE	composite		0.1	ug/l	0.0495	0.0429
WR169 Basin D Port	anthracene	3/24/2007	FALSE	composite	J	0.012	ug/l	0.0087	0.0078
WR169 Basin D Port	anthracene	4/7/2007	FALSE	composite	J	0.013	ug/l	0.0087	0.0078
WR169 Basin D Port	anthracene	5/3/2007	FALSE	composite	J	0.0063	ug/l	0.0087	0.0078
WR169 Basin D Port	anthracene	5/3/2007	TRUE	composite	J	0.0059	ug/l	0.0087	0.0078
WR169 Basin D Port	anthracene	11/16/2007	FALSE	composite	U	0.0038	ug/l	0.0087	0.0078
WR177 Basin M Port	anthracene	3/24/2007	FALSE	composite		0.19	ug/l	0.1015	0.0906
WR177 Basin M Port	anthracene	4/7/2007	FALSE	composite		0.091	ug/l	0.1015	0.0906

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR177 Basin M Port	anthracene	5/3/2007	FALSE	composite		0.066	ug/l	0.1015	0.0906
WR177 Basin M Port	anthracene	9/28/2007	FALSE	composite		0.059	ug/l	0.1015	0.0906
WR181 Basin Q Port	anthracene	3/24/2007	TRUE	composite		0.052	ug/l	0.0397	0.0365
WR181 Basin Q Port	anthracene	3/24/2007	FALSE	composite		0.054	ug/l	0.0397	0.0365
WR181 Basin Q Port	anthracene	4/7/2007	FALSE	composite	J	0.02	ug/l	0.0397	0.0365
WR181 Basin Q Port	anthracene	9/28/2007	FALSE	composite		0.046	ug/l	0.0397	0.0365
WR183 Basin R Port	anthracene	3/24/2007	FALSE	composite	J	0.0057	ug/l	0.0291	0.0125
WR183 Basin R Port	anthracene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0291	0.0125
WR183 Basin R Port	anthracene	5/3/2007	FALSE	composite		0.095	ug/l	0.0291	0.0125
WR183 Basin R Port	anthracene	11/16/2007	TRUE	composite	U	0.0038	ug/l	0.0291	0.0125
WR183 Basin R Port	anthracene	11/16/2007	FALSE	composite	U	0.0038	ug/l	0.0291	0.0125
WR20 Basin L Port	anthracene	3/24/2007	FALSE	composite		0.2	ug/l	0.1755	0.1552
WR20 Basin L Port	anthracene	5/3/2007	FALSE	composite		0.18	ug/l	0.1755	0.1552
WR20 Basin L Port	anthracene	5/20/2007	FALSE	composite		0.26	ug/l	0.1755	0.1552
WR20 Basin L Port	anthracene	9/28/2007	FALSE	composite		0.062	ug/l	0.1755	0.1552
Arkema LW3	arsenic	3/26/2007	FALSE	composite		19.8	ug/l	18.15	18.12
Arkema LW3	arsenic	4/23/2007	FALSE	composite		17.5	ug/l	18.15	18.12
Arkema LW3	arsenic	5/3/2007	FALSE	composite		17.5	ug/l	18.15	18.12
Arkema LW3	arsenic	6/10/2007	FALSE	composite		16.9	ug/l	18.15	18.12
Arkema LW3	arsenic	11/27/2007	FALSE	composite		18.9	ug/l	18.15	18.12
Arkema LW3	arsenic	11/27/2007	TRUE	composite		19.2	ug/l	18.15	18.12
Chevron LW3	arsenic	3/26/2007	FALSE	composite		0.706	ug/l	0.51	0.49
Chevron LW3	arsenic	4/9/2007	FALSE	composite		0.48	ug/l	0.51	0.49
Chevron LW3	arsenic	4/23/2007	FALSE	composite		0.271	ug/l	0.51	0.49
Chevron LW3	arsenic	5/3/2007	FALSE	composite		0.544	ug/l	0.51	0.49
Chevron LW3	arsenic	6/10/2007	FALSE	composite		0.54	ug/l	0.51	0.49
Gasco LW3	arsenic	3/26/2007	FALSE	composite		0.271	ug/l	0.76	0.66
Gasco LW3	arsenic	4/9/2007	FALSE	composite		0.817	ug/l	0.76	0.66
Gasco LW3	arsenic	4/18/2007	FALSE	composite		0.631	ug/l	0.76	0.66
Gasco LW3	arsenic	5/3/2007	FALSE	composite	J	1.32	ug/l	0.76	0.66
GE MH 2	arsenic	4/18/2007	FALSE	composite	U	20	ug/l	11.81	10.56
GE MH 2	arsenic	10/19/2007	TRUE	composite	U	6.37	ug/l	11.81	10.56
GE MH 2	arsenic	10/19/2007	FALSE	composite	U	10.6	ug/l	11.81	10.56
GE MH 2	arsenic	11/13/2007	FALSE	composite	U	6.79	ug/l	11.81	10.56
GE MH 2	arsenic	11/13/2007	TRUE	composite	U	7.1	ug/l	11.81	10.56
GE SV 1	arsenic	6/10/2007	FALSE	composite	U	20	ug/l	13.40	12.51
GE SV 1	arsenic	10/19/2007	FALSE	composite	U	12.1	ug/l	13.40	12.51
GE SV 1	arsenic	11/13/2007	FALSE	composite	U	8.09	ug/l	13.40	12.51
Gunderson WR142/145 LW3	arsenic	4/9/2007	FALSE	composite	U	0.007	ug/l	0.58	0.27
Gunderson WR142/145 LW3	arsenic	6/10/2007	FALSE	composite		0.87	ug/l	0.58	0.27
Gunderson WR142/145 LW3	arsenic	11/16/2007	FALSE	composite		1	ug/l	0.58	0.27
Gunderson WR142/145 LW3	arsenic	11/27/2007	FALSE	composite		0.32	ug/l	0.58	0.27
Gunderson WR142/145 LW3	arsenic	11/27/2007	TRUE	composite		0.36	ug/l	0.58	0.27
Gunderson WR142/145 LW3	arsenic	1/9/2008	FALSE	composite	J	0.701	ug/l	0.58	0.27
Gunderson WR147 LW3	arsenic	4/9/2007	FALSE	composite		0.628	ug/l	0.68	0.63
Gunderson WR147 LW3	arsenic	4/18/2007	FALSE	composite		1.07	ug/l	0.68	0.63
Gunderson WR147 LW3	arsenic	4/23/2007	FALSE	composite		0.378	ug/l	0.68	0.63
Gunderson WR147 LW3	arsenic	5/3/2007	FALSE	composite	J	0.931	ug/l	0.68	0.63
Gunderson WR147 LW3	arsenic	6/10/2007	TRUE	composite		0.42	ug/l	0.68	0.63
Gunderson WR147 LW3	arsenic	6/10/2007	FALSE	composite		0.41	ug/l	0.68	0.63
HWY30 NW Yeon-35th LW3	arsenic	4/9/2007	FALSE	composite		0.49	ug/l	0.50	0.50
HWY30 NW Yeon-35th LW3	arsenic	5/3/2007	FALSE	composite		0.531	ug/l	0.50	0.50
HWY30 NW Yeon-35th LW3	arsenic	6/10/2007	FALSE	composite		0.49	ug/l	0.50	0.50
HWY30A Reed St. LW3	arsenic	11/16/2007	FALSE	composite		0.59	ug/l	0.78	0.73
HWY30A Reed St. LW3	arsenic	11/27/2007	FALSE	composite		0.52	ug/l	0.78	0.73
HWY30A Reed St. LW3	arsenic	1/28/2008	FALSE	composite	J	0.744	ug/l	0.78	0.73
HWY30A Reed St. LW3	arsenic	1/30/2008	FALSE	composite		1.27	ug/l	0.78	0.73
HWY30B 35th St. LW3	arsenic	11/27/2007	FALSE	composite		1.82	ug/l	1.66	1.61
HWY30B 35th St. LW3	arsenic	1/11/2008	FALSE	composite	J	1.13	ug/l	1.66	1.61
HWY30B 35th St. LW3	arsenic	1/15/2008	FALSE	composite	J	1.44	ug/l	1.66	1.61
HWY30B 35th St. LW3	arsenic	1/28/2008	FALSE	composite	J	1.59	ug/l	1.66	1.61
HWY30B 35th St. LW3	arsenic	1/30/2008	FALSE	composite		2.33	ug/l	1.66	1.61
OF16 LW3	arsenic	4/9/2007	FALSE	composite		0.512	ug/l	0.63	0.60
OF16 LW3	arsenic	4/18/2007	FALSE	composite		0.786	ug/l	0.63	0.60
OF16 LW3	arsenic	4/23/2007	FALSE	composite		0.338	ug/l	0.63	0.60
OF16 LW3	arsenic	4/23/2007	TRUE	composite		0.353	ug/l	0.63	0.60
OF16 LW3	arsenic	5/3/2007	FALSE	composite		0.78	ug/l	0.63	0.60
OF16 LW3	arsenic	6/10/2007	FALSE	composite		0.71	ug/l	0.63	0.60
OF18 LW3	arsenic	3/26/2007	FALSE	composite		1.67	ug/l	1.64	1.63
OF18 LW3	arsenic	3/26/2007	TRUE	composite		1.36	ug/l	1.64	1.63
OF18 LW3	arsenic	4/9/2007	FALSE	composite		1.84	ug/l	1.64	1.63
OF18 LW3	arsenic	4/18/2007	TRUE	composite		1.75	ug/l	1.64	1.63

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF18 LW3	arsenic	4/18/2007	FALSE	composite		1.78	ug/l	1.64	1.63
OF18 LW3	arsenic	5/3/2007	FALSE	composite		1.44	ug/l	1.64	1.63
OF19_LW3+MS4	arsenic	3/8/2006	FALSE	composite		0.95	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	3/15/2006	FALSE	composite		0.51	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	5/23/2006	FALSE	composite		1.31	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	11/2/2006	FALSE	composite		1.42	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	11/19/2006	FALSE	composite		0.52	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	2/14/2007	FALSE	composite		1.46	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	3/26/2007	FALSE	composite		0.774	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	4/9/2007	TRUE	composite		1.17	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	4/9/2007	FALSE	composite		1.15	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	4/18/2007	FALSE	composite		2.02	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	5/3/2007	FALSE	composite	J	2.2	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	5/3/2007	TRUE	composite		2.22	ug/l	1.39	1.23
OF19_LW3+MS4	arsenic	11/26/2007	FALSE	composite		1.18	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	3/7/2008	FALSE	composite		1.54	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	3/25/2008	FALSE	composite		0.77	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	11/20/2008	FALSE	composite		1.62	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	2/23/2009	FALSE	composite		3.65	ug/L	1.39	1.23
OF19_LW3+MS4	arsenic	3/14/2009	FALSE	composite		1.15	ug/L	1.39	1.23
OF22 LW3	arsenic	4/9/2007	FALSE	composite		3.57	ug/l	3.31	3.24
OF22 LW3	arsenic	5/3/2007	FALSE	composite	J	2.42	ug/l	3.31	3.24
OF22 LW3	arsenic	6/10/2007	FALSE	composite		3.95	ug/l	3.31	3.24
OF22B LW3	arsenic	3/27/2007	FALSE	composite		4.02	ug/l	3.84	3.64
OF22B LW3	arsenic	5/3/2007	FALSE	composite		5.84	ug/l	3.84	3.64
OF22B LW3	arsenic	11/16/2007	FALSE	composite		2.55	ug/l	3.84	3.64
OF22B LW3	arsenic	11/27/2007	FALSE	composite		2.93	ug/l	3.84	3.64
OF22C City	arsenic	2/29/2008	FALSE	grab		0.98	ug/L	1.31	1.25
OF22C City	arsenic	3/20/2008	FALSE	grab		1.12	ug/L	1.31	1.25
OF22C City	arsenic	4/4/2008	FALSE	grab		1.09	ug/L	1.31	1.25
OF22C City	arsenic	5/13/2008	FALSE	grab		2.05	ug/L	1.31	1.25
OF22C Tualatin Hills LW3	arsenic	4/18/2007	FALSE	composite		0.196	ug/l	0.21	0.21
OF22C Tualatin Hills LW3	arsenic	4/23/2007	FALSE	composite		0.202	ug/l	0.21	0.21
OF22C Tualatin Hills LW3	arsenic	1/9/2008	FALSE	composite	J	0.228	ug/l	0.21	0.21
OF22D City	arsenic	2/29/2008	TRUE	grab		0.22	ug/L	0.56	0.43
OF22D City	arsenic	2/29/2008	FALSE	grab		0.23	ug/L	0.56	0.43
OF22D City	arsenic	3/20/2008	FALSE	grab		1.21	ug/L	0.56	0.43
OF22D City	arsenic	4/4/2008	FALSE	grab		0.6	ug/L	0.56	0.43
OF22D City	arsenic	5/13/2008	FALSE	grab		0.2	ug/L	0.56	0.43
OF45 City	arsenic	2/5/2008	FALSE	grab		3.49	ug/L	1.77	1.42
OF45 City	arsenic	2/29/2008	FALSE	grab		1.36	ug/L	1.77	1.42
OF45 City	arsenic	3/20/2008	FALSE	grab		0.49	ug/L	1.77	1.42
OF45 City	arsenic	4/4/2008	FALSE	grab		1.74	ug/L	1.77	1.42
OF46 City	arsenic	2/5/2008	FALSE	grab		1.62	ug/L	1.38	1.37
OF46 City	arsenic	2/29/2008	FALSE	grab		1.3	ug/L	1.38	1.37
OF46 City	arsenic	3/20/2008	FALSE	grab		1.13	ug/L	1.38	1.37
OF46 City	arsenic	4/4/2008	FALSE	grab		1.25	ug/L	1.38	1.37
OF46 City	arsenic	4/4/2008	TRUE	grab		1.68	ug/L	1.38	1.37
OF47 City	arsenic	2/5/2008	FALSE	grab		1.17	ug/L	1.18	1.09
OF47 City	arsenic	2/29/2008	FALSE	grab		0.62	ug/L	1.18	1.09
OF47 City	arsenic	3/20/2008	FALSE	grab		1.88	ug/L	1.18	1.09
OF47 City	arsenic	4/4/2008	FALSE	grab		1.05	ug/L	1.18	1.09
OF48 City	arsenic	9/28/2007	TRUE	grab		0.65	ug/L	0.51	0.50
OF48 City	arsenic	9/28/2007	FALSE	grab		0.62	ug/L	0.51	0.50
OF48 City	arsenic	10/16/2007	FALSE	grab		0.54	ug/L	0.51	0.50
OF48 City	arsenic	11/16/2007	FALSE	grab		0.4	ug/L	0.51	0.50
OF48 City	arsenic	12/15/2007	FALSE	grab		0.46	ug/L	0.51	0.50
OF49 LW3	arsenic	4/9/2007	FALSE	composite		0.291	ug/l	0.34	0.33
OF49 LW3	arsenic	4/23/2007	FALSE	composite		0.255	ug/l	0.34	0.33
OF49 LW3	arsenic	6/10/2007	FALSE	composite		0.47	ug/l	0.34	0.33
OF49 LW3	arsenic	11/16/2007	FALSE	composite	J	0.36	ug/l	0.34	0.33
OF50 City	arsenic	9/28/2007	FALSE	grab		0.88	ug/L	1.04	0.90
OF50 City	arsenic	10/16/2007	FALSE	grab		2.07	ug/L	1.04	0.90
OF50 City	arsenic	11/16/2007	FALSE	grab		0.71	ug/L	1.04	0.90
OF50 City	arsenic	12/14/2007	FALSE	grab		0.5	ug/L	1.04	0.90
OF52 City	arsenic	9/28/2007	FALSE	grab		1.25	ug/L	1.03	0.94
OF52 City	arsenic	9/30/2007	FALSE	grab		0.62	ug/L	1.03	0.94
OF52 City	arsenic	9/30/2007	TRUE	grab		0.58	ug/L	1.03	0.94
OF52 City	arsenic	10/16/2007	FALSE	grab		1.97	ug/L	1.03	0.94
OF52 City	arsenic	10/16/2007	TRUE	grab		1.34	ug/L	1.03	0.94
OF52 City	arsenic	11/16/2007	FALSE	grab		0.62	ug/L	1.03	0.94
OF52A City	arsenic	9/28/2007	FALSE	grab		1.22	ug/L	1.10	1.08

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52A City	arsenic	10/16/2007	FALSE	grab		1.18	ug/L	1.10	1.08
OF52A City	arsenic	11/16/2007	FALSE	grab		0.8	ug/L	1.10	1.08
OF52A City	arsenic	12/14/2007	FALSE	grab		1.19	ug/L	1.10	1.08
OF52C Basin T Port	arsenic	3/24/2007	FALSE	composite	J	0.251	ug/l	0.29	0.28
OF52C Basin T Port	arsenic	5/3/2007	FALSE	composite		0.48	ug/l	0.29	0.28
OF52C Basin T Port	arsenic	5/20/2007	FALSE	composite		0.253	ug/l	0.29	0.28
OF52C Basin T Port	arsenic	11/16/2007	FALSE	composite		0.19	ug/l	0.29	0.28
OF53 City+Port	arsenic	3/24/2007	FALSE	composite	J	0.601	ug/l	0.81	0.77
OF53 City+Port	arsenic	5/3/2007	FALSE	composite		1.36	ug/l	0.81	0.77
OF53 City+Port	arsenic	1/26/2008	FALSE	composite		0.63	ug/L	0.81	0.77
OF53 City+Port	arsenic	2/6/2008	FALSE	composite		0.83	ug/L	0.81	0.77
OF53 City+Port	arsenic	3/12/2008	FALSE	composite		0.65	ug/L	0.81	0.77
OF53 City+Port	arsenic	3/12/2008	TRUE	composite		0.65	ug/L	0.81	0.77
OF53A City	arsenic	2/29/2008	FALSE	grab		3.07	ug/L	8.06	4.46
OF53A City	arsenic	3/20/2008	FALSE	grab		2.41	ug/L	8.06	4.46
OF53A City	arsenic	4/4/2008	FALSE	grab		24.6	ug/L	8.06	4.46
OF53A City	arsenic	5/13/2008	FALSE	grab		2.17	ug/L	8.06	4.46
OFM1 City	arsenic	9/28/2007	FALSE	grab		0.7	ug/L	0.84	0.80
OFM1 City	arsenic	9/30/2007	FALSE	grab		0.52	ug/L	0.84	0.80
OFM1 City	arsenic	10/16/2007	FALSE	grab		1.22	ug/L	0.84	0.80
OFM1 City	arsenic	11/16/2007	FALSE	grab		0.9	ug/L	0.84	0.80
OFM1 LW3	arsenic	3/26/2007	FALSE	composite		0.717	ug/l	0.92	0.90
OFM1 LW3	arsenic	4/9/2007	FALSE	composite		0.979	ug/l	0.92	0.90
OFM1 LW3	arsenic	4/18/2007	FALSE	composite		0.903	ug/l	0.92	0.90
OFM1 LW3	arsenic	4/18/2007	TRUE	composite		0.791	ug/l	0.92	0.90
OFM1 LW3	arsenic	6/10/2007	FALSE	composite		1.12	ug/l	0.92	0.90
OFM2 City	arsenic	9/28/2007	FALSE	grab		0.94	ug/L	2.52	1.89
OFM2 City	arsenic	10/16/2007	FALSE	grab		6.15	ug/L	2.52	1.89
OFM2 City	arsenic	11/16/2007	FALSE	grab		1.65	ug/L	2.52	1.89
OFM2 City	arsenic	12/15/2007	FALSE	grab		1.33	ug/L	2.52	1.89
OFM2 LW3	arsenic	4/9/2007	FALSE	composite		2.27	ug/l	1.65	1.58
OFM2 LW3	arsenic	4/9/2007	FALSE	composite		0.99	ug/l	1.65	1.58
OFM2 LW3	arsenic	4/23/2007	FALSE	composite		1.22	ug/l	1.65	1.58
OFM2 LW3	arsenic	4/23/2007	TRUE	composite		1.75	ug/l	1.65	1.58
OFM2 LW3	arsenic	5/3/2007	FALSE	composite	J	1.85	ug/l	1.65	1.58
OFM3 City	arsenic	9/28/2007	FALSE	grab		0.7	ug/L	0.64	0.63
OFM3 City	arsenic	9/30/2007	FALSE	grab		0.58	ug/L	0.64	0.63
OFM3 City	arsenic	10/16/2007	FALSE	grab		0.63	ug/L	0.64	0.63
OFM3 City	arsenic	11/16/2007	FALSE	grab		0.63	ug/L	0.64	0.63
OFS1 City	arsenic	9/28/2007	FALSE	grab		0.67	ug/L	0.90	0.88
OFS1 City	arsenic	10/16/2007	FALSE	grab		0.85	ug/L	0.90	0.88
OFS1 City	arsenic	11/16/2007	FALSE	grab		1.18	ug/L	0.90	0.88
OFS1 City	arsenic	12/15/2007	FALSE	grab		0.89	ug/L	0.90	0.88
OFS2 City	arsenic	9/28/2007	FALSE	grab		0.8	ug/L	0.55	0.52
OFS2 City	arsenic	10/16/2007	FALSE	grab		0.55	ug/L	0.55	0.52
OFS2 City	arsenic	11/16/2007	FALSE	grab		0.44	ug/L	0.55	0.52
OFS2 City	arsenic	12/15/2007	FALSE	grab		0.39	ug/L	0.55	0.52
OFS5 City	arsenic	9/28/2007	FALSE	grab		0.77	ug/L	0.85	0.84
OFS5 City	arsenic	10/16/2007	FALSE	grab		0.87	ug/L	0.85	0.84
OFS5 City	arsenic	11/16/2007	FALSE	grab		0.73	ug/L	0.85	0.84
OFS5 City	arsenic	11/16/2007	TRUE	grab		0.73	ug/L	0.85	0.84
OFS5 City	arsenic	12/15/2007	FALSE	grab		1.01	ug/L	0.85	0.84
OFS6 City	arsenic	9/28/2007	FALSE	grab		1.07	ug/L	1.08	0.85
OFS6 City	arsenic	10/16/2007	FALSE	grab		2.35	ug/L	1.08	0.85
OFS6 City	arsenic	11/16/2007	FALSE	grab		0.4	ug/L	1.08	0.85
OFS6 City	arsenic	12/15/2007	FALSE	grab		0.51	ug/L	1.08	0.85
OSM LW3	arsenic	3/26/2007	FALSE	composite		4.16	ug/l	6.59	6.34
OSM LW3	arsenic	4/9/2007	FALSE	composite		8.02	ug/l	6.59	6.34
OSM LW3	arsenic	4/18/2007	FALSE	composite		5.77	ug/l	6.59	6.34
OSM LW3	arsenic	5/3/2007	FALSE	composite		8.39	ug/l	6.59	6.34
Portland Shipyard LW3	arsenic	3/26/2007	FALSE	composite		1.62	ug/l	1.50	1.48
Portland Shipyard LW3	arsenic	4/9/2007	FALSE	composite		1.82	ug/l	1.50	1.48
Portland Shipyard LW3	arsenic	5/3/2007	FALSE	composite	J	1.46	ug/l	1.50	1.48
Portland Shipyard LW3	arsenic	6/10/2007	FALSE	composite		1.1	ug/l	1.50	1.48
Schnitzer Int. LW3	arsenic	4/9/2007	FALSE	composite		14.3	ug/l	8.24	6.63
Schnitzer Int. LW3	arsenic	4/18/2007	FALSE	composite		4.22	ug/l	8.24	6.63
Schnitzer Int. LW3	arsenic	4/23/2007	FALSE	composite		2.74	ug/l	8.24	6.63
Schnitzer Int. LW3	arsenic	5/3/2007	FALSE	composite	J	11.7	ug/l	8.24	6.63
Schnitzer Riverside LW3	arsenic	4/9/2007	FALSE	composite		1.5	ug/l	2.04	1.96
Schnitzer Riverside LW3	arsenic	4/18/2007	FALSE	composite		2.29	ug/l	2.04	1.96
Schnitzer Riverside LW3	arsenic	4/23/2007	FALSE	composite		2.88	ug/l	2.04	1.96
Schnitzer Riverside LW3	arsenic	5/3/2007	FALSE	composite		1.49	ug/l	2.04	1.96

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Siltronic LW3	arsenic	4/9/2007	FALSE	composite		0.134	ug/l	0.31	0.27
Siltronic LW3	arsenic	4/9/2007	FALSE	composite		0.225	ug/l	0.31	0.27
Siltronic LW3	arsenic	4/18/2007	FALSE	composite		0.408	ug/l	0.31	0.27
Siltronic LW3	arsenic	5/3/2007	FALSE	composite	J	0.594	ug/l	0.31	0.27
Siltronic LW3	arsenic	6/10/2007	FALSE	composite		0.2	ug/l	0.31	0.27
SJB LW3	arsenic	3/26/2007	FALSE	composite		0.851	ug/l	0.88	0.88
SJB LW3	arsenic	4/9/2007	FALSE	composite		0.868	ug/l	0.88	0.88
SJB LW3	arsenic	4/18/2007	FALSE	composite		0.982	ug/l	0.88	0.88
SJB LW3	arsenic	5/3/2007	FALSE	composite	J	0.823	ug/l	0.88	0.88
Sulzer LW3	arsenic	1/11/2008	FALSE	composite	J	0.091	ug/l	0.12	0.11
Sulzer LW3	arsenic	1/30/2008	FALSE	composite		0.14	ug/l	0.12	0.11
Sulzer LW3	arsenic	1/30/2008	TRUE	composite		0.15	ug/l	0.12	0.11
UPRR Albina LW3	arsenic	5/3/2007	FALSE	composite		1.34	ug/l	1.04	1.01
UPRR Albina LW3	arsenic	6/10/2007	FALSE	composite		0.94	ug/l	1.04	1.01
UPRR Albina LW3	arsenic	11/27/2007	FALSE	composite		1.34	ug/l	1.04	1.01
UPRR Albina LW3	arsenic	11/29/2007	TRUE	composite		0.72	ug/l	1.04	1.01
UPRR Albina LW3	arsenic	11/29/2007	TRUE	composite		0.7	ug/l	1.04	1.01
UPRR Albina LW3	arsenic	11/29/2007	FALSE	composite		1.05	ug/l	1.04	1.01
WR169 Basin D Port	arsenic	3/24/2007	FALSE	composite	J	0.139	ug/l	0.20	0.19
WR169 Basin D Port	arsenic	5/3/2007	FALSE	composite		0.27	ug/l	0.20	0.19
WR169 Basin D Port	arsenic	5/3/2007	TRUE	composite		0.26	ug/l	0.20	0.19
WR169 Basin D Port	arsenic	5/20/2007	FALSE	composite		0.265	ug/l	0.20	0.19
WR169 Basin D Port	arsenic	11/16/2007	FALSE	composite		0.13	ug/l	0.20	0.19
WR177 Basin M Port	arsenic	3/24/2007	FALSE	composite	J	3.67	ug/l	3.16	3.12
WR177 Basin M Port	arsenic	5/3/2007	FALSE	composite		3.27	ug/l	3.16	3.12
WR177 Basin M Port	arsenic	5/20/2007	FALSE	composite		3.39	ug/l	3.16	3.12
WR177 Basin M Port	arsenic	9/28/2007	FALSE	composite		2.32	ug/l	3.16	3.12
WR181 Basin Q Port	arsenic	3/24/2007	TRUE	composite	J	0.339	ug/l	0.52	0.51
WR181 Basin Q Port	arsenic	3/24/2007	FALSE	composite	J	0.469	ug/l	0.52	0.51
WR181 Basin Q Port	arsenic	9/28/2007	FALSE	composite		0.64	ug/l	0.52	0.51
WR183 Basin R Port	arsenic	3/24/2007	FALSE	composite	J	0.375	ug/l	3.41	1.26
WR183 Basin R Port	arsenic	5/3/2007	FALSE	composite		9.16	ug/l	3.41	1.26
WR183 Basin R Port	arsenic	5/20/2007	FALSE	composite		3.93	ug/l	3.41	1.26
WR183 Basin R Port	arsenic	11/16/2007	TRUE	composite		0.19	ug/l	3.41	1.26
WR183 Basin R Port	arsenic	11/16/2007	FALSE	composite		0.18	ug/l	3.41	1.26
WR20 Basin L Port	arsenic	3/24/2007	FALSE	composite	J	0.803	ug/l	1.00	0.92
WR20 Basin L Port	arsenic	5/3/2007	FALSE	composite	U	0.5	ug/l	1.00	0.92
WR20 Basin L Port	arsenic	5/20/2007	FALSE	composite		1.64	ug/l	1.00	0.92
WR20 Basin L Port	arsenic	9/28/2007	FALSE	composite		1.07	ug/l	1.00	0.92
Arkema LW3	benzo(a)anthracene	3/26/2007	FALSE	composite	J	0.0053	ug/l	0.0050	0.0048
Arkema LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	U	0.0039	ug/l	0.0050	0.0048
Arkema LW3	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.0061	ug/l	0.0050	0.0048
Arkema LW3	benzo(a)anthracene	6/5/2007	FALSE	grab	U	0.0028	ug/l	0.0050	0.0048
Arkema LW3	benzo(a)anthracene	11/27/2007	FALSE	composite	U	0.0071	ug/l	0.0050	0.0048
Chevron LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.43	ug/l	0.2370	0.1794
Chevron LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.22	ug/l	0.2370	0.1794
Chevron LW3	benzo(a)anthracene	4/23/2007	FALSE	composite		0.061	ug/l	0.2370	0.1794
Gasco LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.098	ug/l	0.3245	0.2527
Gasco LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.18	ug/l	0.3245	0.2527
Gasco LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.34	ug/l	0.3245	0.2527
Gasco LW3	benzo(a)anthracene	5/21/2007	FALSE	grab		0.68	ug/l	0.3245	0.2527
GE MH 2	benzo(a)anthracene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1339	0.1309
GE MH 2	benzo(a)anthracene	10/19/2007	FALSE	composite	U	0.152	ug/l	0.1339	0.1309
GE MH 2	benzo(a)anthracene	10/19/2007	TRUE	composite	U	0.149	ug/l	0.1339	0.1309
GE MH 2	benzo(a)anthracene	11/13/2007	FALSE	composite	UJ	0.155	ug/l	0.1339	0.1309
GE MH 2	benzo(a)anthracene	11/13/2007	TRUE	composite	UJ	0.155	ug/l	0.1339	0.1309
GE SV 1	benzo(a)anthracene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1360	0.1330
GE SV 1	benzo(a)anthracene	10/19/2007	FALSE	composite	U	0.155	ug/l	0.1360	0.1330
GE SV 1	benzo(a)anthracene	11/13/2007	FALSE	composite	UJ	0.155	ug/l	0.1360	0.1330
Gunderson WR142/145 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.033	ug/l	0.0182	0.0125
Gunderson WR142/145 LW3	benzo(a)anthracene	5/21/2007	FALSE	grab	U	0.0026	ug/l	0.0182	0.0125
Gunderson WR142/145 LW3	benzo(a)anthracene	6/10/2007	FALSE	composite	J	0.0086	ug/l	0.0182	0.0125
Gunderson WR142/145 LW3	benzo(a)anthracene	11/16/2007	FALSE	composite		0.035	ug/l	0.0182	0.0125
Gunderson WR142/145 LW3	benzo(a)anthracene	11/29/2007	FALSE	composite	J	0.012	ug/l	0.0182	0.0125
Gunderson WR147 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite	J	0.021	ug/l	0.0171	0.0152
Gunderson WR147 LW3	benzo(a)anthracene	4/18/2007	FALSE	composite	U	0.023	ug/l	0.0171	0.0152
Gunderson WR147 LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	J	0.0072	ug/l	0.0171	0.0152
HWY30 NW Yeon-35th LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.056	ug/l	0.0310	0.0264
HWY30 NW Yeon-35th LW3	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.015	ug/l	0.0310	0.0264
HWY30 NW Yeon-35th LW3	benzo(a)anthracene	6/10/2007	FALSE	composite	J	0.022	ug/l	0.0310	0.0264
HWY30A Reed St. LW3	benzo(a)anthracene	11/16/2007	FALSE	composite		0.044	ug/l	0.0807	0.0752
HWY30A Reed St. LW3	benzo(a)anthracene	1/28/2008	FALSE	composite		0.088	ug/l	0.0807	0.0752

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
HWY30A Reed St. LW3	benzo(a)anthracene	1/30/2008	FALSE	composite		0.11	ug/l	0.0807	0.0752
HWY30B 35th St. LW3	benzo(a)anthracene	11/27/2007	FALSE	composite		0.083	ug/l	0.1110	0.1080
HWY30B 35th St. LW3	benzo(a)anthracene	1/11/2008	FALSE	composite		0.091	ug/l	0.1110	0.1080
HWY30B 35th St. LW3	benzo(a)anthracene	1/28/2008	FALSE	composite		0.12	ug/l	0.1110	0.1080
HWY30B 35th St. LW3	benzo(a)anthracene	1/30/2008	FALSE	composite		0.15	ug/l	0.1110	0.1080
OF16 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.039	ug/l	0.0367	0.0334
OF16 LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.053	ug/l	0.0367	0.0334
OF16 LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	J	0.018	ug/l	0.0367	0.0334
OF18 LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.15	ug/l	0.0489	0.0309
OF18 LW3	benzo(a)anthracene	3/26/2007	TRUE	composite		0.087	ug/l	0.0489	0.0309
OF18 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.038	ug/l	0.0489	0.0309
OF18 LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.033	ug/l	0.0489	0.0309
OF18 LW3	benzo(a)anthracene	5/21/2007	FALSE	grab	J	0.0061	ug/l	0.0489	0.0309
OF19_LW3+MS4	benzo(a)anthracene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	2/14/2007	FALSE	composite		0.1	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	3/26/2007	FALSE	composite		0.048	ug/l	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	4/9/2007	FALSE	composite		0.066	ug/l	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	4/9/2007	TRUE	composite		0.11	ug/l	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	4/18/2007	FALSE	composite		0.059	ug/l	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	11/26/2007	FALSE	composite		0.0375	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	3/7/2008	FALSE	composite		0.0594	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	3/25/2008	FALSE	composite		0.0396	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	11/20/2008	FALSE	composite		0.0332	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	2/23/2009	FALSE	composite		0.0891	ug/L	0.0758	0.0693
OF19_LW3+MS4	benzo(a)anthracene	3/14/2009	FALSE	composite		0.043	ug/L	0.0758	0.0693
OF22 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.063	ug/l	0.0555	0.0507
OF22 LW3	benzo(a)anthracene	5/3/2007	FALSE	composite		0.042	ug/l	0.0555	0.0507
OF22 LW3	benzo(a)anthracene	6/5/2007	FALSE	grab		0.089	ug/l	0.0555	0.0507
OF22 LW3	benzo(a)anthracene	6/10/2007	FALSE	composite		0.028	ug/l	0.0555	0.0507
OF22B LW3	benzo(a)anthracene	3/27/2007	FALSE	composite		0.048	ug/l	0.0503	0.0415
OF22B LW3	benzo(a)anthracene	5/3/2007	FALSE	composite		0.12	ug/l	0.0503	0.0415
OF22B LW3	benzo(a)anthracene	6/5/2007	FALSE	grab		0.029	ug/l	0.0503	0.0415
OF22B LW3	benzo(a)anthracene	11/16/2007	FALSE	composite		0.029	ug/l	0.0503	0.0415
OF22B LW3	benzo(a)anthracene	11/27/2007	TRUE	composite		0.025	ug/l	0.0503	0.0415
OF22B LW3	benzo(a)anthracene	11/27/2007	FALSE	composite		0.026	ug/l	0.0503	0.0415
OF22C City	benzo(a)anthracene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0110	0.0108
OF22C City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.0147	ug/L	0.0110	0.0108
OF22C City	benzo(a)anthracene	4/4/2008	FALSE	grab	U	0.00971	ug/L	0.0110	0.0108
OF22C City	benzo(a)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0110	0.0108
OF22C Tualatin Hills LW3	benzo(a)anthracene	4/18/2007	FALSE	composite	U	0.004	ug/l	0.0043	0.0043
OF22C Tualatin Hills LW3	benzo(a)anthracene	4/18/2007	TRUE	composite	U	0.0041	ug/l	0.0043	0.0043
OF22C Tualatin Hills LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	U	0.0042	ug/l	0.0043	0.0043
OF22C Tualatin Hills LW3	benzo(a)anthracene	4/23/2007	TRUE	composite	U	0.0042	ug/l	0.0043	0.0043
OF22C Tualatin Hills LW3	benzo(a)anthracene	1/9/2008	FALSE	composite	J	0.0047	ug/l	0.0043	0.0043
OF22D City	benzo(a)anthracene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0417	0.0236
OF22D City	benzo(a)anthracene	2/29/2008	TRUE	grab		0.0193	ug/L	0.0417	0.0236
OF22D City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.125	ug/L	0.0417	0.0236
OF22D City	benzo(a)anthracene	4/4/2008	FALSE	grab		0.0176	ug/L	0.0417	0.0236
OF22D City	benzo(a)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0417	0.0236
OF45 City	benzo(a)anthracene	2/5/2008	FALSE	grab		0.0842	ug/L	0.0505	0.0474
OF45 City	benzo(a)anthracene	2/29/2008	FALSE	grab		0.0382	ug/L	0.0505	0.0474
OF45 City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.0379	ug/L	0.0505	0.0474
OF45 City	benzo(a)anthracene	4/4/2008	FALSE	grab		0.0415	ug/L	0.0505	0.0474
OF46 City	benzo(a)anthracene	2/5/2008	FALSE	grab		0.195	ug/L	0.1294	0.1194
OF46 City	benzo(a)anthracene	2/29/2008	FALSE	grab		0.102	ug/L	0.1294	0.1194
OF46 City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.154	ug/L	0.1294	0.1194
OF46 City	benzo(a)anthracene	4/4/2008	TRUE	grab		0.0443	ug/L	0.1294	0.1194
OF46 City	benzo(a)anthracene	4/4/2008	FALSE	grab		0.0885	ug/L	0.1294	0.1194
OF47 City	benzo(a)anthracene	2/5/2008	FALSE	grab		0.103	ug/L	0.0846	0.0665
OF47 City	benzo(a)anthracene	2/29/2008	FALSE	grab		0.0235	ug/L	0.0846	0.0665
OF47 City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.162	ug/L	0.0846	0.0665
OF47 City	benzo(a)anthracene	4/4/2008	FALSE	grab	U	0.05	ug/L	0.0846	0.0665
OF48 City	benzo(a)anthracene	9/28/2007	TRUE	grab		0.0467	ug/L	0.0245	0.0159
OF48 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0912	ug/L	0.0245	0.0159
OF48 City	benzo(a)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0245	0.0159
OF48 City	benzo(a)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0245	0.0159
OF48 City	benzo(a)anthracene	12/15/2007	FALSE	grab		0.00966	ug/L	0.0245	0.0159
OF49 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite	J	0.0058	ug/l	0.0064	0.0063

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF49 LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	J	0.0081	ug/l	0.0064	0.0063
OF49 LW3	benzo(a)anthracene	6/10/2007	FALSE	composite	J	0.0058	ug/l	0.0064	0.0063
OF49 LW3	benzo(a)anthracene	11/16/2007	FALSE	composite	J	0.0057	ug/l	0.0064	0.0063
OF50 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0174	ug/L	0.0118	0.0114
OF50 City	benzo(a)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0118	0.0114
OF50 City	benzo(a)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0118	0.0114
OF50 City	benzo(a)anthracene	12/14/2007	FALSE	grab		0.0102	ug/L	0.0118	0.0114
OF52 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.026	ug/L	0.0193	0.0182
OF52 City	benzo(a)anthracene	9/30/2007	TRUE	grab	U	0.00971	ug/L	0.0193	0.0182
OF52 City	benzo(a)anthracene	9/30/2007	FALSE	grab		0.0107	ug/L	0.0193	0.0182
OF52 City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.0274	ug/L	0.0193	0.0182
OF52 City	benzo(a)anthracene	10/16/2007	TRUE	grab		0.0154	ug/L	0.0193	0.0182
OF52 City	benzo(a)anthracene	11/16/2007	FALSE	grab		0.0194	ug/L	0.0193	0.0182
OF52A City	benzo(a)anthracene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0866	0.0655
OF52A City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.0378	ug/L	0.0866	0.0655
OF52A City	benzo(a)anthracene	11/16/2007	FALSE	grab		0.0772	ug/L	0.0866	0.0655
OF52A City	benzo(a)anthracene	12/14/2007	FALSE	grab		0.0315	ug/L	0.0866	0.0655
OF52C Basin T Port	benzo(a)anthracene	3/24/2007	FALSE	composite		0.082	ug/l	0.0320	0.0184
OF52C Basin T Port	benzo(a)anthracene	4/7/2007	FALSE	composite	J	0.021	ug/l	0.0320	0.0184
OF52C Basin T Port	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.022	ug/l	0.0320	0.0184
OF52C Basin T Port	benzo(a)anthracene	11/16/2007	FALSE	composite	U	0.003	ug/l	0.0320	0.0184
OF53 City+Port	benzo(a)anthracene	3/24/2007	FALSE	composite		0.04	ug/l	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	4/7/2007	FALSE	composite		0.041	ug/l	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	5/3/2007	FALSE	composite		0.083	ug/l	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	1/26/2008	FALSE	composite		0.024	ug/L	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	2/6/2008	FALSE	composite		0.0697	ug/L	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	3/12/2008	TRUE	composite		0.0221	ug/L	0.0464	0.0409
OF53 City+Port	benzo(a)anthracene	3/12/2008	FALSE	composite		0.0191	ug/L	0.0464	0.0409
OF53A City	benzo(a)anthracene	2/29/2008	FALSE	grab		0.0162	ug/L	0.0234	0.0196
OF53A City	benzo(a)anthracene	3/20/2008	FALSE	grab		0.0482	ug/L	0.0234	0.0196
OF53A City	benzo(a)anthracene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0234	0.0196
OF53A City	benzo(a)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0234	0.0196
OFM1 City	benzo(a)anthracene	9/28/2007	FALSE	grab	U	0.0196	ug/L	0.0154	0.0148
OFM1 City	benzo(a)anthracene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0154	0.0148
OFM1 City	benzo(a)anthracene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0154	0.0148
OFM1 City	benzo(a)anthracene	11/16/2007	FALSE	grab		0.0128	ug/L	0.0154	0.0148
OFM1 LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.041	ug/l	0.0470	0.0463
OFM1 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.041	ug/l	0.0470	0.0463
OFM1 LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.059	ug/l	0.0470	0.0463
OFM2 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.00973	ug/L	0.0107	0.0106
OFM2 City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.0136	ug/L	0.0107	0.0106
OFM2 City	benzo(a)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0107	0.0106
OFM2 City	benzo(a)anthracene	12/15/2007	FALSE	grab	U	0.00971	ug/L	0.0107	0.0106
OFM2 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.037	ug/l	0.0214	0.0197
OFM2 LW3	benzo(a)anthracene	4/9/2007	FALSE	composite	J	0.018	ug/l	0.0214	0.0197
OFM2 LW3	benzo(a)anthracene	4/23/2007	FALSE	composite	J	0.013	ug/l	0.0214	0.0197
OFM2 LW3	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.018	ug/l	0.0214	0.0197
OFM2 LW3	benzo(a)anthracene	5/3/2007	TRUE	composite	J	0.017	ug/l	0.0214	0.0197
OFM3 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0104	ug/L	0.0108	0.0107
OFM3 City	benzo(a)anthracene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0108	0.0107
OFM3 City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.0134	ug/L	0.0108	0.0107
OFM3 City	benzo(a)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0108	0.0107
OFS1 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0712	ug/L	0.6698	0.3497
OFS1 City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.22	ug/L	0.6698	0.3497
OFS1 City	benzo(a)anthracene	11/16/2007	FALSE	grab		1.88	ug/L	0.6698	0.3497
OFS1 City	benzo(a)anthracene	12/15/2007	FALSE	grab		0.508	ug/L	0.6698	0.3497
OFS2 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0108	ug/L	0.0135	0.0125
OFS2 City	benzo(a)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0135	0.0125
OFS2 City	benzo(a)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0135	0.0125
OFS2 City	benzo(a)anthracene	12/15/2007	FALSE	grab		0.0235	ug/L	0.0135	0.0125
OFS5 City	benzo(a)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0417	0.0259
OFS5 City	benzo(a)anthracene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0417	0.0259
OFS5 City	benzo(a)anthracene	11/16/2007	FALSE	grab		0.0432	ug/L	0.0417	0.0259
OFS5 City	benzo(a)anthracene	11/16/2007	TRUE	grab		0.0518	ug/L	0.0417	0.0259
OFS5 City	benzo(a)anthracene	12/15/2007	FALSE	grab		0.1	ug/L	0.0417	0.0259
OFS6 City	benzo(a)anthracene	9/28/2007	FALSE	grab		0.0195	ug/L	0.0476	0.0419
OFS6 City	benzo(a)anthracene	10/16/2007	FALSE	grab		0.0749	ug/L	0.0476	0.0419
OFS6 City	benzo(a)anthracene	11/16/2007	FALSE	grab		0.0347	ug/L	0.0476	0.0419
OFS6 City	benzo(a)anthracene	12/15/2007	FALSE	grab		0.0611	ug/L	0.0476	0.0419
OSM LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.052	ug/l	0.0353	0.0313
OSM LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.051	ug/l	0.0353	0.0313
OSM LW3	benzo(a)anthracene	4/18/2007	FALSE	composite	J	0.02	ug/l	0.0353	0.0313

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OSM LW3	benzo(a)anthracene	5/21/2007	FALSE	grab	J	0.018	ug/l	0.0353	0.0313
Portland Shipyard LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.04	ug/l	0.0295	0.0202
Portland Shipyard LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.034	ug/l	0.0295	0.0202
Portland Shipyard LW3	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.018	ug/l	0.0295	0.0202
Portland Shipyard LW3	benzo(a)anthracene	5/22/2007	FALSE	grab	U	0.0026	ug/l	0.0295	0.0202
Portland Shipyard LW3	benzo(a)anthracene	6/5/2007	FALSE	grab		0.053	ug/l	0.0295	0.0202
Schnitzer Int. LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.077	ug/l	0.0490	0.0436
Schnitzer Int. LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.064	ug/l	0.0490	0.0436
Schnitzer Int. LW3	benzo(a)anthracene	4/23/2007	FALSE	composite		0.023	ug/l	0.0490	0.0436
Schnitzer Int. LW3	benzo(a)anthracene	5/21/2007	FALSE	grab		0.032	ug/l	0.0490	0.0436
Schnitzer Riverside LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.047	ug/l	0.9290	0.4113
Schnitzer Riverside LW3	benzo(a)anthracene	4/18/2007	FALSE	composite	J	0.74	ug/l	0.9290	0.4113
Schnitzer Riverside LW3	benzo(a)anthracene	4/23/2007	FALSE	composite		2	ug/l	0.9290	0.4113
Siltronic LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.031	ug/l	0.0430	0.0378
Siltronic LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.045	ug/l	0.0430	0.0378
Siltronic LW3	benzo(a)anthracene	4/18/2007	FALSE	composite		0.077	ug/l	0.0430	0.0378
Siltronic LW3	benzo(a)anthracene	6/10/2007	FALSE	composite	J	0.019	ug/l	0.0430	0.0378
SJB LW3	benzo(a)anthracene	3/26/2007	FALSE	composite		0.69	ug/l	0.2485	0.1425
SJB LW3	benzo(a)anthracene	4/9/2007	FALSE	composite		0.16	ug/l	0.2485	0.1425
SJB LW3	benzo(a)anthracene	4/18/2007	FALSE	composite	J	0.11	ug/l	0.2485	0.1425
SJB LW3	benzo(a)anthracene	5/21/2007	TRUE	grab		0.027	ug/l	0.2485	0.1425
SJB LW3	benzo(a)anthracene	5/21/2007	FALSE	grab		0.041	ug/l	0.2485	0.1425
Sulzer LW3	benzo(a)anthracene	1/11/2008	FALSE	composite	U	0.0026	ug/l	0.0073	0.0056
Sulzer LW3	benzo(a)anthracene	1/30/2008	FALSE	composite	J	0.012	ug/l	0.0073	0.0056
UPRR Albina LW3	benzo(a)anthracene	5/3/2007	FALSE	composite		0.026	ug/l	0.1340	0.0683
UPRR Albina LW3	benzo(a)anthracene	6/10/2007	FALSE	composite	J	0.02	ug/l	0.1340	0.0683
UPRR Albina LW3	benzo(a)anthracene	11/27/2007	FALSE	composite		0.11	ug/l	0.1340	0.0683
UPRR Albina LW3	benzo(a)anthracene	11/29/2007	FALSE	composite		0.38	ug/l	0.1340	0.0683
WR169 Basin D Port	benzo(a)anthracene	3/24/2007	FALSE	composite		0.04	ug/l	0.0320	0.0192
WR169 Basin D Port	benzo(a)anthracene	4/7/2007	FALSE	composite		0.067	ug/l	0.0320	0.0192
WR169 Basin D Port	benzo(a)anthracene	5/3/2007	TRUE	composite	J	0.017	ug/l	0.0320	0.0192
WR169 Basin D Port	benzo(a)anthracene	5/3/2007	FALSE	composite	J	0.019	ug/l	0.0320	0.0192
WR169 Basin D Port	benzo(a)anthracene	11/16/2007	FALSE	composite	U	0.0028	ug/l	0.0320	0.0192
WR177 Basin M Port	benzo(a)anthracene	3/24/2007	FALSE	composite		0.5	ug/l	0.2020	0.1454
WR177 Basin M Port	benzo(a)anthracene	4/7/2007	FALSE	composite		0.15	ug/l	0.2020	0.1454
WR177 Basin M Port	benzo(a)anthracene	5/3/2007	FALSE	composite		0.096	ug/l	0.2020	0.1454
WR177 Basin M Port	benzo(a)anthracene	9/28/2007	FALSE	composite		0.062	ug/l	0.2020	0.1454
WR181 Basin Q Port	benzo(a)anthracene	3/24/2007	FALSE	composite		0.29	ug/l	0.1340	0.0881
WR181 Basin Q Port	benzo(a)anthracene	3/24/2007	TRUE	composite		0.31	ug/l	0.1340	0.0881
WR181 Basin Q Port	benzo(a)anthracene	4/7/2007	FALSE	composite		0.069	ug/l	0.1340	0.0881
WR181 Basin Q Port	benzo(a)anthracene	9/28/2007	FALSE	composite		0.033	ug/l	0.1340	0.0881
WR183 Basin R Port	benzo(a)anthracene	3/24/2007	FALSE	composite	J	0.011	ug/l	0.0840	0.0314
WR183 Basin R Port	benzo(a)anthracene	4/7/2007	FALSE	composite	J	0.018	ug/l	0.0840	0.0314
WR183 Basin R Port	benzo(a)anthracene	5/3/2007	FALSE	composite		0.29	ug/l	0.0840	0.0314
WR183 Basin R Port	benzo(a)anthracene	11/16/2007	FALSE	composite		0.031	ug/l	0.0840	0.0314
WR183 Basin R Port	benzo(a)anthracene	11/16/2007	TRUE	composite	U	0.0027	ug/l	0.0840	0.0314
WR20 Basin L Port	benzo(a)anthracene	3/24/2007	FALSE	composite		1.6	ug/l	1.5425	1.3376
WR20 Basin L Port	benzo(a)anthracene	5/3/2007	FALSE	composite		1.3	ug/l	1.5425	1.3376
WR20 Basin L Port	benzo(a)anthracene	5/20/2007	FALSE	composite		2.7	ug/l	1.5425	1.3376
WR20 Basin L Port	benzo(a)anthracene	9/28/2007	FALSE	composite		0.57	ug/l	1.5425	1.3376
Arkema LW3	benzo(a)pyrene	3/26/2007	FALSE	composite	U	0.0043	ug/l	0.0048	0.0047
Arkema LW3	benzo(a)pyrene	5/3/2007	FALSE	composite	U	0.0047	ug/l	0.0048	0.0047
Arkema LW3	benzo(a)pyrene	6/5/2007	FALSE	grab	U	0.0046	ug/l	0.0048	0.0047
Arkema LW3	benzo(a)pyrene	11/27/2007	FALSE	composite	J	0.0054	ug/l	0.0048	0.0047
Chevron LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.47	ug/l	0.2540	0.1803
Chevron LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.24	ug/l	0.2540	0.1803
Chevron LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.052	ug/l	0.2540	0.1803
Gasco LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.2	ug/l	0.5000	0.4223
Gasco LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.3	ug/l	0.5000	0.4223
Gasco LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.57	ug/l	0.5000	0.4223
Gasco LW3	benzo(a)pyrene	5/21/2007	FALSE	grab		0.93	ug/l	0.5000	0.4223
GE MH 2	benzo(a)pyrene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1536	0.1473
GE MH 2	benzo(a)pyrene	10/19/2007	FALSE	composite	U	0.181	ug/l	0.1536	0.1473
GE MH 2	benzo(a)pyrene	10/19/2007	TRUE	composite	U	0.178	ug/l	0.1536	0.1473
GE MH 2	benzo(a)pyrene	11/13/2007	FALSE	composite	U	0.185	ug/l	0.1536	0.1473
GE MH 2	benzo(a)pyrene	11/13/2007	TRUE	composite	U	0.185	ug/l	0.1536	0.1473
GE SV 1	benzo(a)pyrene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1560	0.1497
GE SV 1	benzo(a)pyrene	10/19/2007	FALSE	composite	U	0.185	ug/l	0.1560	0.1497
GE SV 1	benzo(a)pyrene	11/13/2007	FALSE	composite	U	0.185	ug/l	0.1560	0.1497
Gunderson WR142/145 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.022	ug/l	0.0114	0.0088
Gunderson WR142/145 LW3	benzo(a)pyrene	5/21/2007	FALSE	grab	U	0.0043	ug/l	0.0114	0.0088
Gunderson WR142/145 LW3	benzo(a)pyrene	6/10/2007	FALSE	composite	U	0.0046	ug/l	0.0114	0.0088

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Gunderson WR142/145 LW3	benzo(a)pyrene	11/16/2007	FALSE	composite	J	0.02	ug/l	0.0114	0.0088
Gunderson WR142/145 LW3	benzo(a)pyrene	11/29/2007	FALSE	composite	U	0.0062	ug/l	0.0114	0.0088
Gunderson WR147 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite	J	0.013	ug/l	0.0111	0.0102
Gunderson WR147 LW3	benzo(a)pyrene	4/18/2007	FALSE	composite	J	0.015	ug/l	0.0111	0.0102
Gunderson WR147 LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.0054	ug/l	0.0111	0.0102
HWY30 NW Yeon-35th LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.054	ug/l	0.0283	0.0235
HWY30 NW Yeon-35th LW3	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.015	ug/l	0.0283	0.0235
HWY30 NW Yeon-35th LW3	benzo(a)pyrene	6/10/2007	FALSE	composite	J	0.016	ug/l	0.0283	0.0235
HWY30A Reed St. LW3	benzo(a)pyrene	11/16/2007	FALSE	composite		0.052	ug/l	0.0913	0.0854
HWY30A Reed St. LW3	benzo(a)pyrene	1/28/2008	FALSE	composite		0.092	ug/l	0.0913	0.0854
HWY30A Reed St. LW3	benzo(a)pyrene	1/30/2008	FALSE	composite		0.13	ug/l	0.0913	0.0854
HWY30B 35th St. LW3	benzo(a)pyrene	11/27/2007	FALSE	composite		0.071	ug/l	0.1155	0.1093
HWY30B 35th St. LW3	benzo(a)pyrene	1/11/2008	FALSE	composite		0.091	ug/l	0.1155	0.1093
HWY30B 35th St. LW3	benzo(a)pyrene	1/28/2008	FALSE	composite		0.13	ug/l	0.1155	0.1093
HWY30B 35th St. LW3	benzo(a)pyrene	1/30/2008	FALSE	composite		0.17	ug/l	0.1155	0.1093
OF16 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.038	ug/l	0.0367	0.0329
OF16 LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.055	ug/l	0.0367	0.0329
OF16 LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.017	ug/l	0.0367	0.0329
OF18 LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.14	ug/l	0.0507	0.0300
OF18 LW3	benzo(a)pyrene	3/26/2007	TRUE	composite		0.1	ug/l	0.0507	0.0300
OF18 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.046	ug/l	0.0507	0.0300
OF18 LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.032	ug/l	0.0507	0.0300
OF18 LW3	benzo(a)pyrene	5/21/2007	FALSE	grab	U	0.0046	ug/l	0.0507	0.0300
OF19_LW3+MS4	benzo(a)pyrene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	3/15/2006	FALSE	composite	U	0.23	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	5/23/2006	FALSE	composite	U	0.2	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	11/2/2006	FALSE	composite	U	0.22	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	11/19/2006	FALSE	composite	U	0.21	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	2/14/2007	FALSE	composite		0.11	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	3/26/2007	FALSE	composite		0.049	ug/l	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	4/9/2007	TRUE	composite		0.1	ug/l	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	4/9/2007	FALSE	composite		0.079	ug/l	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	4/18/2007	FALSE	composite		0.066	ug/l	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	11/26/2007	FALSE	composite		0.0414	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	3/7/2008	FALSE	composite		0.0645	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	3/25/2008	FALSE	composite		0.0507	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	11/20/2008	FALSE	composite		0.0339	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	2/23/2009	FALSE	composite		0.095	ug/L	0.1079	0.0884
OF19_LW3+MS4	benzo(a)pyrene	3/14/2009	FALSE	composite		0.0488	ug/L	0.1079	0.0884
OF22 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.085	ug/l	0.0605	0.0547
OF22 LW3	benzo(a)pyrene	5/3/2007	FALSE	composite		0.047	ug/l	0.0605	0.0547
OF22 LW3	benzo(a)pyrene	6/5/2007	FALSE	grab		0.083	ug/l	0.0605	0.0547
OF22 LW3	benzo(a)pyrene	6/10/2007	FALSE	composite		0.027	ug/l	0.0605	0.0547
OF22B LW3	benzo(a)pyrene	3/27/2007	FALSE	composite	J	0.035	ug/l	0.0487	0.0411
OF22B LW3	benzo(a)pyrene	5/3/2007	FALSE	composite		0.11	ug/l	0.0487	0.0411
OF22B LW3	benzo(a)pyrene	6/5/2007	FALSE	grab		0.04	ug/l	0.0487	0.0411
OF22B LW3	benzo(a)pyrene	11/16/2007	FALSE	composite		0.039	ug/l	0.0487	0.0411
OF22B LW3	benzo(a)pyrene	11/27/2007	FALSE	composite	J	0.019	ug/l	0.0487	0.0411
OF22B LW3	benzo(a)pyrene	11/27/2007	TRUE	composite	J	0.02	ug/l	0.0487	0.0411
OF22C City	benzo(a)pyrene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0119	0.0114
OF22C City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.0186	ug/L	0.0119	0.0114
OF22C City	benzo(a)pyrene	4/4/2008	FALSE	grab	U	0.00971	ug/L	0.0119	0.0114
OF22C City	benzo(a)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0119	0.0114
OF22C Tualatin Hills LW3	benzo(a)pyrene	4/18/2007	TRUE	composite	U	0.0045	ug/l	0.0045	0.0045
OF22C Tualatin Hills LW3	benzo(a)pyrene	4/18/2007	FALSE	composite	U	0.0044	ug/l	0.0045	0.0045
OF22C Tualatin Hills LW3	benzo(a)pyrene	1/9/2008	FALSE	composite	U	0.0046	ug/l	0.0045	0.0045
OF22D City	benzo(a)pyrene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0384	0.0225
OF22D City	benzo(a)pyrene	2/29/2008	TRUE	grab		0.0152	ug/L	0.0384	0.0225
OF22D City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.113	ug/L	0.0384	0.0225
OF22D City	benzo(a)pyrene	4/4/2008	FALSE	grab		0.0186	ug/L	0.0384	0.0225
OF22D City	benzo(a)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0384	0.0225
OF45 City	benzo(a)pyrene	2/5/2008	FALSE	grab		0.0834	ug/L	0.0521	0.0495
OF45 City	benzo(a)pyrene	2/29/2008	FALSE	grab		0.0383	ug/L	0.0521	0.0495
OF45 City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.0401	ug/L	0.0521	0.0495
OF45 City	benzo(a)pyrene	4/4/2008	FALSE	grab		0.0467	ug/L	0.0521	0.0495
OF46 City	benzo(a)pyrene	2/5/2008	FALSE	grab		0.157	ug/L	0.1123	0.1049
OF46 City	benzo(a)pyrene	2/29/2008	FALSE	grab		0.0784	ug/L	0.1123	0.1049
OF46 City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.147	ug/L	0.1123	0.1049
OF46 City	benzo(a)pyrene	4/4/2008	TRUE	grab		0.0506	ug/L	0.1123	0.1049
OF46 City	benzo(a)pyrene	4/4/2008	FALSE	grab		0.083	ug/L	0.1123	0.1049
OF47 City	benzo(a)pyrene	2/5/2008	FALSE	grab		0.0909	ug/L	0.1013	0.0651
OF47 City	benzo(a)pyrene	2/29/2008	FALSE	grab		0.014	ug/L	0.1013	0.0651

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF47 City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.242	ug/L	0.1013	0.0651
OF47 City	benzo(a)pyrene	4/4/2008	FALSE	grab		0.0584	ug/L	0.1013	0.0651
OF48 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0334	ug/L	0.0147	0.0128
OF48 City	benzo(a)pyrene	9/28/2007	TRUE	grab		0.026	ug/L	0.0147	0.0128
OF48 City	benzo(a)pyrene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0147	0.0128
OF48 City	benzo(a)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0147	0.0128
OF48 City	benzo(a)pyrene	12/15/2007	FALSE	grab	U	0.00962	ug/L	0.0147	0.0128
OF49 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite	U	0.0047	ug/l	0.0060	0.0057
OF49 LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.0062	ug/l	0.0060	0.0057
OF49 LW3	benzo(a)pyrene	6/10/2007	FALSE	composite	U	0.0044	ug/l	0.0060	0.0057
OF49 LW3	benzo(a)pyrene	11/16/2007	FALSE	composite	J	0.0085	ug/l	0.0060	0.0057
OF50 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0182	ug/L	0.0120	0.0116
OF50 City	benzo(a)pyrene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0120	0.0116
OF50 City	benzo(a)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0120	0.0116
OF50 City	benzo(a)pyrene	12/14/2007	FALSE	grab		0.0104	ug/L	0.0120	0.0116
OF52 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0234	ug/L	0.0196	0.0184
OF52 City	benzo(a)pyrene	9/30/2007	TRUE	grab	U	0.00971	ug/L	0.0196	0.0184
OF52 City	benzo(a)pyrene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0196	0.0184
OF52 City	benzo(a)pyrene	10/16/2007	TRUE	grab		0.015	ug/L	0.0196	0.0184
OF52 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0259	ug/L	0.0196	0.0184
OF52 City	benzo(a)pyrene	11/16/2007	FALSE	grab		0.0248	ug/L	0.0196	0.0184
OF52A City	benzo(a)pyrene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0676	0.0372
OF52A City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0147	ug/L	0.0676	0.0372
OF52A City	benzo(a)pyrene	11/16/2007	FALSE	grab		0.0388	ug/L	0.0676	0.0372
OF52A City	benzo(a)pyrene	12/14/2007	FALSE	grab		0.0168	ug/L	0.0676	0.0372
OF52C Basin T Port	benzo(a)pyrene	3/24/2007	FALSE	composite		0.092	ug/l	0.0352	0.0216
OF52C Basin T Port	benzo(a)pyrene	4/7/2007	FALSE	composite	J	0.02	ug/l	0.0352	0.0216
OF52C Basin T Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.024	ug/l	0.0352	0.0216
OF52C Basin T Port	benzo(a)pyrene	11/16/2007	FALSE	composite	U	0.0049	ug/l	0.0352	0.0216
OF53 City+Port	benzo(a)pyrene	3/24/2007	FALSE	composite		0.037	ug/l	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	4/7/2007	FALSE	composite		0.041	ug/l	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.099	ug/l	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	1/26/2008	FALSE	composite		0.0224	ug/L	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	2/6/2008	FALSE	composite		0.0683	ug/L	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	3/12/2008	TRUE	composite		0.02	ug/L	0.0478	0.0405
OF53 City+Port	benzo(a)pyrene	3/12/2008	FALSE	composite		0.0182	ug/L	0.0478	0.0405
OF53A City	benzo(a)pyrene	2/29/2008	FALSE	grab		0.0131	ug/L	0.0241	0.0191
OF53A City	benzo(a)pyrene	3/20/2008	FALSE	grab		0.0543	ug/L	0.0241	0.0191
OF53A City	benzo(a)pyrene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0241	0.0191
OF53A City	benzo(a)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0241	0.0191
OFM1 City	benzo(a)pyrene	9/28/2007	FALSE	grab	U	0.0098	ug/L	0.0117	0.0115
OFM1 City	benzo(a)pyrene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0117	0.0115
OFM1 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.016	ug/L	0.0117	0.0115
OFM1 City	benzo(a)pyrene	11/16/2007	FALSE	grab		0.0114	ug/L	0.0117	0.0115
OFM1 LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.035	ug/l	0.0433	0.0428
OFM1 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.043	ug/l	0.0433	0.0428
OFM1 LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.052	ug/l	0.0433	0.0428
OFM2 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0106	ug/L	0.0118	0.0115
OFM2 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0173	ug/L	0.0118	0.0115
OFM2 City	benzo(a)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0118	0.0115
OFM2 City	benzo(a)pyrene	12/15/2007	FALSE	grab	U	0.00971	ug/L	0.0118	0.0115
OFM2 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.042	ug/l	0.0235	0.0213
OFM2 LW3	benzo(a)pyrene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0235	0.0213
OFM2 LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.013	ug/l	0.0235	0.0213
OFM2 LW3	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.019	ug/l	0.0235	0.0213
OFM2 LW3	benzo(a)pyrene	5/3/2007	TRUE	composite	J	0.019	ug/l	0.0235	0.0213
OFM3 City	benzo(a)pyrene	9/28/2007	FALSE	grab	U	0.0099	ug/L	0.0110	0.0108
OFM3 City	benzo(a)pyrene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0110	0.0108
OFM3 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0148	ug/L	0.0110	0.0108
OFM3 City	benzo(a)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0110	0.0108
OFS1 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0689	ug/L	0.5520	0.3039
OFS1 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.203	ug/L	0.5520	0.3039
OFS1 City	benzo(a)pyrene	11/16/2007	FALSE	grab		1.54	ug/L	0.5520	0.3039
OFS1 City	benzo(a)pyrene	12/15/2007	FALSE	grab		0.396	ug/L	0.5520	0.3039
OFS2 City	benzo(a)pyrene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0140	0.0129
OFS2 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0116	ug/L	0.0140	0.0129
OFS2 City	benzo(a)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0140	0.0129
OFS2 City	benzo(a)pyrene	12/15/2007	FALSE	grab		0.025	ug/L	0.0140	0.0129
OFS5 City	benzo(a)pyrene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0371	0.0240
OFS5 City	benzo(a)pyrene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0371	0.0240
OFS5 City	benzo(a)pyrene	11/16/2007	FALSE	grab		0.0349	ug/L	0.0371	0.0240
OFS5 City	benzo(a)pyrene	11/16/2007	TRUE	grab		0.0426	ug/L	0.0371	0.0240

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS5 City	benzo(a)pyrene	12/15/2007	FALSE	grab		0.0901	ug/L	0.0371	0.0240
OFS6 City	benzo(a)pyrene	9/28/2007	FALSE	grab		0.0117	ug/L	0.0386	0.0305
OFS6 City	benzo(a)pyrene	10/16/2007	FALSE	grab		0.0791	ug/L	0.0386	0.0305
OFS6 City	benzo(a)pyrene	11/16/2007	FALSE	grab		0.0227	ug/L	0.0386	0.0305
OFS6 City	benzo(a)pyrene	12/15/2007	FALSE	grab		0.041	ug/L	0.0386	0.0305
OSM LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.028	ug/l	0.0220	0.0204
OSM LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.028	ug/l	0.0220	0.0204
OSM LW3	benzo(a)pyrene	4/18/2007	FALSE	composite	J	0.01	ug/l	0.0220	0.0204
OSM LW3	benzo(a)pyrene	5/21/2007	FALSE	grab	J	0.022	ug/l	0.0220	0.0204
Portland Shipyard LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.032	ug/l	0.0277	0.0209
Portland Shipyard LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.028	ug/l	0.0277	0.0209
Portland Shipyard LW3	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.019	ug/l	0.0277	0.0209
Portland Shipyard LW3	benzo(a)pyrene	5/22/2007	FALSE	grab	U	0.0043	ug/l	0.0277	0.0209
Portland Shipyard LW3	benzo(a)pyrene	6/5/2007	FALSE	grab		0.055	ug/l	0.0277	0.0209
Schnitzer Int. LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.078	ug/l	0.0488	0.0430
Schnitzer Int. LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.064	ug/l	0.0488	0.0430
Schnitzer Int. LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	0.022	ug/l	0.0488	0.0430
Schnitzer Int. LW3	benzo(a)pyrene	5/21/2007	FALSE	grab		0.031	ug/l	0.0488	0.0430
Schnitzer Riverside LW3	benzo(a)pyrene	4/9/2007	FALSE	composite	J	0.016	ug/l	0.6320	0.2207
Schnitzer Riverside LW3	benzo(a)pyrene	4/18/2007	FALSE	composite	J	0.48	ug/l	0.6320	0.2207
Schnitzer Riverside LW3	benzo(a)pyrene	4/23/2007	FALSE	composite	J	1.4	ug/l	0.6320	0.2207
Siltronic LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.037	ug/l	0.0455	0.0409
Siltronic LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.046	ug/l	0.0455	0.0409
Siltronic LW3	benzo(a)pyrene	4/18/2007	FALSE	composite		0.078	ug/l	0.0455	0.0409
Siltronic LW3	benzo(a)pyrene	6/10/2007	FALSE	composite		0.021	ug/l	0.0455	0.0409
SJB LW3	benzo(a)pyrene	3/26/2007	FALSE	composite		0.65	ug/l	0.2346	0.1401
SJB LW3	benzo(a)pyrene	4/9/2007	FALSE	composite		0.14	ug/l	0.2346	0.1401
SJB LW3	benzo(a)pyrene	4/18/2007	FALSE	composite	J	0.11	ug/l	0.2346	0.1401
SJB LW3	benzo(a)pyrene	5/21/2007	TRUE	grab		0.03	ug/l	0.2346	0.1401
SJB LW3	benzo(a)pyrene	5/21/2007	FALSE	grab		0.047	ug/l	0.2346	0.1401
Sulzer LW3	benzo(a)pyrene	1/11/2008	FALSE	composite	U	0.0043	ug/l	0.0063	0.0060
Sulzer LW3	benzo(a)pyrene	1/30/2008	FALSE	composite	J	0.0083	ug/l	0.0063	0.0060
UPRR Albina LW3	benzo(a)pyrene	5/3/2007	FALSE	composite		0.023	ug/l	0.0898	0.0518
UPRR Albina LW3	benzo(a)pyrene	6/10/2007	FALSE	composite	J	0.015	ug/l	0.0898	0.0518
UPRR Albina LW3	benzo(a)pyrene	11/27/2007	FALSE	composite		0.091	ug/l	0.0898	0.0518
UPRR Albina LW3	benzo(a)pyrene	11/29/2007	FALSE	composite		0.23	ug/l	0.0898	0.0518
WR169 Basin D Port	benzo(a)pyrene	3/24/2007	FALSE	composite		0.052	ug/l	0.0373	0.0337
WR169 Basin D Port	benzo(a)pyrene	4/7/2007	FALSE	composite		0.054	ug/l	0.0373	0.0337
WR169 Basin D Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.019	ug/l	0.0373	0.0337
WR169 Basin D Port	benzo(a)pyrene	5/3/2007	TRUE	composite	J	0.021	ug/l	0.0373	0.0337
WR169 Basin D Port	benzo(a)pyrene	11/16/2007	FALSE	composite		0.023	ug/l	0.0373	0.0337
WR177 Basin M Port	benzo(a)pyrene	3/24/2007	FALSE	composite		0.36	ug/l	0.1930	0.1649
WR177 Basin M Port	benzo(a)pyrene	4/7/2007	FALSE	composite		0.19	ug/l	0.1930	0.1649
WR177 Basin M Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.15	ug/l	0.1930	0.1649
WR177 Basin M Port	benzo(a)pyrene	9/28/2007	FALSE	composite		0.072	ug/l	0.1930	0.1649
WR181 Basin Q Port	benzo(a)pyrene	3/24/2007	TRUE	composite		0.42	ug/l	0.1757	0.1116
WR181 Basin Q Port	benzo(a)pyrene	3/24/2007	FALSE	composite		0.39	ug/l	0.1757	0.1116
WR181 Basin Q Port	benzo(a)pyrene	4/7/2007	FALSE	composite		0.078	ug/l	0.1757	0.1116
WR181 Basin Q Port	benzo(a)pyrene	9/28/2007	FALSE	composite		0.044	ug/l	0.1757	0.1116
WR183 Basin R Port	benzo(a)pyrene	3/24/2007	FALSE	composite	J	0.0077	ug/l	0.1034	0.0309
WR183 Basin R Port	benzo(a)pyrene	4/7/2007	FALSE	composite	J	0.017	ug/l	0.1034	0.0309
WR183 Basin R Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	0.37	ug/l	0.1034	0.0309
WR183 Basin R Port	benzo(a)pyrene	11/16/2007	FALSE	composite		0.033	ug/l	0.1034	0.0309
WR183 Basin R Port	benzo(a)pyrene	11/16/2007	TRUE	composite	U	0.0045	ug/l	0.1034	0.0309
WR20 Basin L Port	benzo(a)pyrene	3/24/2007	FALSE	composite		2.2	ug/l	2.1925	1.9400
WR20 Basin L Port	benzo(a)pyrene	5/3/2007	FALSE	composite	J	2	ug/l	2.1925	1.9400
WR20 Basin L Port	benzo(a)pyrene	5/20/2007	FALSE	composite		3.7	ug/l	2.1925	1.9400
WR20 Basin L Port	benzo(a)pyrene	9/28/2007	FALSE	composite		0.87	ug/l	2.1925	1.9400
Arkema LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite	J	0.008	ug/l	0.0098	0.0092
Arkema LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite	J	0.0068	ug/l	0.0098	0.0092
Arkema LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite	J	0.0093	ug/l	0.0098	0.0092
Arkema LW3	benzo(b)fluoranthene	6/5/2007	FALSE	grab	J	0.0071	ug/l	0.0098	0.0092
Arkema LW3	benzo(b)fluoranthene	11/27/2007	FALSE	composite	J	0.018	ug/l	0.0098	0.0092
Chevron LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		1.3	ug/l	0.7567	0.5776
Chevron LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.78	ug/l	0.7567	0.5776
Chevron LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite		0.19	ug/l	0.7567	0.5776
Gasco LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.25	ug/l	0.6050	0.5223
Gasco LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.41	ug/l	0.6050	0.5223
Gasco LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.66	ug/l	0.6050	0.5223
Gasco LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab		1.1	ug/l	0.6050	0.5223
GE MH 2	benzo(b)fluoranthene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1437	0.1392
GE MH 2	benzo(b)fluoranthene	10/19/2007	FALSE	composite	U	0.167	ug/l	0.1437	0.1392

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
GE MH 2	benzo(b)fluoranthene	10/19/2007	TRUE	composite	U	0.163	ug/l	0.1437	0.1392
GE MH 2	benzo(b)fluoranthene	11/13/2007	FALSE	composite	UJ	0.17	ug/l	0.1437	0.1392
GE MH 2	benzo(b)fluoranthene	11/13/2007	TRUE	composite	UJ	0.17	ug/l	0.1437	0.1392
GE SV 1	benzo(b)fluoranthene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1460	0.1415
GE SV 1	benzo(b)fluoranthene	10/19/2007	FALSE	composite	U	0.17	ug/l	0.1460	0.1415
GE SV 1	benzo(b)fluoranthene	11/13/2007	FALSE	composite	UJ	0.17	ug/l	0.1460	0.1415
Gunderson WR142/145 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.068	ug/l	0.0347	0.0151
Gunderson WR142/145 LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab	U	0.0023	ug/l	0.0347	0.0151
Gunderson WR142/145 LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite	J	0.019	ug/l	0.0347	0.0151
Gunderson WR142/145 LW3	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.081	ug/l	0.0347	0.0151
Gunderson WR142/145 LW3	benzo(b)fluoranthene	11/29/2007	FALSE	composite	U	0.0033	ug/l	0.0347	0.0151
Gunderson WR147 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.041	ug/l	0.0302	0.0252
Gunderson WR147 LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.04	ug/l	0.0302	0.0252
Gunderson WR147 LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite	J	0.0097	ug/l	0.0302	0.0252
HWY30 NW Yeon-35th LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.096	ug/l	0.0530	0.0448
HWY30 NW Yeon-35th LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.024	ug/l	0.0530	0.0448
HWY30 NW Yeon-35th LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite		0.039	ug/l	0.0530	0.0448
HWY30A Reed St. LW3	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.094	ug/l	0.1547	0.1467
HWY30A Reed St. LW3	benzo(b)fluoranthene	1/28/2008	FALSE	composite		0.16	ug/l	0.1547	0.1467
HWY30A Reed St. LW3	benzo(b)fluoranthene	1/30/2008	FALSE	composite		0.21	ug/l	0.1547	0.1467
HWY30B 35th St. LW3	benzo(b)fluoranthene	11/27/2007	FALSE	composite		0.17	ug/l	0.2100	0.2054
HWY30B 35th St. LW3	benzo(b)fluoranthene	1/11/2008	FALSE	composite		0.17	ug/l	0.2100	0.2054
HWY30B 35th St. LW3	benzo(b)fluoranthene	1/28/2008	FALSE	composite		0.22	ug/l	0.2100	0.2054
HWY30B 35th St. LW3	benzo(b)fluoranthene	1/30/2008	FALSE	composite		0.28	ug/l	0.2100	0.2054
OF16 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.064	ug/l	0.0600	0.0531
OF16 LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.09	ug/l	0.0600	0.0531
OF16 LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite		0.026	ug/l	0.0600	0.0531
OF18 LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.2	ug/l	0.0716	0.0349
OF18 LW3	benzo(b)fluoranthene	3/26/2007	TRUE	composite		0.12	ug/l	0.0716	0.0349
OF18 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.074	ug/l	0.0716	0.0349
OF18 LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.05	ug/l	0.0716	0.0349
OF18 LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab	U	0.0025	ug/l	0.0716	0.0349
OF19_LW3+MS4	benzo(b)fluoranthene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.072	ug/l	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.1	ug/l	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	4/9/2007	TRUE	composite		0.16	ug/l	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.093	ug/l	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	11/26/2007	FALSE	composite		0.0529	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	3/7/2008	FALSE	composite		0.0931	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	3/25/2008	FALSE	composite		0.0664	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	11/20/2008	FALSE	composite		0.0424	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	2/23/2009	FALSE	composite		0.119	ug/L	0.0840	0.0792
OF19_LW3+MS4	benzo(b)fluoranthene	3/14/2009	FALSE	composite		0.0613	ug/L	0.0840	0.0792
OF22 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.14	ug/l	0.0990	0.0933
OF22 LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.079	ug/l	0.0990	0.0933
OF22 LW3	benzo(b)fluoranthene	6/5/2007	FALSE	grab		0.12	ug/l	0.0990	0.0933
OF22 LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite		0.057	ug/l	0.0990	0.0933
OF22B LW3	benzo(b)fluoranthene	3/27/2007	FALSE	composite		0.05	ug/l	0.0685	0.0606
OF22B LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.14	ug/l	0.0685	0.0606
OF22B LW3	benzo(b)fluoranthene	6/5/2007	FALSE	grab		0.071	ug/l	0.0685	0.0606
OF22B LW3	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.044	ug/l	0.0685	0.0606
OF22B LW3	benzo(b)fluoranthene	11/27/2007	TRUE	composite		0.036	ug/l	0.0685	0.0606
OF22B LW3	benzo(b)fluoranthene	11/27/2007	FALSE	composite		0.039	ug/l	0.0685	0.0606
OF22C City	benzo(b)fluoranthene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0127	0.0119
OF22C City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.0212	ug/L	0.0127	0.0119
OF22C City	benzo(b)fluoranthene	4/4/2008	FALSE	grab		0.0101	ug/L	0.0127	0.0119
OF22C City	benzo(b)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0127	0.0119
OF22C Tualatin Hills LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite	U	0.0047	ug/l	0.0046	0.0046
OF22C Tualatin Hills LW3	benzo(b)fluoranthene	4/18/2007	TRUE	composite	U	0.0048	ug/l	0.0046	0.0046
OF22C Tualatin Hills LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite	U	0.0049	ug/l	0.0046	0.0046
OF22C Tualatin Hills LW3	benzo(b)fluoranthene	4/23/2007	TRUE	composite	U	0.0049	ug/l	0.0046	0.0046
OF22C Tualatin Hills LW3	benzo(b)fluoranthene	1/9/2008	FALSE	composite	J	0.0041	ug/l	0.0046	0.0046
OF22D City	benzo(b)fluoranthene	2/29/2008	TRUE	grab		0.0187	ug/L	0.0455	0.0263
OF22D City	benzo(b)fluoranthene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0455	0.0263
OF22D City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.132	ug/L	0.0455	0.0263
OF22D City	benzo(b)fluoranthene	4/4/2008	FALSE	grab		0.0262	ug/L	0.0455	0.0263
OF22D City	benzo(b)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0455	0.0263
OF45 City	benzo(b)fluoranthene	2/5/2008	FALSE	grab		0.145	ug/L	0.0898	0.0844
OF45 City	benzo(b)fluoranthene	2/29/2008	FALSE	grab		0.0659	ug/L	0.0898	0.0844
OF45 City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.0609	ug/L	0.0898	0.0844
OF45 City	benzo(b)fluoranthene	4/4/2008	FALSE	grab		0.0872	ug/L	0.0898	0.0844
OF46 City	benzo(b)fluoranthene	2/5/2008	FALSE	grab		0.291	ug/L	0.1947	0.1859

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF46 City	benzo(b)fluoranthene	2/29/2008	FALSE	grab		0.15	ug/L	0.1947	0.1859
OF46 City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.203	ug/L	0.1947	0.1859
OF46 City	benzo(b)fluoranthene	4/4/2008	FALSE	grab		0.173	ug/L	0.1947	0.1859
OF46 City	benzo(b)fluoranthene	4/4/2008	TRUE	grab		0.0963	ug/L	0.1947	0.1859
OF47 City	benzo(b)fluoranthene	2/5/2008	FALSE	grab		0.144	ug/L	0.1386	0.1015
OF47 City	benzo(b)fluoranthene	2/29/2008	FALSE	grab		0.0264	ug/L	0.1386	0.1015
OF47 City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.287	ug/L	0.1386	0.1015
OF47 City	benzo(b)fluoranthene	4/4/2008	FALSE	grab		0.0971	ug/L	0.1386	0.1015
OF48 City	benzo(b)fluoranthene	9/28/2007	TRUE	grab		0.0433	ug/L	0.0232	0.0179
OF48 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.063	ug/L	0.0232	0.0179
OF48 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0232	0.0179
OF48 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0232	0.0179
OF48 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.0203	ug/L	0.0232	0.0179
OF49 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite	J	0.0081	ug/l	0.0088	0.0087
OF49 LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite	J	0.011	ug/l	0.0088	0.0087
OF49 LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite	J	0.0083	ug/l	0.0088	0.0087
OF49 LW3	benzo(b)fluoranthene	11/16/2007	FALSE	composite	J	0.0078	ug/l	0.0088	0.0087
OF50 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0231	ug/L	0.0144	0.0135
OF50 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0144	0.0135
OF50 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0144	0.0135
OF50 City	benzo(b)fluoranthene	12/14/2007	FALSE	grab		0.015	ug/L	0.0144	0.0135
OF52 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0288	ug/L	0.0240	0.0224
OF52 City	benzo(b)fluoranthene	9/30/2007	FALSE	grab		0.0117	ug/L	0.0240	0.0224
OF52 City	benzo(b)fluoranthene	9/30/2007	TRUE	grab		0.0106	ug/L	0.0240	0.0224
OF52 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0284	ug/L	0.0240	0.0224
OF52 City	benzo(b)fluoranthene	10/16/2007	TRUE	grab		0.0243	ug/L	0.0240	0.0224
OF52 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		0.0297	ug/L	0.0240	0.0224
OF52A City	benzo(b)fluoranthene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0936	0.0768
OF52A City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0477	ug/L	0.0936	0.0768
OF52A City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		0.0827	ug/L	0.0936	0.0768
OF52A City	benzo(b)fluoranthene	12/14/2007	FALSE	grab		0.0441	ug/L	0.0936	0.0768
OF52C Basin T Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		0.2	ug/l	0.0800	0.0596
OF52C Basin T Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.037	ug/l	0.0800	0.0596
OF52C Basin T Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.046	ug/l	0.0800	0.0596
OF52C Basin T Port	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.037	ug/l	0.0800	0.0596
OF53 City+Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		0.065	ug/l	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.066	ug/l	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.14	ug/l	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	1/26/2008	FALSE	composite		0.0357	ug/L	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	2/6/2008	FALSE	composite		0.103	ug/L	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	3/12/2008	FALSE	composite		0.024	ug/L	0.0724	0.0617
OF53 City+Port	benzo(b)fluoranthene	3/12/2008	TRUE	composite		0.0259	ug/L	0.0724	0.0617
OF53A City	benzo(b)fluoranthene	2/29/2008	FALSE	grab		0.0238	ug/L	0.0342	0.0248
OF53A City	benzo(b)fluoranthene	3/20/2008	FALSE	grab		0.0838	ug/L	0.0342	0.0248
OF53A City	benzo(b)fluoranthene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0342	0.0248
OF53A City	benzo(b)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0342	0.0248
OFM1 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0174	ug/L	0.0251	0.0224
OFM1 City	benzo(b)fluoranthene	9/30/2007	FALSE	grab		0.0168	ug/L	0.0251	0.0224
OFM1 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0484	ug/L	0.0251	0.0224
OFM1 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		0.0179	ug/L	0.0251	0.0224
OFM1 LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.11	ug/l	0.1400	0.1382
OFM1 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.15	ug/l	0.1400	0.1382
OFM1 LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.16	ug/l	0.1400	0.1382
OFM2 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.018	ug/L	0.0176	0.0163
OFM2 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0284	ug/L	0.0176	0.0163
OFM2 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0176	0.0163
OFM2 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.0142	ug/L	0.0176	0.0163
OFM2 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.088	ug/l	0.0485	0.0435
OFM2 LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.046	ug/l	0.0485	0.0435
OFM2 LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite		0.026	ug/l	0.0485	0.0435
OFM2 LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.033	ug/l	0.0485	0.0435
OFM2 LW3	benzo(b)fluoranthene	5/3/2007	TRUE	composite		0.035	ug/l	0.0485	0.0435
OFM3 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0142	ug/L	0.0146	0.0135
OFM3 City	benzo(b)fluoranthene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0146	0.0135
OFM3 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0247	ug/L	0.0146	0.0135
OFM3 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0146	0.0135
OFS1 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0922	ug/L	0.5906	0.3511
OFS1 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.239	ug/L	0.5906	0.3511
OFS1 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		1.6	ug/L	0.5906	0.3511
OFS1 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.431	ug/L	0.5906	0.3511
OFS2 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0133	ug/L	0.0178	0.0158
OFS2 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.0139	ug/L	0.0178	0.0158

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS2 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0178	0.0158
OFS2 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.0344	ug/L	0.0178	0.0158
OFS5 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0102	ug/L	0.0371	0.0239
OFS5 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0371	0.0239
OFS5 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		0.0305	ug/L	0.0371	0.0239
OFS5 City	benzo(b)fluoranthene	11/16/2007	TRUE	grab		0.0407	ug/L	0.0371	0.0239
OFS5 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.093	ug/L	0.0371	0.0239
OFS6 City	benzo(b)fluoranthene	9/28/2007	FALSE	grab		0.0254	ug/L	0.0596	0.0479
OFS6 City	benzo(b)fluoranthene	10/16/2007	FALSE	grab		0.132	ug/L	0.0596	0.0479
OFS6 City	benzo(b)fluoranthene	11/16/2007	FALSE	grab		0.0321	ug/L	0.0596	0.0479
OFS6 City	benzo(b)fluoranthene	12/15/2007	FALSE	grab		0.0488	ug/L	0.0596	0.0479
OSM LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.064	ug/l	0.0480	0.0408
OSM LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.081	ug/l	0.0480	0.0408
OSM LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite	J	0.019	ug/l	0.0480	0.0408
OSM LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab		0.028	ug/l	0.0480	0.0408
Portland Shipyard LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.057	ug/l	0.0601	0.0326
Portland Shipyard LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.06	ug/l	0.0601	0.0326
Portland Shipyard LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.031	ug/l	0.0601	0.0326
Portland Shipyard LW3	benzo(b)fluoranthene	5/22/2007	FALSE	grab	U	0.0023	ug/l	0.0601	0.0326
Portland Shipyard LW3	benzo(b)fluoranthene	6/5/2007	FALSE	grab		0.15	ug/l	0.0601	0.0326
Schnitzer Int. LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.16	ug/l	0.0873	0.0719
Schnitzer Int. LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.11	ug/l	0.0873	0.0719
Schnitzer Int. LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite		0.033	ug/l	0.0873	0.0719
Schnitzer Int. LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab		0.046	ug/l	0.0873	0.0719
Schnitzer Riverside LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.04	ug/l	1.7467	0.5650
Schnitzer Riverside LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite	J	1.1	ug/l	1.7467	0.5650
Schnitzer Riverside LW3	benzo(b)fluoranthene	4/23/2007	FALSE	composite		4.1	ug/l	1.7467	0.5650
Siltronic LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.073	ug/l	0.0678	0.0616
Siltronic LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.056	ug/l	0.0678	0.0616
Siltronic LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite		0.11	ug/l	0.0678	0.0616
Siltronic LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite		0.032	ug/l	0.0678	0.0616
SJB LW3	benzo(b)fluoranthene	3/26/2007	FALSE	composite		0.76	ug/l	0.3214	0.2238
SJB LW3	benzo(b)fluoranthene	4/9/2007	FALSE	composite		0.28	ug/l	0.3214	0.2238
SJB LW3	benzo(b)fluoranthene	4/18/2007	FALSE	composite	J	0.18	ug/l	0.3214	0.2238
SJB LW3	benzo(b)fluoranthene	5/21/2007	TRUE	grab		0.053	ug/l	0.3214	0.2238
SJB LW3	benzo(b)fluoranthene	5/21/2007	FALSE	grab		0.078	ug/l	0.3214	0.2238
Sulzer LW3	benzo(b)fluoranthene	1/11/2008	FALSE	composite	J	0.012	ug/l	0.0185	0.0173
Sulzer LW3	benzo(b)fluoranthene	1/30/2008	FALSE	composite		0.025	ug/l	0.0185	0.0173
UPRR Albina LW3	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.045	ug/l	0.2028	0.1168
UPRR Albina LW3	benzo(b)fluoranthene	6/10/2007	FALSE	composite		0.036	ug/l	0.2028	0.1168
UPRR Albina LW3	benzo(b)fluoranthene	11/27/2007	FALSE	composite		0.23	ug/l	0.2028	0.1168
UPRR Albina LW3	benzo(b)fluoranthene	11/29/2007	FALSE	composite		0.5	ug/l	0.2028	0.1168
WR169 Basin D Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		0.086	ug/l	0.0698	0.0620
WR169 Basin D Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.11	ug/l	0.0698	0.0620
WR169 Basin D Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.028	ug/l	0.0698	0.0620
WR169 Basin D Port	benzo(b)fluoranthene	5/3/2007	TRUE	composite		0.03	ug/l	0.0698	0.0620
WR169 Basin D Port	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.054	ug/l	0.0698	0.0620
WR177 Basin M Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		0.57	ug/l	0.2925	0.2488
WR177 Basin M Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.28	ug/l	0.2925	0.2488
WR177 Basin M Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.2	ug/l	0.2925	0.2488
WR177 Basin M Port	benzo(b)fluoranthene	9/28/2007	FALSE	composite		0.12	ug/l	0.2925	0.2488
WR181 Basin Q Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		0.63	ug/l	0.2850	0.1846
WR181 Basin Q Port	benzo(b)fluoranthene	3/24/2007	TRUE	composite		0.68	ug/l	0.2850	0.1846
WR181 Basin Q Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.12	ug/l	0.2850	0.1846
WR181 Basin Q Port	benzo(b)fluoranthene	9/28/2007	FALSE	composite		0.08	ug/l	0.2850	0.1846
WR183 Basin R Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite	J	0.012	ug/l	0.1638	0.0582
WR183 Basin R Port	benzo(b)fluoranthene	4/7/2007	FALSE	composite		0.037	ug/l	0.1638	0.0582
WR183 Basin R Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		0.56	ug/l	0.1638	0.0582
WR183 Basin R Port	benzo(b)fluoranthene	11/16/2007	TRUE	composite		0.031	ug/l	0.1638	0.0582
WR183 Basin R Port	benzo(b)fluoranthene	11/16/2007	FALSE	composite		0.061	ug/l	0.1638	0.0582
WR20 Basin L Port	benzo(b)fluoranthene	3/24/2007	FALSE	composite		3.4	ug/l	3.3500	3.0288
WR20 Basin L Port	benzo(b)fluoranthene	5/3/2007	FALSE	composite		3	ug/l	3.3500	3.0288
WR20 Basin L Port	benzo(b)fluoranthene	5/20/2007	FALSE	composite		5.5	ug/l	3.3500	3.0288
WR20 Basin L Port	benzo(b)fluoranthene	9/28/2007	FALSE	composite		1.5	ug/l	3.3500	3.0288
Arkema LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite	J	0.0049	ug/l	0.0068	0.0063
Arkema LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite	J	0.0043	ug/l	0.0068	0.0063
Arkema LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	U	0.0068	ug/l	0.0068	0.0063
Arkema LW3	benzo(g,h,i)perylene	6/5/2007	FALSE	grab	J	0.0059	ug/l	0.0068	0.0063
Arkema LW3	benzo(g,h,i)perylene	11/27/2007	FALSE	composite	J	0.012	ug/l	0.0068	0.0063
Chevron LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.83	ug/l	0.4673	0.3322
Chevron LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.48	ug/l	0.4673	0.3322
Chevron LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite		0.092	ug/l	0.4673	0.3322

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Gasco LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.32	ug/l	0.6300	0.5883
Gasco LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.55	ug/l	0.6300	0.5883
Gasco LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.82	ug/l	0.6300	0.5883
Gasco LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab		0.83	ug/l	0.6300	0.5883
GE MH 2	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1306	0.1280
GE MH 2	benzo(g,h,i)perylene	10/19/2007	TRUE	composite	U	0.144	ug/l	0.1306	0.1280
GE MH 2	benzo(g,h,i)perylene	10/19/2007	FALSE	composite	U	0.147	ug/l	0.1306	0.1280
GE MH 2	benzo(g,h,i)perylene	11/13/2007	FALSE	composite	UJ	0.15	ug/l	0.1306	0.1280
GE MH 2	benzo(g,h,i)perylene	11/13/2007	TRUE	composite	UJ	0.15	ug/l	0.1306	0.1280
GE SV 1	benzo(g,h,i)perylene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1327	0.1302
GE SV 1	benzo(g,h,i)perylene	10/19/2007	FALSE	composite	U	0.15	ug/l	0.1327	0.1302
GE SV 1	benzo(g,h,i)perylene	11/13/2007	FALSE	composite	UJ	0.15	ug/l	0.1327	0.1302
Gunderson WR142/145 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.045	ug/l	0.0210	0.0129
Gunderson WR142/145 LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab	U	0.0029	ug/l	0.0210	0.0129
Gunderson WR142/145 LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite	J	0.0069	ug/l	0.0210	0.0129
Gunderson WR142/145 LW3	benzo(g,h,i)perylene	11/16/2007	FALSE	composite		0.04	ug/l	0.0210	0.0129
Gunderson WR142/145 LW3	benzo(g,h,i)perylene	11/29/2007	FALSE	composite	J	0.01	ug/l	0.0210	0.0129
Gunderson WR147 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.031	ug/l	0.0229	0.0187
Gunderson WR147 LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	U	0.031	ug/l	0.0229	0.0187
Gunderson WR147 LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite	J	0.0068	ug/l	0.0229	0.0187
HWY30 NW Yeon-35th LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.11	ug/l	0.0557	0.0446
HWY30 NW Yeon-35th LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	U	0.026	ug/l	0.0557	0.0446
HWY30 NW Yeon-35th LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite		0.031	ug/l	0.0557	0.0446
HWY30A Reed St. LW3	benzo(g,h,i)perylene	11/16/2007	FALSE	composite		0.071	ug/l	0.1370	0.1265
HWY30A Reed St. LW3	benzo(g,h,i)perylene	1/28/2008	FALSE	composite		0.15	ug/l	0.1370	0.1265
HWY30A Reed St. LW3	benzo(g,h,i)perylene	1/30/2008	FALSE	composite		0.19	ug/l	0.1370	0.1265
HWY30B 35th St. LW3	benzo(g,h,i)perylene	11/27/2007	FALSE	composite		0.15	ug/l	0.2075	0.1988
HWY30B 35th St. LW3	benzo(g,h,i)perylene	1/11/2008	FALSE	composite		0.16	ug/l	0.2075	0.1988
HWY30B 35th St. LW3	benzo(g,h,i)perylene	1/28/2008	FALSE	composite		0.21	ug/l	0.2075	0.1988
HWY30B 35th St. LW3	benzo(g,h,i)perylene	1/30/2008	FALSE	composite		0.31	ug/l	0.2075	0.1988
OF16 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.084	ug/l	0.0627	0.0559
OF16 LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.077	ug/l	0.0627	0.0559
OF16 LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite		0.027	ug/l	0.0627	0.0559
OF18 LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.2	ug/l	0.0743	0.0420
OF18 LW3	benzo(g,h,i)perylene	3/26/2007	TRUE	composite		0.13	ug/l	0.0743	0.0420
OF18 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.085	ug/l	0.0743	0.0420
OF18 LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	U	0.042	ug/l	0.0743	0.0420
OF18 LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab	J	0.0053	ug/l	0.0743	0.0420
OF19_LW3+MS4	benzo(g,h,i)perylene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	2/14/2007	FALSE	composite		0.097	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.066	ug/l	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	4/9/2007	TRUE	composite		0.13	ug/l	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.11	ug/l	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.074	ug/l	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	11/26/2007	FALSE	composite	U	0.2	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	11/26/2007	FALSE	composite		0.0496	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	3/7/2008	FALSE	composite		0.0848	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	3/25/2008	FALSE	composite		0.0686	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	11/20/2008	FALSE	composite		0.0387	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	2/23/2009	FALSE	composite		0.123	ug/L	0.0933	0.0892
OF19_LW3+MS4	benzo(g,h,i)perylene	3/14/2009	FALSE	composite		0.0631	ug/L	0.0933	0.0892
OF22 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.15	ug/l	0.0870	0.0782
OF22 LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.066	ug/l	0.0870	0.0782
OF22 LW3	benzo(g,h,i)perylene	6/5/2007	FALSE	grab		0.09	ug/l	0.0870	0.0782
OF22 LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite		0.042	ug/l	0.0870	0.0782
OF22B LW3	benzo(g,h,i)perylene	3/27/2007	FALSE	composite		0.042	ug/l	0.0564	0.0493
OF22B LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.12	ug/l	0.0564	0.0493
OF22B LW3	benzo(g,h,i)perylene	6/5/2007	FALSE	grab		0.055	ug/l	0.0564	0.0493
OF22B LW3	benzo(g,h,i)perylene	11/16/2007	FALSE	composite		0.035	ug/l	0.0564	0.0493
OF22B LW3	benzo(g,h,i)perylene	11/27/2007	FALSE	composite		0.029	ug/l	0.0564	0.0493
OF22B LW3	benzo(g,h,i)perylene	11/27/2007	TRUE	composite		0.031	ug/l	0.0564	0.0493
OF22C City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.0241	ug/L	0.0206	0.0205
OF22C City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C City	benzo(g,h,i)perylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C Tualatin Hills LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	U	0.0042	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	benzo(g,h,i)perylene	4/18/2007	TRUE	composite	U	0.0043	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	benzo(g,h,i)perylene	4/23/2007	TRUE	composite	U	0.0044	ug/l	0.0039	0.0039

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22C Tualatin Hills LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite	U	0.0044	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	benzo(g,h,i)perylene	1/9/2008	FALSE	composite	U	0.0031	ug/l	0.0039	0.0039
OF22D City	benzo(g,h,i)perylene	2/29/2008	TRUE	grab		0.0236	ug/L	0.0647	0.0389
OF22D City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0647	0.0389
OF22D City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.189	ug/L	0.0647	0.0389
OF22D City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab		0.0289	ug/L	0.0647	0.0389
OF22D City	benzo(g,h,i)perylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0647	0.0389
OF45 City	benzo(g,h,i)perylene	2/5/2008	FALSE	grab		0.121	ug/L	0.0761	0.0723
OF45 City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab		0.0551	ug/L	0.0761	0.0723
OF45 City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.0609	ug/L	0.0761	0.0723
OF45 City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab		0.0672	ug/L	0.0761	0.0723
OF46 City	benzo(g,h,i)perylene	2/5/2008	FALSE	grab		0.152	ug/L	0.1603	0.1513
OF46 City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab		0.143	ug/L	0.1603	0.1513
OF46 City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.25	ug/L	0.1603	0.1513
OF46 City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab		0.113	ug/L	0.1603	0.1513
OF46 City	benzo(g,h,i)perylene	4/4/2008	TRUE	grab		0.0797	ug/L	0.1603	0.1513
OF47 City	benzo(g,h,i)perylene	2/5/2008	FALSE	grab		0.121	ug/L	0.1292	0.0926
OF47 City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab		0.0253	ug/L	0.1292	0.0926
OF47 City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.287	ug/L	0.1292	0.0926
OF47 City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab		0.0836	ug/L	0.1292	0.0926
OF48 City	benzo(g,h,i)perylene	9/28/2007	TRUE	grab		0.0299	ug/L	0.0228	0.0222
OF48 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0363	ug/L	0.0228	0.0222
OF48 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0228	0.0222
OF48 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0228	0.0222
OF48 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab	U	0.0192	ug/L	0.0228	0.0222
OF49 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite	U	0.012	ug/l	0.0094	0.0090
OF49 LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite	J	0.012	ug/l	0.0094	0.0090
OF49 LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite	J	0.007	ug/l	0.0094	0.0090
OF49 LW3	benzo(g,h,i)perylene	11/16/2007	FALSE	composite	J	0.0066	ug/l	0.0094	0.0090
OF50 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0398	ug/L	0.0246	0.0233
OF50 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0246	0.0233
OF50 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0246	0.0233
OF50 City	benzo(g,h,i)perylene	12/14/2007	FALSE	grab	U	0.0194	ug/L	0.0246	0.0233
OF52 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0378	ug/L	0.0274	0.0266
OF52 City	benzo(g,h,i)perylene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0274	0.0266
OF52 City	benzo(g,h,i)perylene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.0274	0.0266
OF52 City	benzo(g,h,i)perylene	10/16/2007	TRUE	grab		0.0255	ug/L	0.0274	0.0266
OF52 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.0318	ug/L	0.0274	0.0266
OF52 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab		0.0238	ug/L	0.0274	0.0266
OF52A City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0665	0.0378
OF52A City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0665	0.0378
OF52A City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab		0.0267	ug/L	0.0665	0.0378
OF52A City	benzo(g,h,i)perylene	12/14/2007	FALSE	grab	U	0.0196	ug/L	0.0665	0.0378
OF52C Basin T Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		0.13	ug/l	0.0476	0.0242
OF52C Basin T Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.026	ug/l	0.0476	0.0242
OF52C Basin T Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.031	ug/l	0.0476	0.0242
OF52C Basin T Port	benzo(g,h,i)perylene	11/16/2007	FALSE	composite	U	0.0033	ug/l	0.0476	0.0242
OF53 City+Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		0.053	ug/l	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.051	ug/l	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.11	ug/l	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	1/26/2008	FALSE	composite		0.0272	ug/L	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	2/6/2008	FALSE	composite		0.0942	ug/L	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	3/12/2008	TRUE	composite		0.0321	ug/L	0.0612	0.0537
OF53 City+Port	benzo(g,h,i)perylene	3/12/2008	FALSE	composite		0.0311	ug/L	0.0612	0.0537
OF53A City	benzo(g,h,i)perylene	2/29/2008	FALSE	grab		0.0207	ug/L	0.0398	0.0335
OF53A City	benzo(g,h,i)perylene	3/20/2008	FALSE	grab		0.0804	ug/L	0.0398	0.0335
OF53A City	benzo(g,h,i)perylene	4/4/2008	FALSE	grab	U	0.0388	ug/L	0.0398	0.0335
OF53A City	benzo(g,h,i)perylene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0398	0.0335
OFM1 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0299	ug/L	0.0333	0.0318
OFM1 City	benzo(g,h,i)perylene	9/30/2007	FALSE	grab		0.0407	ug/L	0.0333	0.0318
OFM1 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.0431	ug/L	0.0333	0.0318
OFM1 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0333	0.0318
OFM1 LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.083	ug/l	0.1010	0.1001
OFM1 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.11	ug/l	0.1010	0.1001
OFM1 LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.11	ug/l	0.1010	0.1001
OFM2 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0247	ug/L	0.0251	0.0242
OFM2 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.0367	ug/L	0.0251	0.0242
OFM2 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0251	0.0242
OFM2 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0251	0.0242
OFM2 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.083	ug/l	0.0434	0.0372
OFM2 LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.042	ug/l	0.0434	0.0372
OFM2 LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite	J	0.018	ug/l	0.0434	0.0372

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	U	0.029	ug/l	0.0434	0.0372
OFM2 LW3	benzo(g,h,i)perylene	5/3/2007	TRUE	composite	U	0.032	ug/l	0.0434	0.0372
OFM3 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab	U	0.0198	ug/L	0.0291	0.0256
OFM3 City	benzo(g,h,i)perylene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0291	0.0256
OFM3 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.0577	ug/L	0.0291	0.0256
OFM3 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0291	0.0256
OFS1 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.114	ug/L	0.3703	0.2574
OFS1 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.187	ug/L	0.3703	0.2574
OFS1 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab		0.967	ug/L	0.3703	0.2574
OFS1 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab		0.213	ug/L	0.3703	0.2574
OFS2 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0226	0.0221
OFS2 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.0201	ug/L	0.0226	0.0221
OFS2 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0226	0.0221
OFS2 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab		0.0315	ug/L	0.0226	0.0221
OFS5 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0361	0.0304
OFS5 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0361	0.0304
OFS5 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab		0.0258	ug/L	0.0361	0.0304
OFS5 City	benzo(g,h,i)perylene	11/16/2007	TRUE	grab		0.0348	ug/L	0.0361	0.0304
OFS5 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab		0.0752	ug/L	0.0361	0.0304
OFS6 City	benzo(g,h,i)perylene	9/28/2007	FALSE	grab		0.0288	ug/L	0.0531	0.0418
OFS6 City	benzo(g,h,i)perylene	10/16/2007	FALSE	grab		0.125	ug/L	0.0531	0.0418
OFS6 City	benzo(g,h,i)perylene	11/16/2007	FALSE	grab		0.0273	ug/L	0.0531	0.0418
OFS6 City	benzo(g,h,i)perylene	12/15/2007	FALSE	grab		0.0312	ug/L	0.0531	0.0418
OSM LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.038	ug/l	0.0318	0.0286
OSM LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.051	ug/l	0.0318	0.0286
OSM LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	J	0.015	ug/l	0.0318	0.0286
OSM LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab	J	0.023	ug/l	0.0318	0.0286
Portland Shipyard LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.039	ug/l	0.0372	0.0247
Portland Shipyard LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.046	ug/l	0.0372	0.0247
Portland Shipyard LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	U	0.024	ug/l	0.0372	0.0247
Portland Shipyard LW3	benzo(g,h,i)perylene	5/22/2007	FALSE	grab	U	0.0029	ug/l	0.0372	0.0247
Portland Shipyard LW3	benzo(g,h,i)perylene	6/5/2007	FALSE	grab		0.074	ug/l	0.0372	0.0247
Schnitzer Int. LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.13	ug/l	0.0673	0.0520
Schnitzer Int. LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.088	ug/l	0.0673	0.0520
Schnitzer Int. LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite		0.022	ug/l	0.0673	0.0520
Schnitzer Int. LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab		0.029	ug/l	0.0673	0.0520
Schnitzer Riverside LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.08	ug/l	0.8500	0.4425
Schnitzer Riverside LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	J	0.57	ug/l	0.8500	0.4425
Schnitzer Riverside LW3	benzo(g,h,i)perylene	4/23/2007	FALSE	composite		1.9	ug/l	0.8500	0.4425
Siltronic LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.044	ug/l	0.0483	0.0448
Siltronic LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.053	ug/l	0.0483	0.0448
Siltronic LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite		0.072	ug/l	0.0483	0.0448
Siltronic LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite		0.024	ug/l	0.0483	0.0448
SJB LW3	benzo(g,h,i)perylene	3/26/2007	FALSE	composite		0.57	ug/l	0.2888	0.2182
SJB LW3	benzo(g,h,i)perylene	4/9/2007	FALSE	composite		0.34	ug/l	0.2888	0.2182
SJB LW3	benzo(g,h,i)perylene	4/18/2007	FALSE	composite	J	0.18	ug/l	0.2888	0.2182
SJB LW3	benzo(g,h,i)perylene	5/21/2007	FALSE	grab		0.077	ug/l	0.2888	0.2182
SJB LW3	benzo(g,h,i)perylene	5/21/2007	TRUE	grab		0.053	ug/l	0.2888	0.2182
Sulzer LW3	benzo(g,h,i)perylene	1/11/2008	FALSE	composite	J	0.0068	ug/l	0.0154	0.0128
Sulzer LW3	benzo(g,h,i)perylene	1/30/2008	FALSE	composite		0.024	ug/l	0.0154	0.0128
UPRR Albina LW3	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	U	0.026	ug/l	0.0888	0.0574
UPRR Albina LW3	benzo(g,h,i)perylene	6/10/2007	FALSE	composite	J	0.019	ug/l	0.0888	0.0574
UPRR Albina LW3	benzo(g,h,i)perylene	11/27/2007	FALSE	composite		0.11	ug/l	0.0888	0.0574
UPRR Albina LW3	benzo(g,h,i)perylene	11/29/2007	FALSE	composite		0.2	ug/l	0.0888	0.0574
WR169 Basin D Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		0.063	ug/l	0.0509	0.0457
WR169 Basin D Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.082	ug/l	0.0509	0.0457
WR169 Basin D Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite	J	0.028	ug/l	0.0509	0.0457
WR169 Basin D Port	benzo(g,h,i)perylene	5/3/2007	TRUE	composite	J	0.023	ug/l	0.0509	0.0457
WR169 Basin D Port	benzo(g,h,i)perylene	11/16/2007	FALSE	composite		0.033	ug/l	0.0509	0.0457
WR177 Basin M Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		0.32	ug/l	0.2053	0.1798
WR177 Basin M Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.2	ug/l	0.2053	0.1798
WR177 Basin M Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.23	ug/l	0.2053	0.1798
WR177 Basin M Port	benzo(g,h,i)perylene	9/28/2007	FALSE	composite		0.071	ug/l	0.2053	0.1798
WR181 Basin Q Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		0.48	ug/l	0.2080	0.1275
WR181 Basin Q Port	benzo(g,h,i)perylene	3/24/2007	TRUE	composite		0.5	ug/l	0.2080	0.1275
WR181 Basin Q Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.083	ug/l	0.2080	0.1275
WR181 Basin Q Port	benzo(g,h,i)perylene	9/28/2007	FALSE	composite		0.051	ug/l	0.2080	0.1275
WR183 Basin R Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite	J	0.0063	ug/l	0.1195	0.0358
WR183 Basin R Port	benzo(g,h,i)perylene	4/7/2007	FALSE	composite		0.032	ug/l	0.1195	0.0358
WR183 Basin R Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		0.42	ug/l	0.1195	0.0358
WR183 Basin R Port	benzo(g,h,i)perylene	11/16/2007	TRUE	composite	U	0.003	ug/l	0.1195	0.0358
WR183 Basin R Port	benzo(g,h,i)perylene	11/16/2007	FALSE	composite		0.036	ug/l	0.1195	0.0358

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	benzo(g,h,i)perylene	3/24/2007	FALSE	composite		2.5	ug/l	2.3425	2.0887
WR20 Basin L Port	benzo(g,h,i)perylene	5/3/2007	FALSE	composite		2.5	ug/l	2.3425	2.0887
WR20 Basin L Port	benzo(g,h,i)perylene	5/20/2007	FALSE	composite		3.5	ug/l	2.3425	2.0887
WR20 Basin L Port	benzo(g,h,i)perylene	9/28/2007	FALSE	composite		0.87	ug/l	2.3425	2.0887
Arkema LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite	U	0.0051	ug/l	0.0044	0.0043
Arkema LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	U	0.0051	ug/l	0.0044	0.0043
Arkema LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite	U	0.0055	ug/l	0.0044	0.0043
Arkema LW3	benzo(k)fluoranthene	6/5/2007	FALSE	grab	U	0.0027	ug/l	0.0044	0.0043
Arkema LW3	benzo(k)fluoranthene	11/27/2007	FALSE	composite	J	0.0037	ug/l	0.0044	0.0043
Chevron LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.47	ug/l	0.2607	0.1939
Chevron LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.25	ug/l	0.2607	0.1939
Chevron LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite		0.062	ug/l	0.2607	0.1939
Gasco LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.081	ug/l	0.2178	0.1805
Gasco LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.13	ug/l	0.2178	0.1805
Gasco LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.24	ug/l	0.2178	0.1805
Gasco LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab		0.42	ug/l	0.2178	0.1805
GE MH 2	benzo(k)fluoranthene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1799	0.1679
GE MH 2	benzo(k)fluoranthene	10/19/2007	TRUE	composite	U	0.216	ug/l	0.1799	0.1679
GE MH 2	benzo(k)fluoranthene	10/19/2007	FALSE	composite	U	0.221	ug/l	0.1799	0.1679
GE MH 2	benzo(k)fluoranthene	11/13/2007	FALSE	composite	U	0.225	ug/l	0.1799	0.1679
GE MH 2	benzo(k)fluoranthene	11/13/2007	TRUE	composite	U	0.225	ug/l	0.1799	0.1679
GE SV 1	benzo(k)fluoranthene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1827	0.1706
GE SV 1	benzo(k)fluoranthene	10/19/2007	FALSE	composite	U	0.225	ug/l	0.1827	0.1706
GE SV 1	benzo(k)fluoranthene	11/13/2007	FALSE	composite	U	0.225	ug/l	0.1827	0.1706
Gunderson WR142/145 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	J	0.019	ug/l	0.0116	0.0067
Gunderson WR142/145 LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab	U	0.0025	ug/l	0.0116	0.0067
Gunderson WR142/145 LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	U	0.0027	ug/l	0.0116	0.0067
Gunderson WR142/145 LW3	benzo(k)fluoranthene	11/16/2007	FALSE	composite		0.03	ug/l	0.0116	0.0067
Gunderson WR142/145 LW3	benzo(k)fluoranthene	11/29/2007	FALSE	composite	U	0.0036	ug/l	0.0116	0.0067
Gunderson WR147 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.0090	0.0085
Gunderson WR147 LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	J	0.011	ug/l	0.0090	0.0085
Gunderson WR147 LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	U	0.0051	ug/l	0.0090	0.0085
HWY30 NW Yeon-35th LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.034	ug/l	0.0185	0.0152
HWY30 NW Yeon-35th LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.0074	ug/l	0.0185	0.0152
HWY30 NW Yeon-35th LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	J	0.014	ug/l	0.0185	0.0152
HWY30A Reed St. LW3	benzo(k)fluoranthene	11/16/2007	FALSE	composite		0.025	ug/l	0.0420	0.0399
HWY30A Reed St. LW3	benzo(k)fluoranthene	1/28/2008	FALSE	composite		0.047	ug/l	0.0420	0.0399
HWY30A Reed St. LW3	benzo(k)fluoranthene	1/30/2008	FALSE	composite		0.054	ug/l	0.0420	0.0399
HWY30B 35th St. LW3	benzo(k)fluoranthene	11/27/2007	FALSE	composite		0.049	ug/l	0.0600	0.0579
HWY30B 35th St. LW3	benzo(k)fluoranthene	1/11/2008	FALSE	composite		0.05	ug/l	0.0600	0.0579
HWY30B 35th St. LW3	benzo(k)fluoranthene	1/28/2008	FALSE	composite		0.051	ug/l	0.0600	0.0579
HWY30B 35th St. LW3	benzo(k)fluoranthene	1/30/2008	FALSE	composite		0.09	ug/l	0.0600	0.0579
OF16 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.029	ug/l	0.0230	0.0210
OF16 LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.029	ug/l	0.0230	0.0210
OF16 LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	J	0.011	ug/l	0.0230	0.0210
OF18 LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.064	ug/l	0.0247	0.0157
OF18 LW3	benzo(k)fluoranthene	3/26/2007	TRUE	composite		0.044	ug/l	0.0247	0.0157
OF18 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.026	ug/l	0.0247	0.0157
OF18 LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	J	0.016	ug/l	0.0247	0.0157
OF18 LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab	U	0.0027	ug/l	0.0247	0.0157
OF19_LW3+MS4	benzo(k)fluoranthene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.027	ug/l	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.033	ug/l	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	4/9/2007	TRUE	composite		0.052	ug/l	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.034	ug/l	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	11/26/2007	FALSE	composite		0.031	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	3/7/2008	FALSE	composite		0.051	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	3/25/2008	FALSE	composite		0.0474	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	11/20/2008	FALSE	composite		0.0286	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	2/23/2009	FALSE	composite		0.0954	ug/L	0.0509	0.0454
OF19_LW3+MS4	benzo(k)fluoranthene	3/14/2009	FALSE	composite		0.0425	ug/L	0.0509	0.0454
OF22 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.041	ug/l	0.0338	0.0310
OF22 LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.024	ug/l	0.0338	0.0310
OF22 LW3	benzo(k)fluoranthene	6/5/2007	FALSE	grab		0.052	ug/l	0.0338	0.0310
OF22 LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	J	0.018	ug/l	0.0338	0.0310
OF22B LW3	benzo(k)fluoranthene	3/27/2007	FALSE	composite	J	0.019	ug/l	0.0259	0.0233
OF22B LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.051	ug/l	0.0259	0.0233
OF22B LW3	benzo(k)fluoranthene	6/5/2007	FALSE	grab		0.027	ug/l	0.0259	0.0233
OF22B LW3	benzo(k)fluoranthene	11/16/2007	FALSE	composite	J	0.018	ug/l	0.0259	0.0233
OF22B LW3	benzo(k)fluoranthene	11/27/2007	FALSE	composite	J	0.015	ug/l	0.0259	0.0233
OF22B LW3	benzo(k)fluoranthene	11/27/2007	TRUE	composite	J	0.014	ug/l	0.0259	0.0233
OF22C City	benzo(k)fluoranthene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0108	0.0106

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22C City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.0139	ug/L	0.0108	0.0106
OF22C City	benzo(k)fluoranthene	4/4/2008	FALSE	grab	U	0.00971	ug/L	0.0108	0.0106
OF22C City	benzo(k)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0108	0.0106
OF22C Tualatin Hills LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	U	0.0052	ug/l	0.0045	0.0043
OF22C Tualatin Hills LW3	benzo(k)fluoranthene	4/18/2007	TRUE	composite	U	0.0054	ug/l	0.0045	0.0043
OF22C Tualatin Hills LW3	benzo(k)fluoranthene	4/23/2007	TRUE	composite	U	0.0054	ug/l	0.0045	0.0043
OF22C Tualatin Hills LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	U	0.0054	ug/l	0.0045	0.0043
OF22C Tualatin Hills LW3	benzo(k)fluoranthene	1/9/2008	FALSE	composite	U	0.0027	ug/l	0.0045	0.0043
OF22D City	benzo(k)fluoranthene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0337	0.0211
OF22D City	benzo(k)fluoranthene	2/29/2008	TRUE	grab		0.0189	ug/L	0.0337	0.0211
OF22D City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.0958	ug/L	0.0337	0.0211
OF22D City	benzo(k)fluoranthene	4/4/2008	FALSE	grab		0.0149	ug/L	0.0337	0.0211
OF22D City	benzo(k)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0337	0.0211
OF45 City	benzo(k)fluoranthene	2/5/2008	FALSE	grab		0.0691	ug/L	0.0467	0.0446
OF45 City	benzo(k)fluoranthene	2/29/2008	FALSE	grab		0.0309	ug/L	0.0467	0.0446
OF45 City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.0494	ug/L	0.0467	0.0446
OF45 City	benzo(k)fluoranthene	4/4/2008	FALSE	grab		0.0375	ug/L	0.0467	0.0446
OF46 City	benzo(k)fluoranthene	2/5/2008	FALSE	grab		0.145	ug/L	0.1082	0.1013
OF46 City	benzo(k)fluoranthene	2/29/2008	FALSE	grab		0.0843	ug/L	0.1082	0.1013
OF46 City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.143	ug/L	0.1082	0.1013
OF46 City	benzo(k)fluoranthene	4/4/2008	TRUE	grab		0.0493	ug/L	0.1082	0.1013
OF46 City	benzo(k)fluoranthene	4/4/2008	FALSE	grab		0.0713	ug/L	0.1082	0.1013
OF47 City	benzo(k)fluoranthene	2/5/2008	FALSE	grab		0.0881	ug/L	0.0963	0.0705
OF47 City	benzo(k)fluoranthene	2/29/2008	FALSE	grab		0.0199	ug/L	0.0963	0.0705
OF47 City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.21	ug/L	0.0963	0.0705
OF47 City	benzo(k)fluoranthene	4/4/2008	FALSE	grab		0.067	ug/L	0.0963	0.0705
OF48 City	benzo(k)fluoranthene	9/28/2007	TRUE	grab		0.0307	ug/L	0.0180	0.0147
OF48 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0495	ug/L	0.0180	0.0147
OF48 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0180	0.0147
OF48 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0180	0.0147
OF48 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.0122	ug/L	0.0180	0.0147
OF49 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	U	0.0056	ug/l	0.0041	0.0038
OF49 LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	U	0.0054	ug/l	0.0041	0.0038
OF49 LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	U	0.0026	ug/l	0.0041	0.0038
OF49 LW3	benzo(k)fluoranthene	11/16/2007	FALSE	composite	U	0.0027	ug/l	0.0041	0.0038
OF50 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0168	ug/L	0.0119	0.0116
OF50 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0119	0.0116
OF50 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0119	0.0116
OF50 City	benzo(k)fluoranthene	12/14/2007	FALSE	grab		0.0114	ug/L	0.0119	0.0116
OF52 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0189	ug/L	0.0178	0.0170
OF52 City	benzo(k)fluoranthene	9/30/2007	TRUE	grab	U	0.00971	ug/L	0.0178	0.0170
OF52 City	benzo(k)fluoranthene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0178	0.0170
OF52 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.027	ug/L	0.0178	0.0170
OF52 City	benzo(k)fluoranthene	10/16/2007	TRUE	grab		0.0166	ug/L	0.0178	0.0170
OF52 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		0.0209	ug/L	0.0178	0.0170
OF52A City	benzo(k)fluoranthene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0766	0.0524
OF52A City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.0287	ug/L	0.0766	0.0524
OF52A City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		0.0527	ug/L	0.0766	0.0524
OF52A City	benzo(k)fluoranthene	12/14/2007	FALSE	grab		0.0249	ug/L	0.0766	0.0524
OF52C Basin T Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		0.061	ug/l	0.0222	0.0129
OF52C Basin T Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0222	0.0129
OF52C Basin T Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.013	ug/l	0.0222	0.0129
OF52C Basin T Port	benzo(k)fluoranthene	11/16/2007	FALSE	composite	U	0.0029	ug/l	0.0222	0.0129
OF53 City+Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		0.023	ug/l	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite		0.022	ug/l	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.046	ug/l	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	1/26/2008	FALSE	composite		0.0202	ug/L	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	2/6/2008	FALSE	composite		0.0543	ug/L	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	3/12/2008	FALSE	composite		0.0175	ug/L	0.0308	0.0280
OF53 City+Port	benzo(k)fluoranthene	3/12/2008	TRUE	composite		0.0206	ug/L	0.0308	0.0280
OF53A City	benzo(k)fluoranthene	2/29/2008	FALSE	grab		0.0164	ug/L	0.0271	0.0210
OF53A City	benzo(k)fluoranthene	3/20/2008	FALSE	grab		0.0627	ug/L	0.0271	0.0210
OF53A City	benzo(k)fluoranthene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0271	0.0210
OF53A City	benzo(k)fluoranthene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0271	0.0210
OFM1 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0108	ug/L	0.0137	0.0131
OFM1 City	benzo(k)fluoranthene	9/30/2007	FALSE	grab		0.0108	ug/L	0.0137	0.0131
OFM1 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.0208	ug/L	0.0137	0.0131
OFM1 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		0.0123	ug/L	0.0137	0.0131
OFM1 LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.037	ug/l	0.0497	0.0487
OFM1 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.06	ug/l	0.0497	0.0487
OFM1 LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.052	ug/l	0.0497	0.0487
OFM2 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0101	ug/L	0.0125	0.0119

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.0196	ug/L	0.0125	0.0119
OFM2 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0125	0.0119
OFM2 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.0105	ug/L	0.0125	0.0119
OFM2 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	J	0.016	ug/l	0.0162	0.0143
OFM2 LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.029	ug/l	0.0162	0.0143
OFM2 LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	J	0.0073	ug/l	0.0162	0.0143
OFM2 LW3	benzo(k)fluoranthene	5/3/2007	TRUE	composite	J	0.014	ug/l	0.0162	0.0143
OFM2 LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.011	ug/l	0.0162	0.0143
OFM3 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab	U	0.0099	ug/L	0.0109	0.0107
OFM3 City	benzo(k)fluoranthene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0109	0.0107
OFM3 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.0143	ug/L	0.0109	0.0107
OFM3 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0109	0.0107
OFS1 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0877	ug/L	0.5962	0.3485
OFS1 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.255	ug/L	0.5962	0.3485
OFS1 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		1.64	ug/L	0.5962	0.3485
OFS1 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.402	ug/L	0.5962	0.3485
OFS2 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0105	ug/L	0.0139	0.0126
OFS2 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0139	0.0126
OFS2 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0139	0.0126
OFS2 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.0256	ug/L	0.0139	0.0126
OFS5 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0396	0.0248
OFS5 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0396	0.0248
OFS5 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		0.0377	ug/L	0.0396	0.0248
OFS5 City	benzo(k)fluoranthene	11/16/2007	TRUE	grab		0.0432	ug/L	0.0396	0.0248
OFS5 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.0985	ug/L	0.0396	0.0248
OFS6 City	benzo(k)fluoranthene	9/28/2007	FALSE	grab		0.0166	ug/L	0.0520	0.0402
OFS6 City	benzo(k)fluoranthene	10/16/2007	FALSE	grab		0.112	ug/L	0.0520	0.0402
OFS6 City	benzo(k)fluoranthene	11/16/2007	FALSE	grab		0.027	ug/L	0.0520	0.0402
OFS6 City	benzo(k)fluoranthene	12/15/2007	FALSE	grab		0.0522	ug/L	0.0520	0.0402
OSM LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite	J	0.02	ug/l	0.0135	0.0093
OSM LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.026	ug/l	0.0135	0.0093
OSM LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	J	0.0052	ug/l	0.0135	0.0093
OSM LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab	U	0.0028	ug/l	0.0135	0.0093
Portland Shipyard LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite	J	0.017	ug/l	0.0108	0.0074
Portland Shipyard LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.023	ug/l	0.0108	0.0074
Portland Shipyard LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.0091	ug/l	0.0108	0.0074
Portland Shipyard LW3	benzo(k)fluoranthene	5/22/2007	FALSE	grab	U	0.0025	ug/l	0.0108	0.0074
Portland Shipyard LW3	benzo(k)fluoranthene	6/5/2007	FALSE	grab	U	0.0025	ug/l	0.0108	0.0074
Schnitzer Int. LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.044	ug/l	0.0268	0.0230
Schnitzer Int. LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.036	ug/l	0.0268	0.0230
Schnitzer Int. LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite	J	0.011	ug/l	0.0268	0.0230
Schnitzer Int. LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab	J	0.016	ug/l	0.0268	0.0230
Schnitzer Riverside LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	J	0.016	ug/l	0.4987	0.1884
Schnitzer Riverside LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	J	0.38	ug/l	0.4987	0.1884
Schnitzer Riverside LW3	benzo(k)fluoranthene	4/23/2007	FALSE	composite		1.1	ug/l	0.4987	0.1884
Siltronic LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite		0.027	ug/l	0.0233	0.0210
Siltronic LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0233	0.0210
Siltronic LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite		0.036	ug/l	0.0233	0.0210
Siltronic LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	J	0.01	ug/l	0.0233	0.0210
SJB LW3	benzo(k)fluoranthene	3/26/2007	FALSE	composite		0.3	ug/l	0.0957	0.0379
SJB LW3	benzo(k)fluoranthene	4/9/2007	FALSE	composite	U	0.0054	ug/l	0.0957	0.0379
SJB LW3	benzo(k)fluoranthene	4/18/2007	FALSE	composite	J	0.054	ug/l	0.0957	0.0379
SJB LW3	benzo(k)fluoranthene	5/21/2007	FALSE	grab		0.029	ug/l	0.0957	0.0379
SJB LW3	benzo(k)fluoranthene	5/21/2007	TRUE	grab	J	0.018	ug/l	0.0957	0.0379
Sulzer LW3	benzo(k)fluoranthene	1/11/2008	FALSE	composite	J	0.0032	ug/l	0.0062	0.0054
Sulzer LW3	benzo(k)fluoranthene	1/30/2008	FALSE	composite	J	0.0091	ug/l	0.0062	0.0054
UPRR Albina LW3	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.013	ug/l	0.0580	0.0354
UPRR Albina LW3	benzo(k)fluoranthene	6/10/2007	FALSE	composite	J	0.013	ug/l	0.0580	0.0354
UPRR Albina LW3	benzo(k)fluoranthene	11/27/2007	FALSE	composite		0.066	ug/l	0.0580	0.0354
UPRR Albina LW3	benzo(k)fluoranthene	11/29/2007	FALSE	composite		0.14	ug/l	0.0580	0.0354
WR169 Basin D Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		0.03	ug/l	0.0256	0.0152
WR169 Basin D Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite		0.058	ug/l	0.0256	0.0152
WR169 Basin D Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite	J	0.012	ug/l	0.0256	0.0152
WR169 Basin D Port	benzo(k)fluoranthene	5/3/2007	TRUE	composite	J	0.011	ug/l	0.0256	0.0152
WR169 Basin D Port	benzo(k)fluoranthene	11/16/2007	FALSE	composite	U	0.0027	ug/l	0.0256	0.0152
WR177 Basin M Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		0.18	ug/l	0.0938	0.0797
WR177 Basin M Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite		0.092	ug/l	0.0938	0.0797
WR177 Basin M Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.066	ug/l	0.0938	0.0797
WR177 Basin M Port	benzo(k)fluoranthene	9/28/2007	FALSE	composite		0.037	ug/l	0.0938	0.0797
WR181 Basin Q Port	benzo(k)fluoranthene	3/24/2007	TRUE	composite		0.26	ug/l	0.1057	0.0632
WR181 Basin Q Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		0.24	ug/l	0.1057	0.0632
WR181 Basin Q Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite		0.044	ug/l	0.1057	0.0632

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR181 Basin Q Port	benzo(k)fluoranthene	9/28/2007	FALSE	composite		0.023	ug/l	0.1057	0.0632
WR183 Basin R Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite	U	0.027	ug/l	0.0585	0.0306
WR183 Basin R Port	benzo(k)fluoranthene	4/7/2007	FALSE	composite	J	0.013	ug/l	0.0585	0.0306
WR183 Basin R Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.18	ug/l	0.0585	0.0306
WR183 Basin R Port	benzo(k)fluoranthene	11/16/2007	FALSE	composite		0.025	ug/l	0.0585	0.0306
WR183 Basin R Port	benzo(k)fluoranthene	11/16/2007	TRUE	composite	U	0.0026	ug/l	0.0585	0.0306
WR20 Basin L Port	benzo(k)fluoranthene	3/24/2007	FALSE	composite		1.2	ug/l	1.1300	0.9958
WR20 Basin L Port	benzo(k)fluoranthene	5/3/2007	FALSE	composite		0.98	ug/l	1.1300	0.9958
WR20 Basin L Port	benzo(k)fluoranthene	5/20/2007	FALSE	composite		1.9	ug/l	1.1300	0.9958
WR20 Basin L Port	benzo(k)fluoranthene	9/28/2007	FALSE	composite		0.44	ug/l	1.1300	0.9958
Arkema LW3	bis(2-ethylhexyl) phthalate (behp)	3/26/2007	FALSE	composite	J	0.37	ug/l	0.58	0.50
Arkema LW3	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite	J	0.59	ug/l	0.58	0.50
Arkema LW3	bis(2-ethylhexyl) phthalate (behp)	6/5/2007	FALSE	grab	UJ	0.19	ug/l	0.58	0.50
Arkema LW3	bis(2-ethylhexyl) phthalate (behp)	6/10/2007	FALSE	composite	UJ	0.67	ug/l	0.58	0.50
Arkema LW3	bis(2-ethylhexyl) phthalate (behp)	11/27/2007	FALSE	composite	J	1.1	ug/l	0.58	0.50
GE MH 2	bis(2-ethylhexyl) phthalate (behp)	10/19/2007	TRUE	composite	UJ	1.29	ug/l	1.31	1.31
GE MH 2	bis(2-ethylhexyl) phthalate (behp)	10/19/2007	FALSE	composite	U	1.26	ug/l	1.31	1.31
GE MH 2	bis(2-ethylhexyl) phthalate (behp)	11/13/2007	TRUE	composite	U	1.34	ug/l	1.31	1.31
GE MH 2	bis(2-ethylhexyl) phthalate (behp)	11/13/2007	FALSE	composite	U	1.34	ug/l	1.31	1.31
GE SV 1	bis(2-ethylhexyl) phthalate (behp)	6/10/2007	FALSE	composite	UJ	1.98	ug/l	1.63	1.61
GE SV 1	bis(2-ethylhexyl) phthalate (behp)	10/19/2007	FALSE	composite	U	1.56	ug/l	1.63	1.61
GE SV 1	bis(2-ethylhexyl) phthalate (behp)	11/13/2007	FALSE	composite	U	1.34	ug/l	1.63	1.61
Gunderson WR142/145 LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	FALSE	grab	J	0.67	ug/l	4.11	2.79
Gunderson WR142/145 LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	TRUE	grab	J	0.98	ug/l	4.11	2.79
Gunderson WR142/145 LW3	bis(2-ethylhexyl) phthalate (behp)	6/10/2007	FALSE	composite	U	1.5	ug/l	4.11	2.79
Gunderson WR142/145 LW3	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	composite		6.1	ug/l	4.11	2.79
Gunderson WR142/145 LW3	bis(2-ethylhexyl) phthalate (behp)	1/9/2008	FALSE	composite		8	ug/l	4.11	2.79
Gunderson WR147 LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite	J	0.81	ug/l	0.97	0.90
Gunderson WR147 LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	FALSE	composite		1.5	ug/l	0.97	0.90
Gunderson WR147 LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite	J	0.61	ug/l	0.97	0.90
OF18 LW3	bis(2-ethylhexyl) phthalate (behp)	3/26/2007	FALSE	composite		5.6	ug/l	5.03	4.30
OF18 LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite		3.8	ug/l	5.03	4.30
OF18 LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	FALSE	composite		8.9	ug/l	5.03	4.30
OF18 LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	FALSE	grab	J	1.8	ug/l	5.03	4.30
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	3/8/2006	FALSE	composite	U	16	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	3/15/2006	FALSE	composite	U	17	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	5/23/2006	FALSE	composite	U	15	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	11/2/2006	FALSE	composite	U	16	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	11/19/2006	FALSE	composite	U	16	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	2/14/2007	FALSE	composite		2.2	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	11/26/2007	FALSE	composite		173	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	3/7/2008	FALSE	composite		2.12	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	3/25/2008	FALSE	composite		1.71	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	11/20/2008	FALSE	composite		1	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	2/23/2009	FALSE	composite		3.48	ug/L	22.14	6.86
OF19_LW3+MS4	bis(2-ethylhexyl) phthalate (behp)	3/14/2009	FALSE	composite		2.16	ug/L	22.14	6.86
OF22C City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab	U	0.971	ug/L	0.87	0.85
OF22C City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab	U	0.971	ug/L	0.87	0.85
OF22C City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab	J	0.568	ug/L	0.87	0.85
OF22C City	bis(2-ethylhexyl) phthalate (behp)	5/13/2008	FALSE	grab	U	0.971	ug/L	0.87	0.85
OF22C Tualatin Hills LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	FALSE	composite	U	0.11	ug/l	0.34	0.20
OF22C Tualatin Hills LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	TRUE	composite	U	0.13	ug/l	0.34	0.20
OF22C Tualatin Hills LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite	U	0.087	ug/l	0.34	0.20
OF22C Tualatin Hills LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	TRUE	composite	U	0.071	ug/l	0.34	0.20
OF22C Tualatin Hills LW3	bis(2-ethylhexyl) phthalate (behp)	1/9/2008	FALSE	composite	J	0.83	ug/l	0.34	0.20
OF22D City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	TRUE	grab	U	1.12	ug/L	1.76	1.32
OF22D City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab	U	0.971	ug/L	1.76	1.32
OF22D City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab		4.32	ug/L	1.76	1.32
OF22D City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab	J	0.7	ug/L	1.76	1.32
OF22D City	bis(2-ethylhexyl) phthalate (behp)	5/13/2008	FALSE	grab	U	0.971	ug/L	1.76	1.32
OF45 City	bis(2-ethylhexyl) phthalate (behp)	2/5/2008	FALSE	grab		28.3	ug/L	8.34	3.27
OF45 City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab	U	1.12	ug/L	8.34	3.27
OF45 City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab		2.44	ug/L	8.34	3.27
OF45 City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab		1.48	ug/L	8.34	3.27
OF46 City	bis(2-ethylhexyl) phthalate (behp)	2/5/2008	FALSE	grab		2.99	ug/L	3.94	3.65
OF46 City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab		3.43	ug/L	3.94	3.65
OF46 City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab		6.79	ug/L	3.94	3.65
OF46 City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	TRUE	grab		2.03	ug/L	3.94	3.65
OF46 City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab		3.09	ug/L	3.94	3.65
OF47 City	bis(2-ethylhexyl) phthalate (behp)	2/5/2008	FALSE	grab		6.1	ug/L	3.51	3.18
OF47 City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab		1.76	ug/L	3.51	3.18
OF47 City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab		2.9	ug/L	3.51	3.18

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF47 City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab		3.29	ug/L	3.51	3.18
OF48 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	TRUE	grab	J	0.614	ug/L	1.55	1.32
OF48 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		5.94	ug/L	1.55	1.32
OF48 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab	U	0.98	ug/L	1.55	1.32
OF48 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	U	0.971	ug/L	1.55	1.32
OF48 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab	U	0.962	ug/L	1.55	1.32
OF49 LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite		1	ug/l	1.90	1.76
OF49 LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite		2.1	ug/l	1.90	1.76
OF49 LW3	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	composite	J	2.6	ug/l	1.90	1.76
OF50 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.1	ug/L	1.60	1.32
OF50 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab	U	0.98	ug/L	1.60	1.32
OF50 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab		3.5	ug/L	1.60	1.32
OF50 City	bis(2-ethylhexyl) phthalate (behp)	12/14/2007	FALSE	grab	J	0.801	ug/L	1.60	1.32
OF52 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.62	ug/L	3.34	2.41
OF52 City	bis(2-ethylhexyl) phthalate (behp)	9/30/2007	TRUE	grab	J	0.792	ug/L	3.34	2.41
OF52 City	bis(2-ethylhexyl) phthalate (behp)	9/30/2007	FALSE	grab	J	0.827	ug/L	3.34	2.41
OF52 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		5.75	ug/L	3.34	2.41
OF52 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	TRUE	grab		1.2	ug/L	3.34	2.41
OF52 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab		7.46	ug/L	3.34	2.41
OF52A City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.19	ug/L	1.84	1.30
OF52A City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab	U	0.98	ug/L	1.84	1.30
OF52A City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	J	0.518	ug/L	1.84	1.30
OF52A City	bis(2-ethylhexyl) phthalate (behp)	12/14/2007	FALSE	grab		4.67	ug/L	1.84	1.30
OF52C Basin T Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite		2.5	ug/l	1.76	1.70
OF52C Basin T Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	1.3	ug/l	1.76	1.70
OF52C Basin T Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	TRUE	composite	J	1	ug/l	1.76	1.70
OF52C Basin T Port	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite		1.7	ug/l	1.76	1.70
OF52C Basin T Port	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	composite		1.7	ug/l	1.76	1.70
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite		5.7	ug/l	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	4.6	ug/l	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite		6.7	ug/l	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	1/26/2008	FALSE	composite		3.43	ug/L	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	2/6/2008	FALSE	composite		2.86	ug/L	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	3/12/2008	TRUE	composite	B	40	ug/L	7.55	5.80
OF53 City+Port	bis(2-ethylhexyl) phthalate (behp)	3/12/2008	FALSE	composite	B	4.06	ug/L	7.55	5.80
OF53A City	bis(2-ethylhexyl) phthalate (behp)	2/29/2008	FALSE	grab	U	1	ug/L	1.16	1.04
OF53A City	bis(2-ethylhexyl) phthalate (behp)	3/20/2008	FALSE	grab		2.07	ug/L	1.16	1.04
OF53A City	bis(2-ethylhexyl) phthalate (behp)	4/4/2008	FALSE	grab	J	0.585	ug/L	1.16	1.04
OF53A City	bis(2-ethylhexyl) phthalate (behp)	5/13/2008	FALSE	grab	U	0.971	ug/L	1.16	1.04
OFM1 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		8.42	ug/L	3.20	2.11
OFM1 City	bis(2-ethylhexyl) phthalate (behp)	9/30/2007	FALSE	grab		1.24	ug/L	3.20	2.11
OFM1 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		2.32	ug/L	3.20	2.11
OFM1 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	J	0.816	ug/L	3.20	2.11
OFM2 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.03	ug/L	0.91	0.88
OFM2 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		1.07	ug/L	0.91	0.88
OFM2 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	U	0.971	ug/L	0.91	0.88
OFM2 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab	J	0.569	ug/L	0.91	0.88
OFM2 LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite	J	1.9	ug/l	2.24	2.02
OFM2 LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite		1.4	ug/l	2.24	2.02
OFM2 LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite		1.5	ug/l	2.24	2.02
OFM2 LW3	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	TRUE	composite	J	4.1	ug/l	2.24	2.02
OFM2 LW3	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite	J	4.2	ug/l	2.24	2.02
OFM3 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.09	ug/L	1.25	1.22
OFM3 City	bis(2-ethylhexyl) phthalate (behp)	9/30/2007	FALSE	grab		1.44	ug/L	1.25	1.22
OFM3 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		1.59	ug/L	1.25	1.22
OFM3 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	J	0.887	ug/L	1.25	1.22
OFS1 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		1.07	ug/L	3.12	1.95
OFS1 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		1.81	ug/L	3.12	1.95
OFS1 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab		8.73	ug/L	3.12	1.95
OFS1 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab	J	0.86	ug/L	3.12	1.95
OFS2 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab		8.08	ug/L	3.09	2.08
OFS2 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		1.06	ug/L	3.09	2.08
OFS2 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	U	0.971	ug/L	3.09	2.08
OFS2 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab		2.24	ug/L	3.09	2.08
OFS5 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab	J	0.77	ug/L	1.21	1.09
OFS5 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		1.01	ug/L	1.21	1.09
OFS5 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab	U	0.971	ug/L	1.21	1.09
OFS5 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	TRUE	grab	J	0.588	ug/L	1.21	1.09
OFS5 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab		2.29	ug/L	1.21	1.09
OFS6 City	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	grab	J	0.879	ug/L	1.65	1.35
OFS6 City	bis(2-ethylhexyl) phthalate (behp)	10/16/2007	FALSE	grab		3.68	ug/L	1.65	1.35
OFS6 City	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	grab		1.14	ug/L	1.65	1.35

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS6 City	bis(2-ethylhexyl) phthalate (behp)	12/15/2007	FALSE	grab	J	0.909	ug/L	1.65	1.35
OSM LW3	bis(2-ethylhexyl) phthalate (behp)	3/26/2007	FALSE	composite	J	1.8	ug/l	1.36	1.19
OSM LW3	bis(2-ethylhexyl) phthalate (behp)	3/26/2007	TRUE	composite	J	1.9	ug/l	1.36	1.19
OSM LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite	UJ	1.9	ug/l	1.36	1.19
OSM LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	FALSE	composite	J	1.2	ug/l	1.36	1.19
OSM LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	FALSE	grab	UJ	0.48	ug/l	1.36	1.19
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite		2	ug/l	2.84	1.96
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	TRUE	composite		1.9	ug/l	2.84	1.96
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite	J	5.7	ug/l	2.84	1.96
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	5/22/2007	FALSE	grab	UJ	0.44	ug/l	2.84	1.96
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	6/5/2007	FALSE	grab	U	1.2	ug/l	2.84	1.96
Portland Shipyard LW3	bis(2-ethylhexyl) phthalate (behp)	6/10/2007	FALSE	composite	UJ	4.9	ug/l	2.84	1.96
Schnitzer Int. LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite	J	1.5	ug/l	1.71	1.18
Schnitzer Int. LW3	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite	J	3.3	ug/l	1.71	1.18
Schnitzer Int. LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	FALSE	grab	U	0.33	ug/l	1.71	1.18
SJB LW3	bis(2-ethylhexyl) phthalate (behp)	4/9/2007	FALSE	composite		17	ug/l	9.95	8.18
SJB LW3	bis(2-ethylhexyl) phthalate (behp)	4/18/2007	FALSE	composite		9.2	ug/l	9.95	8.18
SJB LW3	bis(2-ethylhexyl) phthalate (behp)	4/23/2007	FALSE	composite		2.6	ug/l	9.95	8.18
SJB LW3	bis(2-ethylhexyl) phthalate (behp)	5/21/2007	FALSE	grab	J	11	ug/l	9.95	8.18
WR169 Basin D Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	1.4	ug/l	1.43	1.42
WR169 Basin D Port	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	composite		1.1	ug/l	1.43	1.42
WR169 Basin D Port	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	TRUE	composite		1.8	ug/l	1.43	1.42
WR177 Basin M Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite		2.1	ug/l	1.22	1.08
WR177 Basin M Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	0.76	ug/l	1.22	1.08
WR177 Basin M Port	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	composite		0.8	ug/l	1.22	1.08
WR181 Basin Q Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite		3	ug/l	1.84	1.57
WR181 Basin Q Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	0.71	ug/l	1.84	1.57
WR181 Basin Q Port	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	composite		1.8	ug/l	1.84	1.57
WR183 Basin R Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite	J	0.66	ug/l	1.54	1.39
WR183 Basin R Port	bis(2-ethylhexyl) phthalate (behp)	4/7/2007	FALSE	composite	J	1.4	ug/l	1.54	1.39
WR183 Basin R Port	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite	J	2.4	ug/l	1.54	1.39
WR183 Basin R Port	bis(2-ethylhexyl) phthalate (behp)	11/16/2007	FALSE	composite		1.7	ug/l	1.54	1.39
WR20 Basin L Port	bis(2-ethylhexyl) phthalate (behp)	3/24/2007	FALSE	composite		7.9	ug/l	8.30	8.23
WR20 Basin L Port	bis(2-ethylhexyl) phthalate (behp)	5/3/2007	FALSE	composite		10	ug/l	8.30	8.23
WR20 Basin L Port	bis(2-ethylhexyl) phthalate (behp)	5/20/2007	FALSE	composite		8.3	ug/l	8.30	8.23
WR20 Basin L Port	bis(2-ethylhexyl) phthalate (behp)	9/28/2007	FALSE	composite		7	ug/l	8.30	8.23
Arkema LW3	cadmium	3/26/2007	FALSE	composite		0.12	ug/l	0.22	0.21
Arkema LW3	cadmium	4/23/2007	FALSE	composite		0.243	ug/l	0.22	0.21
Arkema LW3	cadmium	5/3/2007	FALSE	composite		0.236	ug/l	0.22	0.21
Arkema LW3	cadmium	6/10/2007	FALSE	composite	J	0.303	ug/l	0.22	0.21
Arkema LW3	cadmium	11/27/2007	TRUE	composite		0.215	ug/l	0.22	0.21
Arkema LW3	cadmium	11/27/2007	FALSE	composite		0.217	ug/l	0.22	0.21
Chevron LW3	cadmium	3/26/2007	FALSE	composite		0.16	ug/l	0.23	0.21
Chevron LW3	cadmium	4/9/2007	FALSE	composite		0.255	ug/l	0.23	0.21
Chevron LW3	cadmium	4/23/2007	FALSE	composite		0.125	ug/l	0.23	0.21
Chevron LW3	cadmium	5/3/2007	FALSE	composite		0.356	ug/l	0.23	0.21
Chevron LW3	cadmium	6/10/2007	FALSE	composite	J	0.241	ug/l	0.23	0.21
Gasco LW3	cadmium	3/26/2007	FALSE	composite		0.07	ug/l	0.10	0.10
Gasco LW3	cadmium	4/9/2007	FALSE	composite		0.113	ug/l	0.10	0.10
Gasco LW3	cadmium	4/18/2007	FALSE	composite		0.115	ug/l	0.10	0.10
Gasco LW3	cadmium	5/3/2007	FALSE	composite		0.12	ug/l	0.10	0.10
GE MH 2	cadmium	4/18/2007	FALSE	composite	U	2	ug/l	1.45	1.12
GE MH 2	cadmium	10/19/2007	FALSE	composite	J	3.46	ug/l	1.45	1.12
GE MH 2	cadmium	10/19/2007	TRUE	composite	J	0.515	ug/l	1.45	1.12
GE MH 2	cadmium	11/13/2007	TRUE	composite	U	0.35	ug/l	1.45	1.12
GE MH 2	cadmium	11/13/2007	FALSE	composite	U	0.35	ug/l	1.45	1.12
GE SV 1	cadmium	6/10/2007	FALSE	composite	U	2	ug/l	1.89	1.33
GE SV 1	cadmium	10/19/2007	FALSE	composite		3.33	ug/l	1.89	1.33
GE SV 1	cadmium	11/13/2007	FALSE	composite	U	0.35	ug/l	1.89	1.33
Gunderson WR142/145 LW3	cadmium	4/9/2007	FALSE	composite		0.334	ug/l	0.33	0.31
Gunderson WR142/145 LW3	cadmium	6/10/2007	FALSE	composite	J	0.34	ug/l	0.33	0.31
Gunderson WR142/145 LW3	cadmium	11/16/2007	FALSE	composite		0.51	ug/l	0.33	0.31
Gunderson WR142/145 LW3	cadmium	11/27/2007	FALSE	composite		0.22	ug/l	0.33	0.31
Gunderson WR142/145 LW3	cadmium	1/9/2008	FALSE	composite		0.241	ug/l	0.33	0.31
Gunderson WR147 LW3	cadmium	4/9/2007	FALSE	composite		0.369	ug/l	0.58	0.53
Gunderson WR147 LW3	cadmium	4/18/2007	FALSE	composite		0.761	ug/l	0.58	0.53
Gunderson WR147 LW3	cadmium	4/23/2007	FALSE	composite		0.392	ug/l	0.58	0.53
Gunderson WR147 LW3	cadmium	5/3/2007	FALSE	composite		1.03	ug/l	0.58	0.53
Gunderson WR147 LW3	cadmium	6/10/2007	FALSE	composite	J	0.384	ug/l	0.58	0.53
Gunderson WR147 LW3	cadmium	6/10/2007	TRUE	composite	J	0.352	ug/l	0.58	0.53
HWY30 NW Yeon-35th LW3	cadmium	4/9/2007	FALSE	composite		0.309	ug/l	0.31	0.30
HWY30 NW Yeon-35th LW3	cadmium	5/3/2007	FALSE	composite		0.396	ug/l	0.31	0.30

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
HWY30 NW Yeon-35th LW3	cadmium	6/10/2007	FALSE	composite	J	0.225	ug/l	0.31	0.30
HWY30A Reed St. LW3	cadmium	11/16/2007	FALSE	composite		0.298	ug/l	0.49	0.45
HWY30A Reed St. LW3	cadmium	11/27/2007	FALSE	composite		0.322	ug/l	0.49	0.45
HWY30A Reed St. LW3	cadmium	1/28/2008	FALSE	composite		0.492	ug/l	0.49	0.45
HWY30A Reed St. LW3	cadmium	1/28/2008	TRUE	composite		0.492	ug/l	0.49	0.45
HWY30A Reed St. LW3	cadmium	1/30/2008	FALSE	composite		0.85	ug/l	0.49	0.45
HWY30B 35th St. LW3	cadmium	11/27/2007	FALSE	composite		0.852	ug/l	0.80	0.78
HWY30B 35th St. LW3	cadmium	1/11/2008	FALSE	composite		0.507	ug/l	0.80	0.78
HWY30B 35th St. LW3	cadmium	1/15/2008	FALSE	composite		0.863	ug/l	0.80	0.78
HWY30B 35th St. LW3	cadmium	1/28/2008	FALSE	composite		0.763	ug/l	0.80	0.78
HWY30B 35th St. LW3	cadmium	1/30/2008	FALSE	composite		1.03	ug/l	0.80	0.78
OF16 LW3	cadmium	4/9/2007	FALSE	composite		0.455	ug/l	0.73	0.65
OF16 LW3	cadmium	4/18/2007	FALSE	composite		0.862	ug/l	0.73	0.65
OF16 LW3	cadmium	4/23/2007	FALSE	composite		0.312	ug/l	0.73	0.65
OF16 LW3	cadmium	4/23/2007	TRUE	composite		0.318	ug/l	0.73	0.65
OF16 LW3	cadmium	5/3/2007	FALSE	composite		1.28	ug/l	0.73	0.65
OF16 LW3	cadmium	6/10/2007	FALSE	composite	J	0.75	ug/l	0.73	0.65
OF18 LW3	cadmium	3/26/2007	TRUE	composite		0.89	ug/l	1.02	0.92
OF18 LW3	cadmium	3/26/2007	FALSE	composite		0.8	ug/l	1.02	0.92
OF18 LW3	cadmium	4/9/2007	FALSE	composite		0.718	ug/l	1.02	0.92
OF18 LW3	cadmium	4/18/2007	FALSE	composite		0.609	ug/l	1.02	0.92
OF18 LW3	cadmium	4/18/2007	TRUE	composite		0.643	ug/l	1.02	0.92
OF18 LW3	cadmium	5/3/2007	FALSE	composite		1.88	ug/l	1.02	0.92
OF19_LW3+MS4	cadmium	3/8/2006	FALSE	composite		0.33	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	3/15/2006	FALSE	composite		0.22	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	5/23/2006	FALSE	composite		0.22	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	11/2/2006	FALSE	composite		0.39	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	11/19/2006	FALSE	composite		0.17	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	2/14/2007	FALSE	composite		0.34	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	3/26/2007	FALSE	composite		0.17	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	4/9/2007	TRUE	composite		0.236	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	4/9/2007	FALSE	composite		0.224	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	4/18/2007	FALSE	composite		0.366	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	5/3/2007	TRUE	composite		0.863	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	5/3/2007	FALSE	composite		0.884	ug/l	0.36	0.32
OF19_LW3+MS4	cadmium	11/26/2007	FALSE	composite		0.32	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	3/7/2008	FALSE	composite		0.36	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	3/25/2008	FALSE	composite		0.17	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	11/20/2008	FALSE	composite		0.41	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	2/23/2009	FALSE	composite		0.85	ug/L	0.36	0.32
OF19_LW3+MS4	cadmium	3/14/2009	FALSE	composite		0.39	ug/L	0.36	0.32
OF22 LW3	cadmium	4/9/2007	FALSE	composite		0.351	ug/l	0.39	0.39
OF22 LW3	cadmium	5/3/2007	FALSE	composite		0.48	ug/l	0.39	0.39
OF22 LW3	cadmium	6/10/2007	FALSE	composite	J	0.345	ug/l	0.39	0.39
OF22B LW3	cadmium	3/27/2007	FALSE	composite		1.5	ug/l	1.91	1.60
OF22B LW3	cadmium	5/3/2007	FALSE	composite		4.02	ug/l	1.91	1.60
OF22B LW3	cadmium	11/16/2007	FALSE	composite		0.896	ug/l	1.91	1.60
OF22B LW3	cadmium	11/27/2007	FALSE	composite		1.22	ug/l	1.91	1.60
OF22C City	cadmium	2/29/2008	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF22C City	cadmium	3/20/2008	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF22C City	cadmium	4/4/2008	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF22C City	cadmium	5/13/2008	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF22C Tualatin Hills LW3	cadmium	4/18/2007	FALSE	composite	U	0.009	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	cadmium	4/23/2007	FALSE	composite	U	0.016	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	cadmium	1/9/2008	FALSE	composite	J	0.018	ug/l	0.01	0.01
OF22D City	cadmium	2/29/2008	FALSE	grab	U	0.1	ug/L	0.17	0.14
OF22D City	cadmium	2/29/2008	TRUE	grab	U	0.1	ug/L	0.17	0.14
OF22D City	cadmium	3/20/2008	FALSE	grab		0.38	ug/L	0.17	0.14
OF22D City	cadmium	4/4/2008	FALSE	grab		0.11	ug/L	0.17	0.14
OF22D City	cadmium	5/13/2008	FALSE	grab	U	0.1	ug/L	0.17	0.14
OF45 City	cadmium	2/5/2008	FALSE	grab		1.75	ug/L	0.81	0.58
OF45 City	cadmium	2/29/2008	FALSE	grab		0.62	ug/L	0.81	0.58
OF45 City	cadmium	3/20/2008	FALSE	grab		0.14	ug/L	0.81	0.58
OF45 City	cadmium	4/4/2008	FALSE	grab		0.73	ug/L	0.81	0.58
OF46 City	cadmium	2/5/2008	FALSE	grab		0.64	ug/L	0.59	0.58
OF46 City	cadmium	2/29/2008	FALSE	grab		0.59	ug/L	0.59	0.58
OF46 City	cadmium	3/20/2008	FALSE	grab		0.43	ug/L	0.59	0.58
OF46 City	cadmium	4/4/2008	TRUE	grab		0.73	ug/L	0.59	0.58
OF46 City	cadmium	4/4/2008	FALSE	grab		0.63	ug/L	0.59	0.58
OF47 City	cadmium	2/5/2008	FALSE	grab		0.56	ug/L	0.45	0.44
OF47 City	cadmium	2/29/2008	FALSE	grab		0.31	ug/L	0.45	0.44
OF47 City	cadmium	3/20/2008	FALSE	grab		0.56	ug/L	0.45	0.44

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF47 City	cadmium	4/4/2008	FALSE	grab		0.37	ug/L	0.45	0.44
OF48 City	cadmium	9/28/2007	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF48 City	cadmium	9/28/2007	TRUE	grab	U	0.1	ug/L	0.10	0.10
OF48 City	cadmium	10/16/2007	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF48 City	cadmium	11/16/2007	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF48 City	cadmium	12/15/2007	FALSE	grab	U	0.1	ug/L	0.10	0.10
OF49 LW3	cadmium	4/9/2007	FALSE	composite		0.063	ug/l	0.08	0.07
OF49 LW3	cadmium	4/23/2007	FALSE	composite		0.076	ug/l	0.08	0.07
OF49 LW3	cadmium	6/10/2007	FALSE	composite	J	0.112	ug/l	0.08	0.07
OF49 LW3	cadmium	11/16/2007	FALSE	composite		0.058	ug/l	0.08	0.07
OF50 City	cadmium	9/28/2007	FALSE	grab		0.22	ug/L	0.13	0.12
OF50 City	cadmium	10/16/2007	FALSE	grab	U	0.1	ug/L	0.13	0.12
OF50 City	cadmium	11/16/2007	FALSE	grab	U	0.1	ug/L	0.13	0.12
OF50 City	cadmium	12/14/2007	FALSE	grab		0.11	ug/L	0.13	0.12
OF52 City	cadmium	9/28/2007	FALSE	grab		0.34	ug/L	0.20	0.18
OF52 City	cadmium	9/30/2007	FALSE	grab		0.18	ug/L	0.20	0.18
OF52 City	cadmium	9/30/2007	TRUE	grab		0.17	ug/L	0.20	0.18
OF52 City	cadmium	10/16/2007	FALSE	grab	U	0.1	ug/L	0.20	0.18
OF52 City	cadmium	10/16/2007	TRUE	grab		0.26	ug/L	0.20	0.18
OF52 City	cadmium	11/16/2007	FALSE	grab	U	0.1	ug/L	0.20	0.18
OF52A City	cadmium	9/28/2007	FALSE	grab		0.22	ug/L	0.15	0.14
OF52A City	cadmium	10/16/2007	FALSE	grab	U	0.1	ug/L	0.15	0.14
OF52A City	cadmium	11/16/2007	FALSE	grab	U	0.1	ug/L	0.15	0.14
OF52A City	cadmium	12/14/2007	FALSE	grab		0.18	ug/L	0.15	0.14
OF52C Basin T Port	cadmium	3/24/2007	FALSE	composite	J	0.21	ug/l	0.22	0.20
OF52C Basin T Port	cadmium	5/3/2007	FALSE	composite		0.324	ug/l	0.22	0.20
OF52C Basin T Port	cadmium	5/20/2007	FALSE	composite		0.232	ug/l	0.22	0.20
OF52C Basin T Port	cadmium	11/16/2007	FALSE	composite		0.109	ug/l	0.22	0.20
OF53 City+Port	cadmium	3/24/2007	FALSE	composite	J	0.28	ug/l	0.45	0.28
OF53 City+Port	cadmium	5/3/2007	FALSE	composite		1.46	ug/l	0.45	0.28
OF53 City+Port	cadmium	1/26/2008	FALSE	composite		0.14	ug/L	0.45	0.28
OF53 City+Port	cadmium	2/6/2008	FALSE	composite		0.19	ug/L	0.45	0.28
OF53 City+Port	cadmium	3/12/2008	TRUE	composite		0.17	ug/L	0.45	0.28
OF53 City+Port	cadmium	3/12/2008	FALSE	composite		0.16	ug/L	0.45	0.28
OF53A City	cadmium	2/29/2008	FALSE	grab		0.56	ug/L	0.39	0.36
OF53A City	cadmium	3/20/2008	FALSE	grab		0.41	ug/L	0.39	0.36
OF53A City	cadmium	4/4/2008	FALSE	grab		0.38	ug/L	0.39	0.36
OF53A City	cadmium	5/13/2008	FALSE	grab		0.19	ug/L	0.39	0.36
OFM1 City	cadmium	9/28/2007	FALSE	grab		0.42	ug/L	0.43	0.39
OFM1 City	cadmium	9/30/2007	FALSE	grab		0.21	ug/L	0.43	0.39
OFM1 City	cadmium	10/16/2007	FALSE	grab		0.71	ug/L	0.43	0.39
OFM1 City	cadmium	11/16/2007	FALSE	grab		0.37	ug/L	0.43	0.39
OFM1 LW3	cadmium	3/26/2007	FALSE	composite		0.61	ug/l	0.72	0.70
OFM1 LW3	cadmium	4/9/2007	FALSE	composite		0.662	ug/l	0.72	0.70
OFM1 LW3	cadmium	4/18/2007	FALSE	composite		0.99	ug/l	0.72	0.70
OFM1 LW3	cadmium	4/18/2007	TRUE	composite		0.959	ug/l	0.72	0.70
OFM1 LW3	cadmium	6/10/2007	FALSE	composite	J	0.622	ug/l	0.72	0.70
OFM2 City	cadmium	9/28/2007	FALSE	grab		0.29	ug/L	0.33	0.32
OFM2 City	cadmium	10/16/2007	FALSE	grab		0.49	ug/L	0.33	0.32
OFM2 City	cadmium	11/16/2007	FALSE	grab		0.26	ug/L	0.33	0.32
OFM2 City	cadmium	12/15/2007	FALSE	grab		0.28	ug/L	0.33	0.32
OFM2 LW3	cadmium	4/9/2007	FALSE	composite		0.264	ug/l	0.30	0.28
OFM2 LW3	cadmium	4/9/2007	FALSE	composite		0.162	ug/l	0.30	0.28
OFM2 LW3	cadmium	4/23/2007	TRUE	composite		0.39	ug/l	0.30	0.28
OFM2 LW3	cadmium	4/23/2007	FALSE	composite		0.391	ug/l	0.30	0.28
OFM2 LW3	cadmium	5/3/2007	FALSE	composite		0.395	ug/l	0.30	0.28
OFM3 City	cadmium	9/28/2007	FALSE	grab		0.25	ug/L	0.23	0.22
OFM3 City	cadmium	9/30/2007	FALSE	grab		0.13	ug/L	0.23	0.22
OFM3 City	cadmium	10/16/2007	FALSE	grab		0.29	ug/L	0.23	0.22
OFM3 City	cadmium	11/16/2007	FALSE	grab		0.23	ug/L	0.23	0.22
OFS1 City	cadmium	9/28/2007	FALSE	grab		0.36	ug/L	0.37	0.36
OFS1 City	cadmium	10/16/2007	FALSE	grab		0.32	ug/L	0.37	0.36
OFS1 City	cadmium	11/16/2007	FALSE	grab		0.36	ug/L	0.37	0.36
OFS1 City	cadmium	12/15/2007	FALSE	grab		0.42	ug/L	0.37	0.36
OFS2 City	cadmium	9/28/2007	FALSE	grab		0.32	ug/L	0.28	0.27
OFS2 City	cadmium	10/16/2007	FALSE	grab		0.37	ug/L	0.28	0.27
OFS2 City	cadmium	11/16/2007	FALSE	grab		0.19	ug/L	0.28	0.27
OFS2 City	cadmium	12/15/2007	FALSE	grab		0.24	ug/L	0.28	0.27
OFS5 City	cadmium	9/28/2007	FALSE	grab		0.25	ug/L	0.22	0.22
OFS5 City	cadmium	10/16/2007	FALSE	grab		0.19	ug/L	0.22	0.22
OFS5 City	cadmium	11/16/2007	TRUE	grab		0.2	ug/L	0.22	0.22
OFS5 City	cadmium	11/16/2007	FALSE	grab		0.21	ug/L	0.22	0.22

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS5 City	cadmium	12/15/2007	FALSE	grab		0.24	ug/L	0.22	0.22
OFS6 City	cadmium	9/28/2007	FALSE	grab		0.36	ug/L	0.27	0.24
OFS6 City	cadmium	10/16/2007	FALSE	grab		0.39	ug/L	0.27	0.24
OFS6 City	cadmium	11/16/2007	FALSE	grab		0.14	ug/L	0.27	0.24
OFS6 City	cadmium	12/15/2007	FALSE	grab		0.18	ug/L	0.27	0.24
OSM LW3	cadmium	3/26/2007	FALSE	composite		1.01	ug/l	1.07	1.06
OSM LW3	cadmium	4/9/2007	FALSE	composite		0.934	ug/l	1.07	1.06
OSM LW3	cadmium	4/18/2007	FALSE	composite		0.99	ug/l	1.07	1.06
OSM LW3	cadmium	5/3/2007	FALSE	composite		1.36	ug/l	1.07	1.06
Portland Shipyard LW3	cadmium	3/26/2007	FALSE	composite		0.45	ug/l	0.68	0.65
Portland Shipyard LW3	cadmium	4/9/2007	FALSE	composite		0.637	ug/l	0.68	0.65
Portland Shipyard LW3	cadmium	5/3/2007	FALSE	composite		1.1	ug/l	0.68	0.65
Portland Shipyard LW3	cadmium	6/10/2007	FALSE	composite	J	0.549	ug/l	0.68	0.65
Schnitzer Int. LW3	cadmium	4/9/2007	FALSE	composite		0.403	ug/l	0.60	0.55
Schnitzer Int. LW3	cadmium	4/18/2007	FALSE	composite		0.924	ug/l	0.60	0.55
Schnitzer Int. LW3	cadmium	4/23/2007	FALSE	composite		0.333	ug/l	0.60	0.55
Schnitzer Int. LW3	cadmium	5/3/2007	FALSE	composite		0.744	ug/l	0.60	0.55
Schnitzer Riverside LW3	cadmium	4/9/2007	FALSE	composite		0.247	ug/l	4.17	2.34
Schnitzer Riverside LW3	cadmium	4/18/2007	FALSE	composite		8.84	ug/l	4.17	2.34
Schnitzer Riverside LW3	cadmium	4/23/2007	FALSE	composite		4.63	ug/l	4.17	2.34
Schnitzer Riverside LW3	cadmium	5/3/2007	FALSE	composite		2.98	ug/l	4.17	2.34
Siltronic LW3	cadmium	4/9/2007	FALSE	composite		0.126	ug/l	0.15	0.13
Siltronic LW3	cadmium	4/9/2007	FALSE	composite		0.057	ug/l	0.15	0.13
Siltronic LW3	cadmium	4/18/2007	FALSE	composite		0.171	ug/l	0.15	0.13
Siltronic LW3	cadmium	5/3/2007	FALSE	composite		0.307	ug/l	0.15	0.13
Siltronic LW3	cadmium	6/10/2007	FALSE	composite	J	0.104	ug/l	0.15	0.13
SJB LW3	cadmium	3/26/2007	FALSE	composite		0.4	ug/l	0.60	0.56
SJB LW3	cadmium	4/9/2007	FALSE	composite		0.492	ug/l	0.60	0.56
SJB LW3	cadmium	4/18/2007	FALSE	composite		0.959	ug/l	0.60	0.56
SJB LW3	cadmium	5/3/2007	FALSE	composite		0.533	ug/l	0.60	0.56
Sulzer LW3	cadmium	1/11/2008	FALSE	composite		1.23	ug/l	1.44	1.42
Sulzer LW3	cadmium	1/30/2008	FALSE	composite		1.64	ug/l	1.44	1.42
UPRR Albina LW3	cadmium	5/3/2007	FALSE	composite		0.582	ug/l	0.42	0.41
UPRR Albina LW3	cadmium	6/10/2007	FALSE	composite	J	0.282	ug/l	0.42	0.41
UPRR Albina LW3	cadmium	11/27/2007	FALSE	composite		0.457	ug/l	0.42	0.41
UPRR Albina LW3	cadmium	11/29/2007	FALSE	composite		0.379	ug/l	0.42	0.41
UPRR Albina LW3	cadmium	11/29/2007	TRUE	composite		0.377	ug/l	0.42	0.41
WR169 Basin D Port	cadmium	3/24/2007	FALSE	composite	J	0.13	ug/l	0.11	0.11
WR169 Basin D Port	cadmium	5/3/2007	TRUE	composite		0.105	ug/l	0.11	0.11
WR169 Basin D Port	cadmium	5/3/2007	FALSE	composite		0.125	ug/l	0.11	0.11
WR169 Basin D Port	cadmium	5/20/2007	FALSE	composite		0.115	ug/l	0.11	0.11
WR169 Basin D Port	cadmium	11/16/2007	FALSE	composite		0.079	ug/l	0.11	0.11
WR177 Basin M Port	cadmium	3/24/2007	FALSE	composite	J	0.79	ug/l	0.46	0.42
WR177 Basin M Port	cadmium	5/3/2007	FALSE	composite		0.36	ug/l	0.46	0.42
WR177 Basin M Port	cadmium	5/20/2007	FALSE	composite		0.434	ug/l	0.46	0.42
WR177 Basin M Port	cadmium	9/28/2007	FALSE	composite		0.262	ug/l	0.46	0.42
WR181 Basin Q Port	cadmium	3/24/2007	TRUE	composite	J	0.39	ug/l	0.48	0.47
WR181 Basin Q Port	cadmium	3/24/2007	FALSE	composite	J	0.61	ug/l	0.48	0.47
WR181 Basin Q Port	cadmium	9/28/2007	FALSE	composite		0.451	ug/l	0.48	0.47
WR183 Basin R Port	cadmium	3/24/2007	FALSE	composite	J	0.68	ug/l	14.29	3.80
WR183 Basin R Port	cadmium	5/3/2007	FALSE	composite		39.8	ug/l	14.29	3.80
WR183 Basin R Port	cadmium	5/20/2007	FALSE	composite		16.2	ug/l	14.29	3.80
WR183 Basin R Port	cadmium	11/16/2007	FALSE	composite		0.537	ug/l	14.29	3.80
WR183 Basin R Port	cadmium	11/16/2007	TRUE	composite		0.416	ug/l	14.29	3.80
WR20 Basin L Port	cadmium	3/24/2007	FALSE	composite	J	0.42	ug/l	0.94	0.81
WR20 Basin L Port	cadmium	5/3/2007	FALSE	composite		0.576	ug/l	0.94	0.81
WR20 Basin L Port	cadmium	5/20/2007	FALSE	composite		1.81	ug/l	0.94	0.81
WR20 Basin L Port	cadmium	9/28/2007	FALSE	composite		0.968	ug/l	0.94	0.81
OF52C Basin T Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.028	ug/l	0.029	0.029
OF52C Basin T Port	chlordane (technical)	4/7/2007	FALSE	composite	UJ	0.015	ug/l	0.029	0.029
OF52C Basin T Port	chlordane (technical)	4/7/2007	TRUE	composite	UJ	0.045	ug/l	0.029	0.029
OF53 City+Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.021	ug/l	0.020	0.019
OF53 City+Port	chlordane (technical)	4/7/2007	FALSE	composite	UJ	0.018	ug/l	0.020	0.019
WR177 Basin M Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.019	ug/l	0.018	0.017
WR177 Basin M Port	chlordane (technical)	4/7/2007	FALSE	composite	UJ	0.016	ug/l	0.018	0.017
WR181 Basin Q Port	chlordane (technical)	3/24/2007	TRUE	composite	UJ	0.034	ug/l	0.034	0.033
WR181 Basin Q Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.028	ug/l	0.034	0.033
WR181 Basin Q Port	chlordane (technical)	4/7/2007	FALSE	composite	UJ	0.036	ug/l	0.034	0.033
WR183 Basin R Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.017	ug/l	0.017	0.017
WR20 Basin L Port	chlordane (technical)	3/24/2007	FALSE	composite	UJ	0.036	ug/l	0.036	0.036
Arkema LW3	chromium	3/26/2007	FALSE	composite		8.14	ug/l	9.00	8.56
Arkema LW3	chromium	4/23/2007	FALSE	composite		6.59	ug/l	9.00	8.56

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Arkema LW3	chromium	5/3/2007	FALSE	composite		8.4	ug/l	9.00	8.56
Arkema LW3	chromium	6/10/2007	FALSE	composite		6.74	ug/l	9.00	8.56
Arkema LW3	chromium	11/27/2007	FALSE	composite		14.9	ug/l	9.00	8.56
Arkema LW3	chromium	11/27/2007	TRUE	composite		15.4	ug/l	9.00	8.56
Chevron LW3	chromium	3/26/2007	FALSE	composite		2.05	ug/l	2.48	2.35
Chevron LW3	chromium	4/9/2007	FALSE	composite		2.8	ug/l	2.48	2.35
Chevron LW3	chromium	4/23/2007	FALSE	composite		1.27	ug/l	2.48	2.35
Chevron LW3	chromium	5/3/2007	FALSE	composite		3.33	ug/l	2.48	2.35
Chevron LW3	chromium	6/10/2007	FALSE	composite		2.95	ug/l	2.48	2.35
Gasco LW3	chromium	3/26/2007	FALSE	composite		1.08	ug/l	1.51	1.45
Gasco LW3	chromium	4/9/2007	FALSE	composite		1.26	ug/l	1.51	1.45
Gasco LW3	chromium	4/18/2007	FALSE	composite		1.51	ug/l	1.51	1.45
Gasco LW3	chromium	5/3/2007	FALSE	composite		2.17	ug/l	1.51	1.45
GE MH 2	chromium	4/18/2007	FALSE	composite	U	5	ug/l	3.11	2.45
GE MH 2	chromium	10/19/2007	FALSE	composite	J	3.63	ug/l	3.11	2.45
GE MH 2	chromium	10/19/2007	TRUE	composite	J	3.3	ug/l	3.11	2.45
GE MH 2	chromium	11/13/2007	FALSE	composite	U	0.85	ug/l	3.11	2.45
GE MH 2	chromium	11/13/2007	TRUE	composite	U	0.85	ug/l	3.11	2.45
GE SV 1	chromium	6/10/2007	FALSE	composite	J	2.15	ug/l	2.77	2.36
GE SV 1	chromium	10/19/2007	FALSE	composite	J	4.92	ug/l	2.77	2.36
GE SV 1	chromium	11/13/2007	FALSE	composite	J	1.25	ug/l	2.77	2.36
Gunderson WR142/145 LW3	chromium	4/9/2007	FALSE	composite		3.32	ug/l	2.40	2.22
Gunderson WR142/145 LW3	chromium	6/10/2007	FALSE	composite		1.51	ug/l	2.40	2.22
Gunderson WR142/145 LW3	chromium	11/16/2007	FALSE	composite		3.21	ug/l	2.40	2.22
Gunderson WR142/145 LW3	chromium	11/27/2007	FALSE	composite		1.21	ug/l	2.40	2.22
Gunderson WR142/145 LW3	chromium	1/9/2008	FALSE	composite		2.75	ug/l	2.40	2.22
Gunderson WR147 LW3	chromium	4/9/2007	FALSE	composite		2.35	ug/l	4.03	3.38
Gunderson WR147 LW3	chromium	4/18/2007	FALSE	composite		5.62	ug/l	4.03	3.38
Gunderson WR147 LW3	chromium	4/23/2007	FALSE	composite		2.54	ug/l	4.03	3.38
Gunderson WR147 LW3	chromium	5/3/2007	FALSE	composite		8.03	ug/l	4.03	3.38
Gunderson WR147 LW3	chromium	6/10/2007	FALSE	composite		1.6	ug/l	4.03	3.38
Gunderson WR147 LW3	chromium	6/10/2007	TRUE	composite		1.66	ug/l	4.03	3.38
HWY30 NW Yeon-35th LW3	chromium	4/9/2007	FALSE	composite		4.07	ug/l	4.36	4.14
HWY30 NW Yeon-35th LW3	chromium	5/3/2007	FALSE	composite		6.16	ug/l	4.36	4.14
HWY30 NW Yeon-35th LW3	chromium	6/10/2007	FALSE	composite		2.84	ug/l	4.36	4.14
HWY30A Reed St. LW3	chromium	11/16/2007	FALSE	composite		4.99	ug/l	6.75	6.42
HWY30A Reed St. LW3	chromium	11/27/2007	FALSE	composite		5.61	ug/l	6.75	6.42
HWY30A Reed St. LW3	chromium	1/28/2008	FALSE	composite		5.46	ug/l	6.75	6.42
HWY30A Reed St. LW3	chromium	1/28/2008	TRUE	composite		5.77	ug/l	6.75	6.42
HWY30A Reed St. LW3	chromium	1/30/2008	FALSE	composite		10.8	ug/l	6.75	6.42
HWY30B 35th St. LW3	chromium	11/27/2007	FALSE	composite		9.37	ug/l	10.66	10.36
HWY30B 35th St. LW3	chromium	1/11/2008	FALSE	composite		7.99	ug/l	10.66	10.36
HWY30B 35th St. LW3	chromium	1/15/2008	FALSE	composite		14.8	ug/l	10.66	10.36
HWY30B 35th St. LW3	chromium	1/28/2008	FALSE	composite		8.63	ug/l	10.66	10.36
HWY30B 35th St. LW3	chromium	1/30/2008	FALSE	composite		12.5	ug/l	10.66	10.36
OF16 LW3	chromium	4/9/2007	FALSE	composite		7.88	ug/l	6.50	6.06
OF16 LW3	chromium	4/18/2007	FALSE	composite		8.13	ug/l	6.50	6.06
OF16 LW3	chromium	4/23/2007	FALSE	composite		2.91	ug/l	6.50	6.06
OF16 LW3	chromium	4/23/2007	TRUE	composite		2.95	ug/l	6.50	6.06
OF16 LW3	chromium	5/3/2007	FALSE	composite		8.37	ug/l	6.50	6.06
OF16 LW3	chromium	6/10/2007	FALSE	composite		5.21	ug/l	6.50	6.06
OF18 LW3	chromium	3/26/2007	FALSE	composite		11.5	ug/l	8.33	8.02
OF18 LW3	chromium	3/26/2007	TRUE	composite		7.32	ug/l	8.33	8.02
OF18 LW3	chromium	4/9/2007	FALSE	composite		6.18	ug/l	8.33	8.02
OF18 LW3	chromium	4/18/2007	FALSE	composite		5.88	ug/l	8.33	8.02
OF18 LW3	chromium	4/18/2007	TRUE	composite		6.41	ug/l	8.33	8.02
OF18 LW3	chromium	5/3/2007	FALSE	composite		11.6	ug/l	8.33	8.02
OF19_LW3+MS4	chromium	3/8/2006	FALSE	composite		8.01	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	3/15/2006	FALSE	composite		3.95	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	5/23/2006	FALSE	composite		3.07	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	11/2/2006	FALSE	composite		5.81	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	11/19/2006	FALSE	composite		1.59	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	2/14/2007	FALSE	composite		6.45	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	3/26/2007	FALSE	composite		2.84	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	4/9/2007	FALSE	composite		9.72	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	4/9/2007	TRUE	composite		10.1	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	4/18/2007	FALSE	composite		5.51	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	5/3/2007	TRUE	composite		9.8	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	5/3/2007	FALSE	composite		10.2	ug/l	7.00	5.56
OF19_LW3+MS4	chromium	11/26/2007	FALSE	composite		5.01	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	3/7/2008	FALSE	composite		5.98	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	3/25/2008	FALSE	composite		2.88	ug/L	7.00	5.56

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF19_LW3+MS4	chromium	11/20/2008	FALSE	composite		6.24	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	2/23/2009	FALSE	composite		28.7	ug/L	7.00	5.56
OF19_LW3+MS4	chromium	3/14/2009	FALSE	composite		6.09	ug/L	7.00	5.56
OF22 LW3	chromium	4/9/2007	FALSE	composite		5.4	ug/l	5.09	4.98
OF22 LW3	chromium	5/3/2007	FALSE	composite		6.1	ug/l	5.09	4.98
OF22 LW3	chromium	6/10/2007	FALSE	composite		3.76	ug/l	5.09	4.98
OF22B LW3	chromium	3/27/2007	FALSE	composite		8.47	ug/l	8.96	7.36
OF22B LW3	chromium	5/3/2007	FALSE	composite		18.5	ug/l	8.96	7.36
OF22B LW3	chromium	11/16/2007	FALSE	composite		5.38	ug/l	8.96	7.36
OF22B LW3	chromium	11/27/2007	FALSE	composite		3.48	ug/l	8.96	7.36
OF22C City	chromium	2/29/2008	FALSE	grab		0.59	ug/L	0.84	0.80
OF22C City	chromium	3/20/2008	FALSE	grab		1.24	ug/L	0.84	0.80
OF22C City	chromium	4/4/2008	FALSE	grab		0.88	ug/L	0.84	0.80
OF22C City	chromium	5/13/2008	FALSE	grab		0.64	ug/L	0.84	0.80
OF22C Tualatin Hills LW3	chromium	4/18/2007	FALSE	composite		0.87	ug/l	1.71	1.48
OF22C Tualatin Hills LW3	chromium	4/23/2007	FALSE	composite		1.22	ug/l	1.71	1.48
OF22C Tualatin Hills LW3	chromium	1/9/2008	FALSE	composite		3.05	ug/l	1.71	1.48
OF22D City	chromium	2/29/2008	TRUE	grab		1.54	ug/L	4.83	2.58
OF22D City	chromium	2/29/2008	FALSE	grab		1.34	ug/L	4.83	2.58
OF22D City	chromium	3/20/2008	FALSE	grab		14.9	ug/L	4.83	2.58
OF22D City	chromium	4/4/2008	FALSE	grab		1.89	ug/L	4.83	2.58
OF22D City	chromium	5/13/2008	FALSE	grab		1.09	ug/L	4.83	2.58
OF45 City	chromium	2/5/2008	FALSE	grab		46.7	ug/L	22.21	15.18
OF45 City	chromium	2/29/2008	FALSE	grab		14.4	ug/L	22.21	15.18
OF45 City	chromium	3/20/2008	FALSE	grab		3.22	ug/L	22.21	15.18
OF45 City	chromium	4/4/2008	FALSE	grab		24.5	ug/L	22.21	15.18
OF46 City	chromium	2/5/2008	FALSE	grab		11.1	ug/L	11.89	11.29
OF46 City	chromium	2/29/2008	FALSE	grab		10	ug/L	11.89	11.29
OF46 City	chromium	3/20/2008	FALSE	grab		7.9	ug/L	11.89	11.29
OF46 City	chromium	4/4/2008	FALSE	grab		12.7	ug/L	11.89	11.29
OF46 City	chromium	4/4/2008	TRUE	grab		24.4	ug/L	11.89	11.29
OF47 City	chromium	2/5/2008	FALSE	grab		10.5	ug/L	10.41	8.97
OF47 City	chromium	2/29/2008	FALSE	grab		3.86	ug/L	10.41	8.97
OF47 City	chromium	3/20/2008	FALSE	grab		18.8	ug/L	10.41	8.97
OF47 City	chromium	4/4/2008	FALSE	grab		8.48	ug/L	10.41	8.97
OF48 City	chromium	9/28/2007	TRUE	grab		1.61	ug/L	0.91	0.76
OF48 City	chromium	9/28/2007	FALSE	grab		1.69	ug/L	0.91	0.76
OF48 City	chromium	10/16/2007	FALSE	grab	U	0.4	ug/L	0.91	0.76
OF48 City	chromium	11/16/2007	FALSE	grab		0.43	ug/L	0.91	0.76
OF48 City	chromium	12/15/2007	FALSE	grab		1.16	ug/L	0.91	0.76
OF49 LW3	chromium	4/9/2007	FALSE	composite		0.83	ug/l	1.29	1.23
OF49 LW3	chromium	4/23/2007	FALSE	composite		1.21	ug/l	1.29	1.23
OF49 LW3	chromium	6/10/2007	FALSE	composite		1.97	ug/l	1.29	1.23
OF49 LW3	chromium	11/16/2007	FALSE	composite		1.16	ug/l	1.29	1.23
OF50 City	chromium	9/28/2007	FALSE	grab		4.53	ug/L	1.61	1.02
OF50 City	chromium	10/16/2007	FALSE	grab		0.5	ug/L	1.61	1.02
OF50 City	chromium	11/16/2007	FALSE	grab		0.54	ug/L	1.61	1.02
OF50 City	chromium	12/14/2007	FALSE	grab		0.88	ug/L	1.61	1.02
OF52 City	chromium	9/28/2007	FALSE	grab		6.79	ug/L	2.90	2.11
OF52 City	chromium	9/30/2007	FALSE	grab		1.85	ug/L	2.90	2.11
OF52 City	chromium	9/30/2007	TRUE	grab		1.7	ug/L	2.90	2.11
OF52 City	chromium	10/16/2007	FALSE	grab		0.49	ug/L	2.90	2.11
OF52 City	chromium	10/16/2007	TRUE	grab		4.16	ug/L	2.90	2.11
OF52 City	chromium	11/16/2007	FALSE	grab		0.71	ug/L	2.90	2.11
OF52A City	chromium	9/28/2007	FALSE	grab		2.69	ug/L	1.52	1.38
OF52A City	chromium	10/16/2007	FALSE	grab		1.14	ug/L	1.52	1.38
OF52A City	chromium	11/16/2007	FALSE	grab		0.83	ug/L	1.52	1.38
OF52A City	chromium	12/14/2007	FALSE	grab		1.42	ug/L	1.52	1.38
OF52C Basin T Port	chromium	3/24/2007	FALSE	composite	J	5.98	ug/l	6.04	4.68
OF52C Basin T Port	chromium	5/3/2007	FALSE	composite		12.7	ug/l	6.04	4.68
OF52C Basin T Port	chromium	5/20/2007	FALSE	composite		3.82	ug/l	6.04	4.68
OF52C Basin T Port	chromium	11/16/2007	FALSE	composite		1.65	ug/l	6.04	4.68
OF53 City+Port	chromium	3/24/2007	FALSE	composite	J	3.72	ug/l	9.57	5.88
OF53 City+Port	chromium	5/3/2007	FALSE	composite		31.8	ug/l	9.57	5.88
OF53 City+Port	chromium	1/26/2008	FALSE	composite		2.79	ug/L	9.57	5.88
OF53 City+Port	chromium	2/6/2008	FALSE	composite		6	ug/L	9.57	5.88
OF53 City+Port	chromium	3/12/2008	FALSE	composite		3.57	ug/L	9.57	5.88
OF53 City+Port	chromium	3/12/2008	TRUE	composite		3.53	ug/L	9.57	5.88
OF53A City	chromium	2/29/2008	FALSE	grab		73.6	ug/L	47.48	41.98
OF53A City	chromium	3/20/2008	FALSE	grab		52.9	ug/L	47.48	41.98
OF53A City	chromium	4/4/2008	FALSE	grab		46.1	ug/L	47.48	41.98
OF53A City	chromium	5/13/2008	FALSE	grab		17.3	ug/L	47.48	41.98

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 City	chromium	9/28/2007	FALSE	grab		1.72	ug/L	2.54	2.28
OFM1 City	chromium	9/30/2007	FALSE	grab		1.29	ug/L	2.54	2.28
OFM1 City	chromium	10/16/2007	FALSE	grab		4.26	ug/L	2.54	2.28
OFM1 City	chromium	11/16/2007	FALSE	grab		2.88	ug/L	2.54	2.28
OFM1 LW3	chromium	3/26/2007	FALSE	composite		1.79	ug/l	2.59	2.46
OFM1 LW3	chromium	4/9/2007	FALSE	composite		1.88	ug/l	2.59	2.46
OFM1 LW3	chromium	4/18/2007	FALSE	composite		3.84	ug/l	2.59	2.46
OFM1 LW3	chromium	4/18/2007	TRUE	composite		3.74	ug/l	2.59	2.46
OFM1 LW3	chromium	6/10/2007	FALSE	composite		2.88	ug/l	2.59	2.46
OFM2 City	chromium	9/28/2007	FALSE	grab		1.67	ug/L	2.31	2.17
OFM2 City	chromium	10/16/2007	FALSE	grab		3.9	ug/L	2.31	2.17
OFM2 City	chromium	11/16/2007	FALSE	grab		1.75	ug/L	2.31	2.17
OFM2 City	chromium	12/15/2007	FALSE	grab		1.93	ug/L	2.31	2.17
OFM2 LW3	chromium	4/9/2007	FALSE	composite		1.43	ug/l	1.87	1.78
OFM2 LW3	chromium	4/9/2007	FALSE	composite		1.39	ug/l	1.87	1.78
OFM2 LW3	chromium	4/23/2007	TRUE	composite		2	ug/l	1.87	1.78
OFM2 LW3	chromium	4/23/2007	FALSE	composite		1.53	ug/l	1.87	1.78
OFM2 LW3	chromium	5/3/2007	FALSE	composite		2.88	ug/l	1.87	1.78
OFM3 City	chromium	9/28/2007	FALSE	grab		1.6	ug/L	1.98	1.74
OFM3 City	chromium	9/30/2007	FALSE	grab		0.95	ug/L	1.98	1.74
OFM3 City	chromium	10/16/2007	FALSE	grab		3.78	ug/L	1.98	1.74
OFM3 City	chromium	11/16/2007	FALSE	grab		1.58	ug/L	1.98	1.74
OFS1 City	chromium	9/28/2007	FALSE	grab		1.82	ug/L	3.34	3.01
OFS1 City	chromium	10/16/2007	FALSE	grab		2.66	ug/L	3.34	3.01
OFS1 City	chromium	11/16/2007	FALSE	grab		6.09	ug/L	3.34	3.01
OFS1 City	chromium	12/15/2007	FALSE	grab		2.8	ug/L	3.34	3.01
OFS2 City	chromium	9/28/2007	FALSE	grab		3.9	ug/L	3.06	2.83
OFS2 City	chromium	10/16/2007	FALSE	grab		2.97	ug/L	3.06	2.83
OFS2 City	chromium	11/16/2007	FALSE	grab		1.38	ug/L	3.06	2.83
OFS2 City	chromium	12/15/2007	FALSE	grab		4	ug/L	3.06	2.83
OFS5 City	chromium	9/28/2007	FALSE	grab		2.17	ug/L	2.67	2.61
OFS5 City	chromium	10/16/2007	FALSE	grab		2.07	ug/L	2.67	2.61
OFS5 City	chromium	11/16/2007	TRUE	grab		2.87	ug/L	2.67	2.61
OFS5 City	chromium	11/16/2007	FALSE	grab		2.91	ug/L	2.67	2.61
OFS5 City	chromium	12/15/2007	FALSE	grab		3.56	ug/L	2.67	2.61
OFS6 City	chromium	9/28/2007	FALSE	grab		2.57	ug/L	2.71	2.16
OFS6 City	chromium	10/16/2007	FALSE	grab		5.85	ug/L	2.71	2.16
OFS6 City	chromium	11/16/2007	FALSE	grab		1.29	ug/L	2.71	2.16
OFS6 City	chromium	12/15/2007	FALSE	grab		1.12	ug/L	2.71	2.16
OSM LW3	chromium	3/26/2007	FALSE	composite		109	ug/l	116.30	114.37
OSM LW3	chromium	4/9/2007	FALSE	composite		116	ug/l	116.30	114.37
OSM LW3	chromium	4/18/2007	FALSE	composite		90.2	ug/l	116.30	114.37
OSM LW3	chromium	5/3/2007	FALSE	composite		150	ug/l	116.30	114.37
Portland Shipyard LW3	chromium	3/26/2007	FALSE	composite		4.23	ug/l	6.06	4.86
Portland Shipyard LW3	chromium	4/9/2007	FALSE	composite		2.54	ug/l	6.06	4.86
Portland Shipyard LW3	chromium	5/3/2007	FALSE	composite		13.7	ug/l	6.06	4.86
Portland Shipyard LW3	chromium	6/10/2007	FALSE	composite		3.78	ug/l	6.06	4.86
Schnitzer Int. LW3	chromium	4/9/2007	FALSE	composite		21.3	ug/l	33.25	28.22
Schnitzer Int. LW3	chromium	4/18/2007	FALSE	composite		62.3	ug/l	33.25	28.22
Schnitzer Int. LW3	chromium	4/23/2007	FALSE	composite		13.2	ug/l	33.25	28.22
Schnitzer Int. LW3	chromium	5/3/2007	FALSE	composite		36.2	ug/l	33.25	28.22
Schnitzer Riverside LW3	chromium	4/9/2007	FALSE	composite		0.94	ug/l	60.54	22.94
Schnitzer Riverside LW3	chromium	4/18/2007	FALSE	composite		142	ug/l	60.54	22.94
Schnitzer Riverside LW3	chromium	4/23/2007	FALSE	composite		69.2	ug/l	60.54	22.94
Schnitzer Riverside LW3	chromium	5/3/2007	FALSE	composite		30	ug/l	60.54	22.94
Siltronic LW3	chromium	4/9/2007	FALSE	composite		0.62	ug/l	1.73	1.34
Siltronic LW3	chromium	4/9/2007	FALSE	composite		1.15	ug/l	1.73	1.34
Siltronic LW3	chromium	4/18/2007	FALSE	composite		2.25	ug/l	1.73	1.34
Siltronic LW3	chromium	5/3/2007	FALSE	composite		3.94	ug/l	1.73	1.34
Siltronic LW3	chromium	6/10/2007	FALSE	composite	J	0.69	ug/l	1.73	1.34
SJB LW3	chromium	3/26/2007	FALSE	composite		28.2	ug/l	15.18	12.60
SJB LW3	chromium	4/9/2007	FALSE	composite		6.85	ug/l	15.18	12.60
SJB LW3	chromium	4/18/2007	FALSE	composite		18.7	ug/l	15.18	12.60
SJB LW3	chromium	5/3/2007	FALSE	composite		6.97	ug/l	15.18	12.60
Sulzer LW3	chromium	1/11/2008	FALSE	composite		1.25	ug/l	1.25	1.24
Sulzer LW3	chromium	1/30/2008	FALSE	composite		1.24	ug/l	1.25	1.24
UPRR Albina LW3	chromium	5/3/2007	FALSE	composite		3.44	ug/l	2.70	2.63
UPRR Albina LW3	chromium	6/10/2007	FALSE	composite		1.75	ug/l	2.70	2.63
UPRR Albina LW3	chromium	11/27/2007	FALSE	composite		2.73	ug/l	2.70	2.63
UPRR Albina LW3	chromium	11/29/2007	TRUE	composite		2.93	ug/l	2.70	2.63
UPRR Albina LW3	chromium	11/29/2007	FALSE	composite		2.85	ug/l	2.70	2.63
WR169 Basin D Port	chromium	3/24/2007	FALSE	composite	J	7	ug/l	6.08	5.25

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR169 Basin D Port	chromium	5/3/2007	TRUE	composite		9.88	ug/l	6.08	5.25
WR169 Basin D Port	chromium	5/3/2007	FALSE	composite		10.2	ug/l	6.08	5.25
WR169 Basin D Port	chromium	5/20/2007	FALSE	composite		5.18	ug/l	6.08	5.25
WR169 Basin D Port	chromium	11/16/2007	FALSE	composite		2.08	ug/l	6.08	5.25
WR177 Basin M Port	chromium	3/24/2007	FALSE	composite	J	9.16	ug/l	6.11	5.65
WR177 Basin M Port	chromium	5/3/2007	FALSE	composite		6.56	ug/l	6.11	5.65
WR177 Basin M Port	chromium	5/20/2007	FALSE	composite		5.82	ug/l	6.11	5.65
WR177 Basin M Port	chromium	9/28/2007	FALSE	composite		2.91	ug/l	6.11	5.65
WR181 Basin Q Port	chromium	3/24/2007	FALSE	composite	J	6.38	ug/l	5.11	5.09
WR181 Basin Q Port	chromium	3/24/2007	TRUE	composite	J	4.65	ug/l	5.11	5.09
WR181 Basin Q Port	chromium	9/28/2007	FALSE	composite		4.7	ug/l	5.11	5.09
WR183 Basin R Port	chromium	3/24/2007	FALSE	composite	J	1.57	ug/l	173.24	21.35
WR183 Basin R Port	chromium	5/3/2007	FALSE	composite		495	ug/l	173.24	21.35
WR183 Basin R Port	chromium	5/20/2007	FALSE	composite		195	ug/l	173.24	21.35
WR183 Basin R Port	chromium	11/16/2007	TRUE	composite		0.88	ug/l	173.24	21.35
WR183 Basin R Port	chromium	11/16/2007	FALSE	composite		1.86	ug/l	173.24	21.35
WR20 Basin L Port	chromium	3/24/2007	FALSE	composite	J	5.41	ug/l	8.16	7.70
WR20 Basin L Port	chromium	5/3/2007	FALSE	composite		7.81	ug/l	8.16	7.70
WR20 Basin L Port	chromium	5/20/2007	FALSE	composite		13	ug/l	8.16	7.70
WR20 Basin L Port	chromium	9/28/2007	FALSE	composite		6.41	ug/l	8.16	7.70
Arkema LW3	chrysene	3/26/2007	FALSE	composite	U	0.0053	ug/l	0.0054	0.0053
Arkema LW3	chrysene	4/23/2007	FALSE	composite	U	0.0053	ug/l	0.0054	0.0053
Arkema LW3	chrysene	5/3/2007	FALSE	composite	U	0.0057	ug/l	0.0054	0.0053
Arkema LW3	chrysene	6/5/2007	FALSE	grab	U	0.0036	ug/l	0.0054	0.0053
Arkema LW3	chrysene	11/27/2007	FALSE	composite	J	0.0073	ug/l	0.0054	0.0053
Chevron LW3	chrysene	3/26/2007	FALSE	composite		1.2	ug/l	0.7167	0.5713
Chevron LW3	chrysene	4/9/2007	FALSE	composite		0.74	ug/l	0.7167	0.5713
Chevron LW3	chrysene	4/23/2007	FALSE	composite		0.21	ug/l	0.7167	0.5713
Gasco LW3	chrysene	3/26/2007	FALSE	composite		0.18	ug/l	0.4250	0.3478
Gasco LW3	chrysene	4/9/2007	FALSE	composite		0.26	ug/l	0.4250	0.3478
Gasco LW3	chrysene	4/18/2007	FALSE	composite		0.34	ug/l	0.4250	0.3478
Gasco LW3	chrysene	5/21/2007	FALSE	grab		0.92	ug/l	0.4250	0.3478
GE MH 2	chrysene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1701	0.1603
GE MH 2	chrysene	10/19/2007	TRUE	composite	U	0.202	ug/l	0.1701	0.1603
GE MH 2	chrysene	10/19/2007	FALSE	composite	U	0.206	ug/l	0.1701	0.1603
GE MH 2	chrysene	11/13/2007	FALSE	composite	U	0.21	ug/l	0.1701	0.1603
GE MH 2	chrysene	11/13/2007	TRUE	composite	U	0.21	ug/l	0.1701	0.1603
GE SV 1	chrysene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1727	0.1629
GE SV 1	chrysene	10/19/2007	FALSE	composite	U	0.21	ug/l	0.1727	0.1629
GE SV 1	chrysene	11/13/2007	FALSE	composite	U	0.21	ug/l	0.1727	0.1629
Gunderson WR142/145 LW3	chrysene	4/9/2007	FALSE	composite		0.1	ug/l	0.0485	0.0264
Gunderson WR142/145 LW3	chrysene	5/21/2007	FALSE	grab	U	0.0034	ug/l	0.0485	0.0264
Gunderson WR142/145 LW3	chrysene	6/10/2007	FALSE	composite	J	0.022	ug/l	0.0485	0.0264
Gunderson WR142/145 LW3	chrysene	11/16/2007	FALSE	composite		0.1	ug/l	0.0485	0.0264
Gunderson WR142/145 LW3	chrysene	11/29/2007	FALSE	composite	J	0.017	ug/l	0.0485	0.0264
Gunderson WR147 LW3	chrysene	4/9/2007	FALSE	composite		0.043	ug/l	0.0360	0.0318
Gunderson WR147 LW3	chrysene	4/18/2007	FALSE	composite		0.05	ug/l	0.0360	0.0318
Gunderson WR147 LW3	chrysene	4/23/2007	FALSE	composite	J	0.015	ug/l	0.0360	0.0318
HWY30 NW Yeon-35th LW3	chrysene	4/9/2007	FALSE	composite		0.11	ug/l	0.0520	0.0385
HWY30 NW Yeon-35th LW3	chrysene	5/3/2007	FALSE	composite	J	0.02	ug/l	0.0520	0.0385
HWY30 NW Yeon-35th LW3	chrysene	6/10/2007	FALSE	composite		0.026	ug/l	0.0520	0.0385
HWY30A Reed St. LW3	chrysene	11/16/2007	FALSE	composite		0.11	ug/l	0.1667	0.1602
HWY30A Reed St. LW3	chrysene	1/28/2008	FALSE	composite		0.17	ug/l	0.1667	0.1602
HWY30A Reed St. LW3	chrysene	1/30/2008	FALSE	composite		0.22	ug/l	0.1667	0.1602
HWY30B 35th St. LW3	chrysene	11/27/2007	FALSE	composite		0.18	ug/l	0.2250	0.2192
HWY30B 35th St. LW3	chrysene	1/11/2008	FALSE	composite		0.18	ug/l	0.2250	0.2192
HWY30B 35th St. LW3	chrysene	1/28/2008	FALSE	composite		0.23	ug/l	0.2250	0.2192
HWY30B 35th St. LW3	chrysene	1/30/2008	FALSE	composite		0.31	ug/l	0.2250	0.2192
OF16 LW3	chrysene	4/9/2007	FALSE	composite		0.082	ug/l	0.0567	0.0492
OF16 LW3	chrysene	4/18/2007	FALSE	composite		0.066	ug/l	0.0567	0.0492
OF16 LW3	chrysene	4/23/2007	FALSE	composite		0.022	ug/l	0.0567	0.0492
OF18 LW3	chrysene	3/26/2007	TRUE	composite		0.14	ug/l	0.0823	0.0471
OF18 LW3	chrysene	3/26/2007	FALSE	composite		0.26	ug/l	0.0823	0.0471
OF18 LW3	chrysene	4/9/2007	FALSE	composite		0.077	ug/l	0.0823	0.0471
OF18 LW3	chrysene	4/18/2007	FALSE	composite		0.045	ug/l	0.0823	0.0471
OF18 LW3	chrysene	5/21/2007	FALSE	grab	J	0.0071	ug/l	0.0823	0.0471
OF19_LW3+MS4	chrysene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	2/14/2007	FALSE	composite		0.16	ug/L	0.1082	0.1027

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF19_LW3+MS4	chrysene	3/26/2007	FALSE	composite		0.082	ug/l	0.1082	0.1027
OF19_LW3+MS4	chrysene	4/9/2007	TRUE	composite		0.17	ug/l	0.1082	0.1027
OF19_LW3+MS4	chrysene	4/9/2007	FALSE	composite		0.12	ug/l	0.1082	0.1027
OF19_LW3+MS4	chrysene	4/18/2007	FALSE	composite		0.072	ug/l	0.1082	0.1027
OF19_LW3+MS4	chrysene	11/26/2007	FALSE	composite		0.0673	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	3/7/2008	FALSE	composite		0.103	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	3/25/2008	FALSE	composite		0.0772	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	11/20/2008	FALSE	composite		0.068	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	2/23/2009	FALSE	composite		0.212	ug/L	0.1082	0.1027
OF19_LW3+MS4	chrysene	3/14/2009	FALSE	composite		0.0968	ug/L	0.1082	0.1027
OF22 LW3	chrysene	4/9/2007	FALSE	composite		0.16	ug/l	0.1105	0.0927
OF22 LW3	chrysene	5/3/2007	FALSE	composite		0.057	ug/l	0.1105	0.0927
OF22 LW3	chrysene	6/5/2007	FALSE	grab		0.18	ug/l	0.1105	0.0927
OF22 LW3	chrysene	6/10/2007	FALSE	composite		0.045	ug/l	0.1105	0.0927
OF22B LW3	chrysene	3/27/2007	FALSE	composite		0.064	ug/l	0.0743	0.0654
OF22B LW3	chrysene	5/3/2007	FALSE	composite		0.16	ug/l	0.0743	0.0654
OF22B LW3	chrysene	6/5/2007	FALSE	grab		0.046	ug/l	0.0743	0.0654
OF22B LW3	chrysene	11/16/2007	FALSE	composite		0.057	ug/l	0.0743	0.0654
OF22B LW3	chrysene	11/27/2007	FALSE	composite		0.045	ug/l	0.0743	0.0654
OF22B LW3	chrysene	11/27/2007	TRUE	composite		0.044	ug/l	0.0743	0.0654
OF22C City	chrysene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0127	0.0120
OF22C City	chrysene	3/20/2008	FALSE	grab		0.021	ug/L	0.0127	0.0120
OF22C City	chrysene	4/4/2008	FALSE	grab	U	0.00971	ug/L	0.0127	0.0120
OF22C City	chrysene	5/13/2008	FALSE	grab		0.0105	ug/L	0.0127	0.0120
OF22C Tualatin Hills LW3	chrysene	4/18/2007	TRUE	composite	U	0.0056	ug/l	0.0049	0.0048
OF22C Tualatin Hills LW3	chrysene	4/18/2007	FALSE	composite	U	0.0054	ug/l	0.0049	0.0048
OF22C Tualatin Hills LW3	chrysene	4/23/2007	FALSE	composite	U	0.0056	ug/l	0.0049	0.0048
OF22C Tualatin Hills LW3	chrysene	4/23/2007	TRUE	composite	U	0.0056	ug/l	0.0049	0.0048
OF22C Tualatin Hills LW3	chrysene	1/9/2008	FALSE	composite	U	0.0037	ug/l	0.0049	0.0048
OF22D City	chrysene	2/29/2008	TRUE	grab		0.0286	ug/L	0.0744	0.0353
OF22D City	chrysene	2/29/2008	FALSE	grab		0.0128	ug/L	0.0744	0.0353
OF22D City	chrysene	3/20/2008	FALSE	grab		0.234	ug/L	0.0744	0.0353
OF22D City	chrysene	4/4/2008	FALSE	grab		0.0331	ug/L	0.0744	0.0353
OF22D City	chrysene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0744	0.0353
OF45 City	chrysene	2/5/2008	FALSE	grab		0.187	ug/L	0.1255	0.1211
OF45 City	chrysene	2/29/2008	FALSE	grab		0.0978	ug/L	0.1255	0.1211
OF45 City	chrysene	3/20/2008	FALSE	grab		0.108	ug/L	0.1255	0.1211
OF45 City	chrysene	4/4/2008	FALSE	grab		0.109	ug/L	0.1255	0.1211
OF46 City	chrysene	2/5/2008	FALSE	grab		0.359	ug/L	0.2893	0.2804
OF46 City	chrysene	2/29/2008	FALSE	grab		0.285	ug/L	0.2893	0.2804
OF46 City	chrysene	3/20/2008	FALSE	grab		0.33	ug/L	0.2893	0.2804
OF46 City	chrysene	4/4/2008	TRUE	grab		0.132	ug/L	0.2893	0.2804
OF46 City	chrysene	4/4/2008	FALSE	grab		0.234	ug/L	0.2893	0.2804
OF47 City	chrysene	2/5/2008	FALSE	grab		0.199	ug/L	0.1805	0.1440
OF47 City	chrysene	2/29/2008	FALSE	grab		0.047	ug/L	0.1805	0.1440
OF47 City	chrysene	3/20/2008	FALSE	grab		0.341	ug/L	0.1805	0.1440
OF47 City	chrysene	4/4/2008	FALSE	grab		0.135	ug/L	0.1805	0.1440
OF48 City	chrysene	9/28/2007	FALSE	grab		0.139	ug/L	0.0404	0.0241
OF48 City	chrysene	9/28/2007	TRUE	grab		0.0806	ug/L	0.0404	0.0241
OF48 City	chrysene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0404	0.0241
OF48 City	chrysene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0404	0.0241
OF48 City	chrysene	12/15/2007	FALSE	grab		0.0321	ug/L	0.0404	0.0241
OF49 LW3	chrysene	4/9/2007	FALSE	composite	J	0.0073	ug/l	0.0069	0.0069
OF49 LW3	chrysene	4/23/2007	FALSE	composite	J	0.0065	ug/l	0.0069	0.0069
OF49 LW3	chrysene	6/10/2007	FALSE	composite	J	0.0067	ug/l	0.0069	0.0069
OF49 LW3	chrysene	11/16/2007	FALSE	composite	J	0.0071	ug/l	0.0069	0.0069
OF50 City	chrysene	9/28/2007	FALSE	grab		0.03	ug/L	0.0183	0.0161
OF50 City	chrysene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0183	0.0161
OF50 City	chrysene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0183	0.0161
OF50 City	chrysene	12/14/2007	FALSE	grab		0.0236	ug/L	0.0183	0.0161
OF52 City	chrysene	9/28/2007	FALSE	grab		0.0421	ug/L	0.0306	0.0287
OF52 City	chrysene	9/30/2007	TRUE	grab		0.0151	ug/L	0.0306	0.0287
OF52 City	chrysene	9/30/2007	FALSE	grab		0.0174	ug/L	0.0306	0.0287
OF52 City	chrysene	10/16/2007	FALSE	grab		0.0432	ug/L	0.0306	0.0287
OF52 City	chrysene	10/16/2007	TRUE	grab		0.0319	ug/L	0.0306	0.0287
OF52 City	chrysene	11/16/2007	FALSE	grab		0.0265	ug/L	0.0306	0.0287
OF52A City	chrysene	9/28/2007	FALSE	grab		0.23	ug/L	0.1272	0.1156
OF52A City	chrysene	10/16/2007	FALSE	grab		0.0941	ug/L	0.1272	0.1156
OF52A City	chrysene	11/16/2007	FALSE	grab		0.109	ug/L	0.1272	0.1156
OF52A City	chrysene	12/14/2007	FALSE	grab		0.0756	ug/L	0.1272	0.1156
OF52C Basin T Port	chrysene	3/24/2007	FALSE	composite		0.17	ug/l	0.0670	0.0488
OF52C Basin T Port	chrysene	4/7/2007	FALSE	composite		0.035	ug/l	0.0670	0.0488

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52C Basin T Port	chrysene	5/3/2007	FALSE	composite		0.025	ug/l	0.0670	0.0488
OF52C Basin T Port	chrysene	11/16/2007	FALSE	composite		0.038	ug/l	0.0670	0.0488
OF53 City+Port	chrysene	3/24/2007	FALSE	composite		0.055	ug/l	0.0673	0.0610
OF53 City+Port	chrysene	4/7/2007	FALSE	composite		0.051	ug/l	0.0673	0.0610
OF53 City+Port	chrysene	5/3/2007	FALSE	composite		0.1	ug/l	0.0673	0.0610
OF53 City+Port	chrysene	1/26/2008	FALSE	composite		0.0402	ug/L	0.0673	0.0610
OF53 City+Port	chrysene	2/6/2008	FALSE	composite		0.119	ug/L	0.0673	0.0610
OF53 City+Port	chrysene	3/12/2008	FALSE	composite		0.0357	ug/L	0.0673	0.0610
OF53 City+Port	chrysene	3/12/2008	TRUE	composite		0.041	ug/L	0.0673	0.0610
OF53A City	chrysene	2/29/2008	FALSE	grab		0.0398	ug/L	0.0498	0.0379
OF53A City	chrysene	3/20/2008	FALSE	grab		0.117	ug/L	0.0498	0.0379
OF53A City	chrysene	4/4/2008	FALSE	grab		0.0195	ug/L	0.0498	0.0379
OF53A City	chrysene	5/13/2008	FALSE	grab		0.0228	ug/L	0.0498	0.0379
OFM1 City	chrysene	9/28/2007	FALSE	grab		0.0263	ug/L	0.0318	0.0302
OFM1 City	chrysene	9/30/2007	FALSE	grab		0.0253	ug/L	0.0318	0.0302
OFM1 City	chrysene	10/16/2007	FALSE	grab		0.0512	ug/L	0.0318	0.0302
OFM1 City	chrysene	11/16/2007	FALSE	grab		0.0244	ug/L	0.0318	0.0302
OFM1 LW3	chrysene	3/26/2007	FALSE	composite		0.12	ug/l	0.1500	0.1483
OFM1 LW3	chrysene	4/9/2007	FALSE	composite		0.16	ug/l	0.1500	0.1483
OFM1 LW3	chrysene	4/18/2007	FALSE	composite		0.17	ug/l	0.1500	0.1483
OFM2 City	chrysene	9/28/2007	FALSE	grab		0.023	ug/L	0.0235	0.0215
OFM2 City	chrysene	10/16/2007	FALSE	grab		0.0372	ug/L	0.0235	0.0215
OFM2 City	chrysene	11/16/2007	FALSE	grab		0.011	ug/L	0.0235	0.0215
OFM2 City	chrysene	12/15/2007	FALSE	grab		0.0229	ug/L	0.0235	0.0215
OFM2 LW3	chrysene	4/9/2007	FALSE	composite		0.086	ug/l	0.0443	0.0371
OFM2 LW3	chrysene	4/9/2007	FALSE	composite		0.047	ug/l	0.0443	0.0371
OFM2 LW3	chrysene	4/23/2007	FALSE	composite	J	0.018	ug/l	0.0443	0.0371
OFM2 LW3	chrysene	5/3/2007	TRUE	composite		0.026	ug/l	0.0443	0.0371
OFM2 LW3	chrysene	5/3/2007	FALSE	composite		0.026	ug/l	0.0443	0.0371
OFM3 City	chrysene	9/28/2007	FALSE	grab		0.0192	ug/L	0.0197	0.0175
OFM3 City	chrysene	9/30/2007	FALSE	grab		0.0108	ug/L	0.0197	0.0175
OFM3 City	chrysene	10/16/2007	FALSE	grab		0.0361	ug/L	0.0197	0.0175
OFM3 City	chrysene	11/16/2007	FALSE	grab		0.0126	ug/L	0.0197	0.0175
OFS1 City	chrysene	9/28/2007	FALSE	grab		0.132	ug/L	0.9705	0.5591
OFS1 City	chrysene	10/16/2007	FALSE	grab		0.381	ug/L	0.9705	0.5591
OFS1 City	chrysene	11/16/2007	FALSE	grab		2.63	ug/L	0.9705	0.5591
OFS1 City	chrysene	12/15/2007	FALSE	grab		0.739	ug/L	0.9705	0.5591
OFS2 City	chrysene	9/28/2007	FALSE	grab		0.0206	ug/L	0.0250	0.0211
OFS2 City	chrysene	10/16/2007	FALSE	grab		0.0199	ug/L	0.0250	0.0211
OFS2 City	chrysene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0250	0.0211
OFS2 City	chrysene	12/15/2007	FALSE	grab		0.0499	ug/L	0.0250	0.0211
OFS5 City	chrysene	9/28/2007	FALSE	grab		0.0163	ug/L	0.0666	0.0416
OFS5 City	chrysene	10/16/2007	FALSE	grab		0.0159	ug/L	0.0666	0.0416
OFS5 City	chrysene	11/16/2007	FALSE	grab		0.0609	ug/L	0.0666	0.0416
OFS5 City	chrysene	11/16/2007	TRUE	grab		0.0798	ug/L	0.0666	0.0416
OFS5 City	chrysene	12/15/2007	FALSE	grab		0.164	ug/L	0.0666	0.0416
OFS6 City	chrysene	9/28/2007	FALSE	grab		0.0416	ug/L	0.0948	0.0833
OFS6 City	chrysene	10/16/2007	FALSE	grab		0.171	ug/L	0.0948	0.0833
OFS6 City	chrysene	11/16/2007	FALSE	grab		0.0699	ug/L	0.0948	0.0833
OFS6 City	chrysene	12/15/2007	FALSE	grab		0.0968	ug/L	0.0948	0.0833
OSM LW3	chrysene	3/26/2007	FALSE	composite		0.095	ug/l	0.0595	0.0457
OSM LW3	chrysene	4/9/2007	FALSE	composite		0.1	ug/l	0.0595	0.0457
OSM LW3	chrysene	4/18/2007	FALSE	composite		0.023	ug/l	0.0595	0.0457
OSM LW3	chrysene	5/21/2007	FALSE	grab	J	0.02	ug/l	0.0595	0.0457
Portland Shipyard LW3	chrysene	3/26/2007	FALSE	composite		0.082	ug/l	0.0719	0.0408
Portland Shipyard LW3	chrysene	4/9/2007	FALSE	composite		0.096	ug/l	0.0719	0.0408
Portland Shipyard LW3	chrysene	5/3/2007	FALSE	composite		0.028	ug/l	0.0719	0.0408
Portland Shipyard LW3	chrysene	5/22/2007	FALSE	grab	U	0.0034	ug/l	0.0719	0.0408
Portland Shipyard LW3	chrysene	6/5/2007	FALSE	grab		0.15	ug/l	0.0719	0.0408
Schnitzer Int. LW3	chrysene	4/9/2007	FALSE	composite		0.18	ug/l	0.0888	0.0720
Schnitzer Int. LW3	chrysene	4/18/2007	FALSE	composite		0.086	ug/l	0.0888	0.0720
Schnitzer Int. LW3	chrysene	4/23/2007	FALSE	composite		0.029	ug/l	0.0888	0.0720
Schnitzer Int. LW3	chrysene	5/21/2007	FALSE	grab		0.06	ug/l	0.0888	0.0720
Schnitzer Riverside LW3	chrysene	4/9/2007	FALSE	composite	U	0.023	ug/l	2.1410	0.5611
Schnitzer Riverside LW3	chrysene	4/18/2007	FALSE	composite	J	1.6	ug/l	2.1410	0.5611
Schnitzer Riverside LW3	chrysene	4/23/2007	FALSE	composite		4.8	ug/l	2.1410	0.5611
Siltronic LW3	chrysene	4/9/2007	FALSE	composite		0.063	ug/l	0.0585	0.0530
Siltronic LW3	chrysene	4/9/2007	FALSE	composite		0.049	ug/l	0.0585	0.0530
Siltronic LW3	chrysene	4/18/2007	FALSE	composite		0.095	ug/l	0.0585	0.0530
Siltronic LW3	chrysene	6/10/2007	FALSE	composite		0.027	ug/l	0.0585	0.0530
SJB LW3	chrysene	3/26/2007	FALSE	composite		0.83	ug/l	0.3396	0.2324
SJB LW3	chrysene	4/9/2007	FALSE	composite		0.27	ug/l	0.3396	0.2324

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
SJB LW3	chrysene	4/18/2007	FALSE	composite	J	0.19	ug/l	0.3396	0.2324
SJB LW3	chrysene	5/21/2007	TRUE	grab		0.071	ug/l	0.3396	0.2324
SJB LW3	chrysene	5/21/2007	FALSE	grab		0.066	ug/l	0.3396	0.2324
Sulzer LW3	chrysene	1/11/2008	FALSE	composite	J	0.0087	ug/l	0.0174	0.0150
Sulzer LW3	chrysene	1/30/2008	FALSE	composite		0.026	ug/l	0.0174	0.0150
UPRR Albina LW3	chrysene	5/3/2007	FALSE	composite		0.036	ug/l	0.2258	0.1073
UPRR Albina LW3	chrysene	6/10/2007	FALSE	composite		0.027	ug/l	0.2258	0.1073
UPRR Albina LW3	chrysene	11/27/2007	FALSE	composite		0.22	ug/l	0.2258	0.1073
UPRR Albina LW3	chrysene	11/29/2007	FALSE	composite		0.62	ug/l	0.2258	0.1073
WR169 Basin D Port	chrysene	3/24/2007	FALSE	composite		0.073	ug/l	0.0564	0.0484
WR169 Basin D Port	chrysene	4/7/2007	FALSE	composite		0.092	ug/l	0.0564	0.0484
WR169 Basin D Port	chrysene	5/3/2007	FALSE	composite		0.021	ug/l	0.0564	0.0484
WR169 Basin D Port	chrysene	5/3/2007	TRUE	composite		0.02	ug/l	0.0564	0.0484
WR169 Basin D Port	chrysene	11/16/2007	FALSE	composite		0.04	ug/l	0.0564	0.0484
WR177 Basin M Port	chrysene	3/24/2007	FALSE	composite		0.46	ug/l	0.1895	0.1431
WR177 Basin M Port	chrysene	4/7/2007	FALSE	composite		0.13	ug/l	0.1895	0.1431
WR177 Basin M Port	chrysene	5/3/2007	FALSE	composite		0.091	ug/l	0.1895	0.1431
WR177 Basin M Port	chrysene	9/28/2007	FALSE	composite		0.077	ug/l	0.1895	0.1431
WR181 Basin Q Port	chrysene	3/24/2007	TRUE	composite		0.61	ug/l	0.2640	0.1656
WR181 Basin Q Port	chrysene	3/24/2007	FALSE	composite		0.61	ug/l	0.2640	0.1656
WR181 Basin Q Port	chrysene	4/7/2007	FALSE	composite		0.12	ug/l	0.2640	0.1656
WR181 Basin Q Port	chrysene	9/28/2007	FALSE	composite		0.062	ug/l	0.2640	0.1656
WR183 Basin R Port	chrysene	3/24/2007	FALSE	composite	J	0.016	ug/l	0.1820	0.0641
WR183 Basin R Port	chrysene	4/7/2007	FALSE	composite		0.043	ug/l	0.1820	0.0641
WR183 Basin R Port	chrysene	5/3/2007	FALSE	composite		0.63	ug/l	0.1820	0.0641
WR183 Basin R Port	chrysene	11/16/2007	TRUE	composite		0.029	ug/l	0.1820	0.0641
WR183 Basin R Port	chrysene	11/16/2007	FALSE	composite		0.049	ug/l	0.1820	0.0641
WR20 Basin L Port	chrysene	3/24/2007	FALSE	composite		2.5	ug/l	2.2500	2.0047
WR20 Basin L Port	chrysene	5/3/2007	FALSE	composite		1.7	ug/l	2.2500	2.0047
WR20 Basin L Port	chrysene	5/20/2007	FALSE	composite		3.8	ug/l	2.2500	2.0047
WR20 Basin L Port	chrysene	9/28/2007	FALSE	composite		1	ug/l	2.2500	2.0047
Arkema LW3	copper	3/26/2007	FALSE	composite		15	ug/l	21.04	20.59
Arkema LW3	copper	4/23/2007	FALSE	composite		20	ug/l	21.04	20.59
Arkema LW3	copper	5/3/2007	FALSE	composite		22.7	ug/l	21.04	20.59
Arkema LW3	copper	6/10/2007	FALSE	composite		28.3	ug/l	21.04	20.59
Arkema LW3	copper	11/27/2007	TRUE	composite		19.2	ug/l	21.04	20.59
Arkema LW3	copper	11/27/2007	FALSE	composite		19.2	ug/l	21.04	20.59
Chevron LW3	copper	3/26/2007	FALSE	composite		8.67	ug/l	13.14	12.17
Chevron LW3	copper	4/9/2007	FALSE	composite		12.8	ug/l	13.14	12.17
Chevron LW3	copper	4/23/2007	FALSE	composite		7.23	ug/l	13.14	12.17
Chevron LW3	copper	5/3/2007	FALSE	composite		21.5	ug/l	13.14	12.17
Chevron LW3	copper	6/10/2007	FALSE	composite		15.5	ug/l	13.14	12.17
Gasco LW3	copper	3/26/2007	FALSE	composite		3.1	ug/l	6.11	5.62
Gasco LW3	copper	4/9/2007	FALSE	composite		5.64	ug/l	6.11	5.62
Gasco LW3	copper	4/18/2007	FALSE	composite		5.71	ug/l	6.11	5.62
Gasco LW3	copper	5/3/2007	FALSE	composite		9.99	ug/l	6.11	5.62
GE MH 2	copper	4/18/2007	FALSE	composite		11.7	ug/l	12.37	12.33
GE MH 2	copper	10/19/2007	TRUE	composite		12.7	ug/l	12.37	12.33
GE MH 2	copper	10/19/2007	FALSE	composite		10.8	ug/l	12.37	12.33
GE MH 2	copper	11/13/2007	TRUE	composite		12.9	ug/l	12.37	12.33
GE MH 2	copper	11/13/2007	FALSE	composite		14.4	ug/l	12.37	12.33
GE SV 1	copper	6/10/2007	FALSE	composite		15.9	ug/l	15.20	14.81
GE SV 1	copper	10/19/2007	FALSE	composite		10.8	ug/l	15.20	14.81
GE SV 1	copper	11/13/2007	FALSE	composite		18.9	ug/l	15.20	14.81
Gunderson WR142/145 LW3	copper	4/9/2007	FALSE	composite		163	ug/l	218.80	207.22
Gunderson WR142/145 LW3	copper	6/10/2007	FALSE	composite		158	ug/l	218.80	207.22
Gunderson WR142/145 LW3	copper	11/16/2007	FALSE	composite		367	ug/l	218.80	207.22
Gunderson WR142/145 LW3	copper	11/27/2007	FALSE	composite		175	ug/l	218.80	207.22
Gunderson WR142/145 LW3	copper	1/9/2008	FALSE	composite		231	ug/l	218.80	207.22
Gunderson WR147 LW3	copper	4/9/2007	FALSE	composite		89.3	ug/l	139.66	111.22
Gunderson WR147 LW3	copper	4/18/2007	FALSE	composite	J	206	ug/l	139.66	111.22
Gunderson WR147 LW3	copper	4/23/2007	FALSE	composite		55	ug/l	139.66	111.22
Gunderson WR147 LW3	copper	5/3/2007	FALSE	composite		290	ug/l	139.66	111.22
Gunderson WR147 LW3	copper	6/10/2007	FALSE	composite		57.2	ug/l	139.66	111.22
Gunderson WR147 LW3	copper	6/10/2007	TRUE	composite		58.8	ug/l	139.66	111.22
HWY30 NW Yeon-35th LW3	copper	4/9/2007	FALSE	composite	J	21.2	ug/l	22.47	22.34
HWY30 NW Yeon-35th LW3	copper	5/3/2007	FALSE	composite		25.9	ug/l	22.47	22.34
HWY30 NW Yeon-35th LW3	copper	6/10/2007	FALSE	composite		20.3	ug/l	22.47	22.34
HWY30A Reed St. LW3	copper	11/16/2007	FALSE	composite		25.3	ug/l	28.55	28.08
HWY30A Reed St. LW3	copper	11/27/2007	FALSE	composite		24.6	ug/l	28.55	28.08
HWY30A Reed St. LW3	copper	1/28/2008	FALSE	composite		25.6	ug/l	28.55	28.08
HWY30A Reed St. LW3	copper	1/28/2008	TRUE	composite		26.8	ug/l	28.55	28.08

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
HWY30A Reed St. LW3	copper	1/30/2008	FALSE	composite		38.1	ug/l	28.55	28.08
HWY30B 35th St. LW3	copper	11/27/2007	FALSE	composite		65.1	ug/l	57.74	56.50
HWY30B 35th St. LW3	copper	1/11/2008	FALSE	composite		37	ug/l	57.74	56.50
HWY30B 35th St. LW3	copper	1/15/2008	FALSE	composite		66	ug/l	57.74	56.50
HWY30B 35th St. LW3	copper	1/28/2008	FALSE	composite		56.5	ug/l	57.74	56.50
HWY30B 35th St. LW3	copper	1/30/2008	FALSE	composite		64.1	ug/l	57.74	56.50
OF16 LW3	copper	4/9/2007	FALSE	composite	J	41.1	ug/l	53.77	50.44
OF16 LW3	copper	4/18/2007	FALSE	composite		54.4	ug/l	53.77	50.44
OF16 LW3	copper	4/23/2007	FALSE	composite		30.8	ug/l	53.77	50.44
OF16 LW3	copper	4/23/2007	TRUE	composite		30.3	ug/l	53.77	50.44
OF16 LW3	copper	5/3/2007	FALSE	composite		89.2	ug/l	53.77	50.44
OF16 LW3	copper	6/10/2007	FALSE	composite		53.6	ug/l	53.77	50.44
OF18 LW3	copper	3/26/2007	TRUE	composite		24.3	ug/l	29.23	28.50
OF18 LW3	copper	3/26/2007	FALSE	composite		25.4	ug/l	29.23	28.50
OF18 LW3	copper	4/9/2007	FALSE	composite	J	24.1	ug/l	29.23	28.50
OF18 LW3	copper	4/18/2007	TRUE	composite	J	26.7	ug/l	29.23	28.50
OF18 LW3	copper	4/18/2007	FALSE	composite	J	26.8	ug/l	29.23	28.50
OF18 LW3	copper	5/3/2007	FALSE	composite		41.2	ug/l	29.23	28.50
OF19_LW3+MS4	copper	3/8/2006	FALSE	composite		20.3	ug/L	21.12	18.52
OF19_LW3+MS4	copper	3/15/2006	FALSE	composite		12.2	ug/L	21.12	18.52
OF19_LW3+MS4	copper	5/23/2006	FALSE	composite		13.5	ug/L	21.12	18.52
OF19_LW3+MS4	copper	11/2/2006	FALSE	composite		22	ug/L	21.12	18.52
OF19_LW3+MS4	copper	11/19/2006	FALSE	composite		8.34	ug/L	21.12	18.52
OF19_LW3+MS4	copper	2/14/2007	FALSE	composite		19.7	ug/L	21.12	18.52
OF19_LW3+MS4	copper	3/26/2007	FALSE	composite		10.3	ug/l	21.12	18.52
OF19_LW3+MS4	copper	4/9/2007	TRUE	composite	J	16.1	ug/l	21.12	18.52
OF19_LW3+MS4	copper	4/9/2007	FALSE	composite		14.6	ug/l	21.12	18.52
OF19_LW3+MS4	copper	4/18/2007	FALSE	composite		20.5	ug/l	21.12	18.52
OF19_LW3+MS4	copper	5/3/2007	TRUE	composite		55.6	ug/l	21.12	18.52
OF19_LW3+MS4	copper	5/3/2007	FALSE	composite		45.8	ug/l	21.12	18.52
OF19_LW3+MS4	copper	11/26/2007	FALSE	composite		18.2	ug/L	21.12	18.52
OF19_LW3+MS4	copper	3/7/2008	FALSE	composite		21.8	ug/L	21.12	18.52
OF19_LW3+MS4	copper	3/25/2008	FALSE	composite		10.6	ug/L	21.12	18.52
OF19_LW3+MS4	copper	11/20/2008	FALSE	composite		29	ug/L	21.12	18.52
OF19_LW3+MS4	copper	2/23/2009	FALSE	composite		49.5	ug/L	21.12	18.52
OF19_LW3+MS4	copper	3/14/2009	FALSE	composite		16	ug/L	21.12	18.52
OF22 LW3	copper	4/9/2007	FALSE	composite		20.6	ug/l	23.23	22.81
OF22 LW3	copper	5/3/2007	FALSE	composite		29.7	ug/l	23.23	22.81
OF22 LW3	copper	6/10/2007	FALSE	composite		19.4	ug/l	23.23	22.81
OF22B LW3	copper	3/27/2007	FALSE	composite		35	ug/l	38.03	31.42
OF22B LW3	copper	5/3/2007	FALSE	composite		78.6	ug/l	38.03	31.42
OF22B LW3	copper	11/16/2007	FALSE	composite		23.3	ug/l	38.03	31.42
OF22B LW3	copper	11/27/2007	FALSE	composite		15.2	ug/l	38.03	31.42
OF22C City	copper	2/29/2008	FALSE	grab		1.35	ug/L	1.65	1.63
OF22C City	copper	3/20/2008	FALSE	grab		2.06	ug/L	1.65	1.63
OF22C City	copper	4/4/2008	FALSE	grab		1.41	ug/L	1.65	1.63
OF22C City	copper	5/13/2008	FALSE	grab		1.79	ug/L	1.65	1.63
OF22C Tualatin Hills LW3	copper	4/18/2007	FALSE	composite	J	1.01	ug/l	1.75	1.53
OF22C Tualatin Hills LW3	copper	4/23/2007	FALSE	composite		1.16	ug/l	1.75	1.53
OF22C Tualatin Hills LW3	copper	1/9/2008	FALSE	composite		3.07	ug/l	1.75	1.53
OF22D City	copper	2/29/2008	FALSE	grab		2.79	ug/L	9.64	5.35
OF22D City	copper	2/29/2008	TRUE	grab		2.71	ug/L	9.64	5.35
OF22D City	copper	3/20/2008	FALSE	grab		28.3	ug/L	9.64	5.35
OF22D City	copper	4/4/2008	FALSE	grab		5.64	ug/L	9.64	5.35
OF22D City	copper	5/13/2008	FALSE	grab		1.86	ug/L	9.64	5.35
OF45 City	copper	2/5/2008	FALSE	grab		74.8	ug/L	37.42	29.39
OF45 City	copper	2/29/2008	FALSE	grab		29.8	ug/L	37.42	29.39
OF45 City	copper	3/20/2008	FALSE	grab		9.38	ug/L	37.42	29.39
OF45 City	copper	4/4/2008	FALSE	grab		35.7	ug/L	37.42	29.39
OF46 City	copper	2/5/2008	FALSE	grab		37.6	ug/L	36.58	36.07
OF46 City	copper	2/29/2008	FALSE	grab		44.3	ug/L	36.58	36.07
OF46 City	copper	3/20/2008	FALSE	grab		27.6	ug/L	36.58	36.07
OF46 City	copper	4/4/2008	TRUE	grab		36.8	ug/L	36.58	36.07
OF46 City	copper	4/4/2008	FALSE	grab		36.8	ug/L	36.58	36.07
OF47 City	copper	2/5/2008	FALSE	grab		31.5	ug/L	25.30	24.39
OF47 City	copper	2/29/2008	FALSE	grab		16.2	ug/L	25.30	24.39
OF47 City	copper	3/20/2008	FALSE	grab		31.5	ug/L	25.30	24.39
OF47 City	copper	4/4/2008	FALSE	grab		22	ug/L	25.30	24.39
OF48 City	copper	9/28/2007	TRUE	grab		14.8	ug/L	8.46	7.72
OF48 City	copper	9/28/2007	FALSE	grab		15.1	ug/L	8.46	7.72
OF48 City	copper	10/16/2007	FALSE	grab		6.6	ug/L	8.46	7.72
OF48 City	copper	11/16/2007	FALSE	grab		4.84	ug/L	8.46	7.72

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF48 City	copper	12/15/2007	FALSE	grab		7.43	ug/L	8.46	7.72
OF49 LW3	copper	4/9/2007	FALSE	composite		7.24	ug/l	8.18	8.03
OF49 LW3	copper	4/23/2007	FALSE	composite		7.56	ug/l	8.18	8.03
OF49 LW3	copper	6/10/2007	FALSE	composite		11	ug/l	8.18	8.03
OF49 LW3	copper	11/16/2007	FALSE	composite		6.92	ug/l	8.18	8.03
OF50 City	copper	9/28/2007	FALSE	grab		15.3	ug/L	7.20	6.04
OF50 City	copper	10/16/2007	FALSE	grab		4.98	ug/L	7.20	6.04
OF50 City	copper	11/16/2007	FALSE	grab		3.39	ug/L	7.20	6.04
OF50 City	copper	12/14/2007	FALSE	grab		5.14	ug/L	7.20	6.04
OF52 City	copper	9/28/2007	FALSE	grab		60.5	ug/L	35.56	32.79
OF52 City	copper	9/30/2007	FALSE	grab		20.8	ug/L	35.56	32.79
OF52 City	copper	9/30/2007	TRUE	grab		20.7	ug/L	35.56	32.79
OF52 City	copper	10/16/2007	FALSE	grab		4.89	ug/L	35.56	32.79
OF52 City	copper	10/16/2007	TRUE	grab		49.9	ug/L	35.56	32.79
OF52 City	copper	11/16/2007	FALSE	grab		33.6	ug/L	35.56	32.79
OF52A City	copper	9/28/2007	FALSE	grab		15.9	ug/L	10.01	9.35
OF52A City	copper	10/16/2007	FALSE	grab		9.91	ug/L	10.01	9.35
OF52A City	copper	11/16/2007	FALSE	grab		5.66	ug/L	10.01	9.35
OF52A City	copper	12/14/2007	FALSE	grab		8.58	ug/L	10.01	9.35
OF52C Basin T Port	copper	3/24/2007	FALSE	composite		8.4	ug/l	10.47	9.55
OF52C Basin T Port	copper	5/3/2007	FALSE	composite		18.8	ug/l	10.47	9.55
OF52C Basin T Port	copper	5/20/2007	FALSE	composite		8.44	ug/l	10.47	9.55
OF52C Basin T Port	copper	11/16/2007	FALSE	composite		6.25	ug/l	10.47	9.55
OF53 City+Port	copper	3/24/2007	FALSE	composite		12.8	ug/l	25.87	16.98
OF53 City+Port	copper	5/3/2007	FALSE	composite		83.5	ug/l	25.87	16.98
OF53 City+Port	copper	1/26/2008	FALSE	composite		9.92	ug/L	25.87	16.98
OF53 City+Port	copper	2/6/2008	FALSE	composite		12.5	ug/L	25.87	16.98
OF53 City+Port	copper	3/12/2008	TRUE	composite		10.7	ug/L	25.87	16.98
OF53 City+Port	copper	3/12/2008	FALSE	composite		10.6	ug/L	25.87	16.98
OF53A City	copper	2/29/2008	FALSE	grab		29.8	ug/L	23.50	23.07
OF53A City	copper	3/20/2008	FALSE	grab		25.7	ug/L	23.50	23.07
OF53A City	copper	4/4/2008	FALSE	grab		20.2	ug/L	23.50	23.07
OF53A City	copper	5/13/2008	FALSE	grab		18.3	ug/L	23.50	23.07
OFM1 City	copper	9/28/2007	FALSE	grab		16.5	ug/L	14.05	12.83
OFM1 City	copper	9/30/2007	FALSE	grab		6.89	ug/L	14.05	12.83
OFM1 City	copper	10/16/2007	FALSE	grab		21.9	ug/L	14.05	12.83
OFM1 City	copper	11/16/2007	FALSE	grab		10.9	ug/L	14.05	12.83
OFM1 LW3	copper	3/26/2007	FALSE	composite		11	ug/l	16.49	15.97
OFM1 LW3	copper	4/9/2007	FALSE	composite		15.7	ug/l	16.49	15.97
OFM1 LW3	copper	4/18/2007	FALSE	composite		22.9	ug/l	16.49	15.97
OFM1 LW3	copper	4/18/2007	TRUE	composite		22.2	ug/l	16.49	15.97
OFM1 LW3	copper	6/10/2007	FALSE	composite		16.7	ug/l	16.49	15.97
OFM2 City	copper	9/28/2007	FALSE	grab		15.4	ug/L	15.16	13.90
OFM2 City	copper	10/16/2007	FALSE	grab		25.8	ug/L	15.16	13.90
OFM2 City	copper	11/16/2007	FALSE	grab		10.3	ug/L	15.16	13.90
OFM2 City	copper	12/15/2007	FALSE	grab		9.13	ug/L	15.16	13.90
OFM2 LW3	copper	4/9/2007	FALSE	composite		6.87	ug/l	11.08	10.27
OFM2 LW3	copper	4/9/2007	FALSE	composite		9.41	ug/l	11.08	10.27
OFM2 LW3	copper	4/23/2007	FALSE	composite		8.22	ug/l	11.08	10.27
OFM2 LW3	copper	4/23/2007	TRUE	composite		9.86	ug/l	11.08	10.27
OFM2 LW3	copper	5/3/2007	FALSE	composite		19	ug/l	11.08	10.27
OFM3 City	copper	9/28/2007	FALSE	grab		15.6	ug/L	16.90	16.23
OFM3 City	copper	9/30/2007	FALSE	grab		10.2	ug/L	16.90	16.23
OFM3 City	copper	10/16/2007	FALSE	grab		20.1	ug/L	16.90	16.23
OFM3 City	copper	11/16/2007	FALSE	grab		21.7	ug/L	16.90	16.23
OFS1 City	copper	9/28/2007	FALSE	grab		39.3	ug/L	33.23	32.70
OFS1 City	copper	10/16/2007	FALSE	grab		34.2	ug/L	33.23	32.70
OFS1 City	copper	11/16/2007	FALSE	grab		35.3	ug/L	33.23	32.70
OFS1 City	copper	12/15/2007	FALSE	grab		24.1	ug/L	33.23	32.70
OFS2 City	copper	9/28/2007	FALSE	grab		20.4	ug/L	15.44	14.51
OFS2 City	copper	10/16/2007	FALSE	grab		21	ug/L	15.44	14.51
OFS2 City	copper	11/16/2007	FALSE	grab		9.85	ug/L	15.44	14.51
OFS2 City	copper	12/15/2007	FALSE	grab		10.5	ug/L	15.44	14.51
OFS5 City	copper	9/28/2007	FALSE	grab		24.5	ug/L	19.36	19.09
OFS5 City	copper	10/16/2007	FALSE	grab		19.8	ug/L	19.36	19.09
OFS5 City	copper	11/16/2007	TRUE	grab		15.4	ug/L	19.36	19.09
OFS5 City	copper	11/16/2007	FALSE	grab		15.7	ug/L	19.36	19.09
OFS5 City	copper	12/15/2007	FALSE	grab		17.6	ug/L	19.36	19.09
OFS6 City	copper	9/28/2007	FALSE	grab		51.5	ug/L	37.48	34.12
OFS6 City	copper	10/16/2007	FALSE	grab		54.4	ug/L	37.48	34.12
OFS6 City	copper	11/16/2007	FALSE	grab		22.7	ug/L	37.48	34.12
OFS6 City	copper	12/15/2007	FALSE	grab		21.3	ug/L	37.48	34.12

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OSM LW3	copper	3/26/2007	FALSE	composite		38.7	ug/l	38.78	38.32
OSM LW3	copper	4/9/2007	FALSE	composite		36.8	ug/l	38.78	38.32
OSM LW3	copper	4/18/2007	FALSE	composite		31.4	ug/l	38.78	38.32
OSM LW3	copper	5/3/2007	FALSE	composite		48.2	ug/l	38.78	38.32
Portland Shipyard LW3	copper	3/26/2007	FALSE	composite		115	ug/l	207.25	183.25
Portland Shipyard LW3	copper	4/9/2007	FALSE	composite		138	ug/l	207.25	183.25
Portland Shipyard LW3	copper	5/3/2007	FALSE	composite		397	ug/l	207.25	183.25
Portland Shipyard LW3	copper	6/10/2007	FALSE	composite		179	ug/l	207.25	183.25
Schnitzer Int. LW3	copper	4/9/2007	FALSE	composite		63.3	ug/l	53.30	47.65
Schnitzer Int. LW3	copper	4/18/2007	FALSE	composite		58.7	ug/l	53.30	47.65
Schnitzer Int. LW3	copper	4/23/2007	FALSE	composite		19.3	ug/l	53.30	47.65
Schnitzer Int. LW3	copper	5/3/2007	FALSE	composite		71.9	ug/l	53.30	47.65
Schnitzer Riverside LW3	copper	4/9/2007	FALSE	composite		9.13	ug/l	204.03	104.96
Schnitzer Riverside LW3	copper	4/18/2007	FALSE	composite		448	ug/l	204.03	104.96
Schnitzer Riverside LW3	copper	4/23/2007	FALSE	composite		230	ug/l	204.03	104.96
Schnitzer Riverside LW3	copper	5/3/2007	FALSE	composite		129	ug/l	204.03	104.96
Siltronic LW3	copper	4/9/2007	FALSE	composite		16.4	ug/l	62.80	53.37
Siltronic LW3	copper	4/9/2007	FALSE	composite		58.7	ug/l	62.80	53.37
Siltronic LW3	copper	4/18/2007	FALSE	composite		56.4	ug/l	62.80	53.37
Siltronic LW3	copper	5/3/2007	FALSE	composite		110	ug/l	62.80	53.37
Siltronic LW3	copper	6/10/2007	FALSE	composite		72.5	ug/l	62.80	53.37
SJB LW3	copper	3/26/2007	FALSE	composite		43.8	ug/l	42.93	40.96
SJB LW3	copper	4/9/2007	FALSE	composite		32	ug/l	42.93	40.96
SJB LW3	copper	4/18/2007	FALSE	composite		65	ug/l	42.93	40.96
SJB LW3	copper	5/3/2007	FALSE	composite		30.9	ug/l	42.93	40.96
Sulzer LW3	copper	1/11/2008	FALSE	composite		3.52	ug/l	4.88	4.69
Sulzer LW3	copper	1/30/2008	FALSE	composite		6.24	ug/l	4.88	4.69
UPRR Albina LW3	copper	5/3/2007	FALSE	composite		23.4	ug/l	18.23	17.90
UPRR Albina LW3	copper	6/10/2007	FALSE	composite		13.7	ug/l	18.23	17.90
UPRR Albina LW3	copper	11/27/2007	FALSE	composite		17.7	ug/l	18.23	17.90
UPRR Albina LW3	copper	11/29/2007	TRUE	composite		18.2	ug/l	18.23	17.90
UPRR Albina LW3	copper	11/29/2007	FALSE	composite		18	ug/l	18.23	17.90
WR169 Basin D Port	copper	3/24/2007	FALSE	composite		2.92	ug/l	5.20	4.68
WR169 Basin D Port	copper	5/3/2007	FALSE	composite		8.76	ug/l	5.20	4.68
WR169 Basin D Port	copper	5/3/2007	TRUE	composite		8.64	ug/l	5.20	4.68
WR169 Basin D Port	copper	5/20/2007	FALSE	composite		6.09	ug/l	5.20	4.68
WR169 Basin D Port	copper	11/16/2007	FALSE	composite		3.09	ug/l	5.20	4.68
WR177 Basin M Port	copper	3/24/2007	FALSE	composite		32.5	ug/l	25.83	24.82
WR177 Basin M Port	copper	5/3/2007	FALSE	composite		31	ug/l	25.83	24.82
WR177 Basin M Port	copper	5/20/2007	FALSE	composite		24.3	ug/l	25.83	24.82
WR177 Basin M Port	copper	9/28/2007	FALSE	composite		15.5	ug/l	25.83	24.82
WR181 Basin Q Port	copper	3/24/2007	FALSE	composite		11.4	ug/l	14.32	13.78
WR181 Basin Q Port	copper	3/24/2007	TRUE	composite		9.47	ug/l	14.32	13.78
WR181 Basin Q Port	copper	9/28/2007	FALSE	composite		18.2	ug/l	14.32	13.78
WR183 Basin R Port	copper	3/24/2007	FALSE	composite		12.6	ug/l	287.71	75.93
WR183 Basin R Port	copper	5/3/2007	FALSE	composite		809	ug/l	287.71	75.93
WR183 Basin R Port	copper	5/20/2007	FALSE	composite		319	ug/l	287.71	75.93
WR183 Basin R Port	copper	11/16/2007	TRUE	composite		8.94	ug/l	287.71	75.93
WR183 Basin R Port	copper	11/16/2007	FALSE	composite		11.5	ug/l	287.71	75.93
WR20 Basin L Port	copper	3/24/2007	FALSE	composite		15.1	ug/l	24.93	23.81
WR20 Basin L Port	copper	5/3/2007	FALSE	composite		23.3	ug/l	24.93	23.81
WR20 Basin L Port	copper	5/20/2007	FALSE	composite		35.7	ug/l	24.93	23.81
WR20 Basin L Port	copper	9/28/2007	FALSE	composite		25.6	ug/l	24.93	23.81
Arkema LW3	di-n-octyl phthalate	3/26/2007	FALSE	composite	U	0.0058	ug/l	0.0066	0.0064
Arkema LW3	di-n-octyl phthalate	5/3/2007	FALSE	composite	U	0.0054	ug/l	0.0066	0.0064
Arkema LW3	di-n-octyl phthalate	6/5/2007	FALSE	grab	UJ	0.0055	ug/l	0.0066	0.0064
Arkema LW3	di-n-octyl phthalate	6/10/2007	FALSE	composite	UJ	0.0055	ug/l	0.0066	0.0064
Arkema LW3	di-n-octyl phthalate	11/27/2007	FALSE	composite	UJ	0.011	ug/l	0.0066	0.0064
GE MH 2	di-n-octyl phthalate	10/19/2007	FALSE	composite	U	0.462	ug/l	0.4783	0.4781
GE MH 2	di-n-octyl phthalate	10/19/2007	TRUE	composite	UJ	0.471	ug/l	0.4783	0.4781
GE MH 2	di-n-octyl phthalate	11/13/2007	TRUE	composite	U	0.49	ug/l	0.4783	0.4781
GE MH 2	di-n-octyl phthalate	11/13/2007	FALSE	composite	U	0.49	ug/l	0.4783	0.4781
GE SV 1	di-n-octyl phthalate	6/10/2007	FALSE	composite	UJ	1.98	ug/l	1.0133	0.8208
GE SV 1	di-n-octyl phthalate	10/19/2007	FALSE	composite	U	0.57	ug/l	1.0133	0.8208
GE SV 1	di-n-octyl phthalate	11/13/2007	FALSE	composite	U	0.49	ug/l	1.0133	0.8208
Gunderson WR142/145 LW3	di-n-octyl phthalate	5/21/2007	TRUE	grab	J	0.55	ug/l	0.2520	0.0480
Gunderson WR142/145 LW3	di-n-octyl phthalate	5/21/2007	FALSE	grab	UJ	0.005	ug/l	0.2520	0.0480
Gunderson WR142/145 LW3	di-n-octyl phthalate	6/10/2007	FALSE	composite	U	0.005	ug/l	0.2520	0.0480
Gunderson WR142/145 LW3	di-n-octyl phthalate	11/16/2007	FALSE	composite	U	0.0053	ug/l	0.2520	0.0480
Gunderson WR142/145 LW3	di-n-octyl phthalate	1/9/2008	FALSE	composite		0.72	ug/l	0.2520	0.0480
Gunderson WR147 LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	U	0.0053	ug/l	0.0053	0.0053
Gunderson WR147 LW3	di-n-octyl phthalate	4/18/2007	FALSE	composite	U	0.0052	ug/l	0.0053	0.0053

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Gunderson WR147 LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite	U	0.0054	ug/l	0.0053	0.0053
OF18 LW3	di-n-octyl phthalate	3/26/2007	FALSE	composite		0.41	ug/l	0.2038	0.0930
OF18 LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	J	0.13	ug/l	0.2038	0.0930
OF18 LW3	di-n-octyl phthalate	4/18/2007	FALSE	composite		0.27	ug/l	0.2038	0.0930
OF18 LW3	di-n-octyl phthalate	5/21/2007	FALSE	grab	U	0.0052	ug/l	0.2038	0.0930
OF19_LW3+MS4	di-n-octyl phthalate	3/8/2006	FALSE	composite	U	2.1	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	3/15/2006	FALSE	composite	U	2.3	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	5/23/2006	FALSE	composite	U	2	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	11/2/2006	FALSE	composite	U	2.2	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	11/19/2006	FALSE	composite	U	2.1	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	2/14/2007	FALSE	composite		0.33	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	11/26/2007	FALSE	composite	U	1	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	3/7/2008	FALSE	composite	U	1	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	3/25/2008	FALSE	composite	U	0.952	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	11/20/2008	FALSE	composite	U	0.971	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	2/23/2009	FALSE	composite	U	1.96	ug/L	1.4911	1.3126
OF19_LW3+MS4	di-n-octyl phthalate	3/14/2009	FALSE	composite	U	0.98	ug/L	1.4911	1.3126
OF22C City	di-n-octyl phthalate	2/29/2008	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OF22C City	di-n-octyl phthalate	3/20/2008	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OF22C City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OF22C City	di-n-octyl phthalate	5/13/2008	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OF22C Tualatin Hills LW3	di-n-octyl phthalate	4/18/2007	TRUE	composite	U	0.0053	ug/l	0.0052	0.0052
OF22C Tualatin Hills LW3	di-n-octyl phthalate	4/18/2007	FALSE	composite	U	0.005	ug/l	0.0052	0.0052
OF22C Tualatin Hills LW3	di-n-octyl phthalate	4/23/2007	TRUE	composite	U	0.0053	ug/l	0.0052	0.0052
OF22C Tualatin Hills LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite	U	0.0054	ug/l	0.0052	0.0052
OF22C Tualatin Hills LW3	di-n-octyl phthalate	1/9/2008	FALSE	composite	U	0.005	ug/l	0.0052	0.0052
OF22D City	di-n-octyl phthalate	2/29/2008	FALSE	grab	U	0.971	ug/L	1.2155	1.1571
OF22D City	di-n-octyl phthalate	2/29/2008	TRUE	grab	U	0.971	ug/L	1.2155	1.1571
OF22D City	di-n-octyl phthalate	3/20/2008	FALSE	grab	U	1.94	ug/L	1.2155	1.1571
OF22D City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	0.98	ug/L	1.2155	1.1571
OF22D City	di-n-octyl phthalate	5/13/2008	FALSE	grab	U	0.971	ug/L	1.2155	1.1571
OF45 City	di-n-octyl phthalate	2/5/2008	FALSE	grab	U	3.85	ug/L	1.6885	1.3670
OF45 City	di-n-octyl phthalate	2/29/2008	FALSE	grab	U	0.971	ug/L	1.6885	1.3670
OF45 City	di-n-octyl phthalate	3/20/2008	FALSE	grab	U	0.971	ug/L	1.6885	1.3670
OF45 City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	0.962	ug/L	1.6885	1.3670
OF46 City	di-n-octyl phthalate	2/5/2008	FALSE	grab	U	1.98	ug/L	2.2150	1.9937
OF46 City	di-n-octyl phthalate	2/29/2008	FALSE	grab		1.06	ug/L	2.2150	1.9937
OF46 City	di-n-octyl phthalate	3/20/2008	FALSE	grab	U	3.88	ug/L	2.2150	1.9937
OF46 City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	1.94	ug/L	2.2150	1.9937
OF46 City	di-n-octyl phthalate	4/4/2008	TRUE	grab	U	1.94	ug/L	2.2150	1.9937
OF47 City	di-n-octyl phthalate	2/5/2008	FALSE	grab	U	1.94	ug/L	1.9550	1.6564
OF47 City	di-n-octyl phthalate	2/29/2008	FALSE	grab	U	1	ug/L	1.9550	1.6564
OF47 City	di-n-octyl phthalate	3/20/2008	FALSE	grab	U	3.88	ug/L	1.9550	1.6564
OF47 City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	1	ug/L	1.9550	1.6564
OF48 City	di-n-octyl phthalate	9/28/2007	TRUE	grab	U	0.971	ug/L	1.0921	1.0744
OF48 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	1.94	ug/L	1.0921	1.0744
OF48 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	1.0921	1.0744
OF48 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	1.0921	1.0744
OF48 City	di-n-octyl phthalate	12/15/2007	FALSE	grab	U	0.962	ug/L	1.0921	1.0744
OF49 LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	J	0.15	ug/l	0.2000	0.1950
OF49 LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite		0.26	ug/l	0.2000	0.1950
OF49 LW3	di-n-octyl phthalate	11/16/2007	FALSE	composite	J	0.19	ug/l	0.2000	0.1950
OF50 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF50 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	0.9733	0.9732
OF50 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF50 City	di-n-octyl phthalate	12/14/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	9/30/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	9/30/2007	TRUE	grab	U	0.971	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	10/16/2007	TRUE	grab	U	0.98	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	0.9733	0.9732
OF52 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OF52A City	di-n-octyl phthalate	9/28/2007	FALSE	grab		1.42	ug/L	1.2428	1.2126
OF52A City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	1.2428	1.2126
OF52A City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	1.2428	1.2126
OF52A City	di-n-octyl phthalate	12/14/2007	FALSE	grab		1.6	ug/L	1.2428	1.2126
OF52C Basin T Port	di-n-octyl phthalate	3/24/2007	FALSE	composite	J	0.13	ug/l	0.1251	0.0688
OF52C Basin T Port	di-n-octyl phthalate	4/7/2007	TRUE	composite	J	0.11	ug/l	0.1251	0.0688
OF52C Basin T Port	di-n-octyl phthalate	4/7/2007	FALSE	composite	U	0.2	ug/l	0.1251	0.0688
OF52C Basin T Port	di-n-octyl phthalate	5/3/2007	FALSE	composite	U	0.21	ug/l	0.1251	0.0688
OF52C Basin T Port	di-n-octyl phthalate	11/16/2007	FALSE	composite	U	0.0053	ug/l	0.1251	0.0688
OF53 City+Port	di-n-octyl phthalate	3/24/2007	FALSE	composite		0.5	ug/l	0.8853	0.7583

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF53 City+Port	di-n-octyl phthalate	4/7/2007	FALSE	composite		0.33	ug/l	0.8853	0.7583
OF53 City+Port	di-n-octyl phthalate	5/3/2007	FALSE	composite		0.65	ug/l	0.8853	0.7583
OF53 City+Port	di-n-octyl phthalate	1/26/2008	FALSE	composite	U	0.952	ug/L	0.8853	0.7583
OF53 City+Port	di-n-octyl phthalate	2/6/2008	FALSE	composite	U	1.9	ug/L	0.8853	0.7583
OF53 City+Port	di-n-octyl phthalate	3/12/2008	FALSE	composite	U	0.98	ug/L	0.8853	0.7583
OF53 City+Port	di-n-octyl phthalate	3/12/2008	TRUE	composite	U	0.98	ug/L	0.8853	0.7583
OF53A City	di-n-octyl phthalate	2/29/2008	FALSE	grab	U	1	ug/L	0.9123	0.9036
OF53A City	di-n-octyl phthalate	3/20/2008	FALSE	grab	J	0.707	ug/L	0.9123	0.9036
OF53A City	di-n-octyl phthalate	4/4/2008	FALSE	grab	U	0.971	ug/L	0.9123	0.9036
OF53A City	di-n-octyl phthalate	5/13/2008	FALSE	grab	U	0.971	ug/L	0.9123	0.9036
OFM1 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	1.47	ug/L	2.0725	2.0082
OFM1 City	di-n-octyl phthalate	9/30/2007	FALSE	grab	U	1.94	ug/L	2.0725	2.0082
OFM1 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	2.94	ug/L	2.0725	2.0082
OFM1 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	1.94	ug/L	2.0725	2.0082
OFM2 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OFM2 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OFM2 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OFM2 City	di-n-octyl phthalate	12/15/2007	FALSE	grab	U	0.971	ug/L	0.9710	0.9710
OFM2 LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	J	0.12	ug/l	0.1294	0.1282
OFM2 LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	J	0.11	ug/l	0.1294	0.1282
OFM2 LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite	J	0.13	ug/l	0.1294	0.1282
OFM2 LW3	di-n-octyl phthalate	5/3/2007	FALSE	composite	UJ	0.0052	ug/l	0.1294	0.1282
OFM2 LW3	di-n-octyl phthalate	5/3/2007	TRUE	composite	J	0.31	ug/l	0.1294	0.1282
OFM3 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.99	ug/L	0.9780	0.9780
OFM3 City	di-n-octyl phthalate	9/30/2007	FALSE	grab	U	0.971	ug/L	0.9780	0.9780
OFM3 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	0.9780	0.9780
OFM3 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9780	0.9780
OFS1 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS1 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.98	ug/L	0.9733	0.9732
OFS1 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS1 City	di-n-octyl phthalate	12/15/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS2 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	J	2.42	ug/L	2.3453	2.0686
OFS2 City	di-n-octyl phthalate	10/16/2007	FALSE	grab		1.91	ug/L	2.3453	2.0686
OFS2 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	2.3453	2.0686
OFS2 City	di-n-octyl phthalate	12/15/2007	FALSE	grab		4.08	ug/L	2.3453	2.0686
OFS5 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS5 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS5 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9733	0.9732
OFS5 City	di-n-octyl phthalate	11/16/2007	TRUE	grab	U	0.971	ug/L	0.9733	0.9732
OFS5 City	di-n-octyl phthalate	12/15/2007	FALSE	grab	U	0.98	ug/L	0.9733	0.9732
OFS6 City	di-n-octyl phthalate	9/28/2007	FALSE	grab	U	0.971	ug/L	0.9688	0.9687
OFS6 City	di-n-octyl phthalate	10/16/2007	FALSE	grab	U	0.962	ug/L	0.9688	0.9687
OFS6 City	di-n-octyl phthalate	11/16/2007	FALSE	grab	U	0.971	ug/L	0.9688	0.9687
OFS6 City	di-n-octyl phthalate	12/15/2007	FALSE	grab	U	0.971	ug/L	0.9688	0.9687
OSM LW3	di-n-octyl phthalate	3/26/2007	FALSE	composite	UJ	0.0052	ug/l	0.0052	0.0052
OSM LW3	di-n-octyl phthalate	3/26/2007	TRUE	composite	UJ	0.0054	ug/l	0.0052	0.0052
OSM LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	UJ	0.0053	ug/l	0.0052	0.0052
OSM LW3	di-n-octyl phthalate	4/18/2007	FALSE	composite	UJ	0.005	ug/l	0.0052	0.0052
OSM LW3	di-n-octyl phthalate	5/21/2007	FALSE	grab	UJ	0.0052	ug/l	0.0052	0.0052
Portland Shipyard LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite	U	0.0055	ug/l	0.0084	0.0069
Portland Shipyard LW3	di-n-octyl phthalate	4/9/2007	TRUE	composite	U	0.0054	ug/l	0.0084	0.0069
Portland Shipyard LW3	di-n-octyl phthalate	5/3/2007	FALSE	composite	UJ	0.0052	ug/l	0.0084	0.0069
Portland Shipyard LW3	di-n-octyl phthalate	5/22/2007	FALSE	grab	UJ	0.005	ug/l	0.0084	0.0069
Portland Shipyard LW3	di-n-octyl phthalate	6/5/2007	FALSE	grab	U	0.021	ug/l	0.0084	0.0069
Portland Shipyard LW3	di-n-octyl phthalate	6/10/2007	FALSE	composite	UJ	0.0051	ug/l	0.0084	0.0069
Schnitzer Int. LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite	UJ	0.0053	ug/l	0.0052	0.0052
Schnitzer Int. LW3	di-n-octyl phthalate	5/3/2007	FALSE	composite	UJ	0.0051	ug/l	0.0052	0.0052
Schnitzer Int. LW3	di-n-octyl phthalate	5/21/2007	FALSE	grab	U	0.0052	ug/l	0.0052	0.0052
SJB LW3	di-n-octyl phthalate	4/9/2007	FALSE	composite		1.8	ug/l	1.4175	1.2225
SJB LW3	di-n-octyl phthalate	4/18/2007	FALSE	composite		1.2	ug/l	1.4175	1.2225
SJB LW3	di-n-octyl phthalate	4/23/2007	FALSE	composite		0.47	ug/l	1.4175	1.2225
SJB LW3	di-n-octyl phthalate	5/21/2007	FALSE	grab	J	2.2	ug/l	1.4175	1.2225
WR169 Basin D Port	di-n-octyl phthalate	4/7/2007	FALSE	composite	U	0.2	ug/l	0.2600	0.2530
WR169 Basin D Port	di-n-octyl phthalate	11/16/2007	FALSE	composite		0.34	ug/l	0.2600	0.2530
WR169 Basin D Port	di-n-octyl phthalate	11/16/2007	TRUE	composite		0.3	ug/l	0.2600	0.2530
WR177 Basin M Port	di-n-octyl phthalate	3/24/2007	FALSE	composite	U	0.2	ug/l	0.2133	0.2125
WR177 Basin M Port	di-n-octyl phthalate	4/7/2007	FALSE	composite	U	0.2	ug/l	0.2133	0.2125
WR177 Basin M Port	di-n-octyl phthalate	9/28/2007	FALSE	composite	U	0.24	ug/l	0.2133	0.2125
WR181 Basin Q Port	di-n-octyl phthalate	3/24/2007	FALSE	composite	J	0.14	ug/l	0.1833	0.1805
WR181 Basin Q Port	di-n-octyl phthalate	4/7/2007	FALSE	composite	U	0.2	ug/l	0.1833	0.1805
WR181 Basin Q Port	di-n-octyl phthalate	9/28/2007	FALSE	composite	U	0.21	ug/l	0.1833	0.1805
WR183 Basin R Port	di-n-octyl phthalate	3/24/2007	FALSE	composite	U	0.2	ug/l	0.1613	0.1377

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR183 Basin R Port	di-n-octyl phthalate	4/7/2007	FALSE	composite	U	0.2	ug/l	0.1613	0.1377
WR183 Basin R Port	di-n-octyl phthalate	5/3/2007	FALSE	composite	J	0.2	ug/l	0.1613	0.1377
WR183 Basin R Port	di-n-octyl phthalate	11/16/2007	FALSE	composite	J	0.045	ug/l	0.1613	0.1377
WR20 Basin L Port	di-n-octyl phthalate	3/24/2007	FALSE	composite		1.6	ug/l	2.1250	1.9672
WR20 Basin L Port	di-n-octyl phthalate	5/3/2007	FALSE	composite		2	ug/l	2.1250	1.9672
WR20 Basin L Port	di-n-octyl phthalate	5/20/2007	FALSE	composite		3.6	ug/l	2.1250	1.9672
WR20 Basin L Port	di-n-octyl phthalate	9/28/2007	FALSE	composite		1.3	ug/l	2.1250	1.9672
Arkema LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite	U	0.0036	ug/l	0.0033	0.0032
Arkema LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	U	0.0036	ug/l	0.0033	0.0032
Arkema LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.0039	ug/l	0.0033	0.0032
Arkema LW3	dibenzo(a,h)anthracene	6/5/2007	FALSE	grab	U	0.0027	ug/l	0.0033	0.0032
Arkema LW3	dibenzo(a,h)anthracene	11/27/2007	FALSE	composite	U	0.0026	ug/l	0.0033	0.0032
Chevron LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite		0.18	ug/l	0.1063	0.0743
Chevron LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite		0.12	ug/l	0.1063	0.0743
Chevron LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	J	0.019	ug/l	0.1063	0.0743
Gasco LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite		0.032	ug/l	0.0813	0.0719
Gasco LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite		0.067	ug/l	0.0813	0.0719
Gasco LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite		0.096	ug/l	0.0813	0.0719
Gasco LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab		0.13	ug/l	0.0813	0.0719
GE MH 2	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1471	0.1420
GE MH 2	dibenzo(a,h)anthracene	10/19/2007	TRUE	composite	U	0.168	ug/l	0.1471	0.1420
GE MH 2	dibenzo(a,h)anthracene	10/19/2007	FALSE	composite	U	0.172	ug/l	0.1471	0.1420
GE MH 2	dibenzo(a,h)anthracene	11/13/2007	TRUE	composite	UJ	0.175	ug/l	0.1471	0.1420
GE MH 2	dibenzo(a,h)anthracene	11/13/2007	FALSE	composite	UJ	0.175	ug/l	0.1471	0.1420
GE SV 1	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1493	0.1442
GE SV 1	dibenzo(a,h)anthracene	10/19/2007	FALSE	composite	U	0.175	ug/l	0.1493	0.1442
GE SV 1	dibenzo(a,h)anthracene	11/13/2007	FALSE	composite	UJ	0.175	ug/l	0.1493	0.1442
Gunderson WR142/145 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.0095	ug/l	0.0053	0.0045
Gunderson WR142/145 LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab	U	0.0025	ug/l	0.0053	0.0045
Gunderson WR142/145 LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	U	0.0027	ug/l	0.0053	0.0045
Gunderson WR142/145 LW3	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	J	0.0084	ug/l	0.0053	0.0045
Gunderson WR142/145 LW3	dibenzo(a,h)anthracene	11/29/2007	FALSE	composite	U	0.0036	ug/l	0.0053	0.0045
Gunderson WR147 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.0067	ug/l	0.0050	0.0048
Gunderson WR147 LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	U	0.0047	ug/l	0.0050	0.0048
Gunderson WR147 LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	U	0.0036	ug/l	0.0050	0.0048
HWY30 NW Yeon-35th LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.022	ug/l	0.0107	0.0083
HWY30 NW Yeon-35th LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.0051	ug/l	0.0107	0.0083
HWY30 NW Yeon-35th LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	J	0.0051	ug/l	0.0107	0.0083
HWY30A Reed St. LW3	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	J	0.011	ug/l	0.0257	0.0225
HWY30A Reed St. LW3	dibenzo(a,h)anthracene	1/28/2008	FALSE	composite		0.026	ug/l	0.0257	0.0225
HWY30A Reed St. LW3	dibenzo(a,h)anthracene	1/30/2008	FALSE	composite		0.04	ug/l	0.0257	0.0225
HWY30B 35th St. LW3	dibenzo(a,h)anthracene	11/27/2007	FALSE	composite		0.021	ug/l	0.0318	0.0305
HWY30B 35th St. LW3	dibenzo(a,h)anthracene	1/11/2008	FALSE	composite		0.025	ug/l	0.0318	0.0305
HWY30B 35th St. LW3	dibenzo(a,h)anthracene	1/28/2008	FALSE	composite		0.04	ug/l	0.0318	0.0305
HWY30B 35th St. LW3	dibenzo(a,h)anthracene	1/30/2008	FALSE	composite		0.041	ug/l	0.0318	0.0305
OF16 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.012	ug/l	0.0120	0.0113
OF16 LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0120	0.0113
OF16 LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	J	0.0071	ug/l	0.0120	0.0113
OF18 LW3	dibenzo(a,h)anthracene	3/26/2007	TRUE	composite		0.026	ug/l	0.0138	0.0100
OF18 LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite		0.034	ug/l	0.0138	0.0100
OF18 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.013	ug/l	0.0138	0.0100
OF18 LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	U	0.0096	ug/l	0.0138	0.0100
OF18 LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab	U	0.0027	ug/l	0.0138	0.0100
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	2/14/2007	FALSE	composite		0.021	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite	U	0.011	ug/l	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	4/9/2007	TRUE	composite	U	0.027	ug/l	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.018	ug/l	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.015	ug/l	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	11/26/2007	FALSE	composite		0.0108	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/7/2008	FALSE	composite		0.0171	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/25/2008	FALSE	composite	U	0.0286	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	11/20/2008	FALSE	composite		0.0166	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	2/23/2009	FALSE	composite		0.0301	ug/L	0.0483	0.0320
OF19_LW3+MS4	dibenzo(a,h)anthracene	3/14/2009	FALSE	composite		0.0123	ug/L	0.0483	0.0320
OF22 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.033	ug/l	0.0209	0.0181
OF22 LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.016	ug/l	0.0209	0.0181
OF22 LW3	dibenzo(a,h)anthracene	6/5/2007	FALSE	grab		0.027	ug/l	0.0209	0.0181

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22 LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	J	0.0076	ug/l	0.0209	0.0181
OF22B LW3	dibenzo(a,h)anthracene	3/27/2007	FALSE	composite	J	0.0081	ug/l	0.0119	0.0098
OF22B LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite		0.029	ug/l	0.0119	0.0098
OF22B LW3	dibenzo(a,h)anthracene	6/5/2007	FALSE	grab	J	0.0099	ug/l	0.0119	0.0098
OF22B LW3	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	J	0.006	ug/l	0.0119	0.0098
OF22B LW3	dibenzo(a,h)anthracene	11/27/2007	FALSE	composite	J	0.007	ug/l	0.0119	0.0098
OF22B LW3	dibenzo(a,h)anthracene	11/27/2007	TRUE	composite	J	0.0061	ug/l	0.0119	0.0098
OF22C City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0100	0.0100
OF22C City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab	U	0.00971	ug/L	0.0100	0.0100
OF22C City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab		0.0109	ug/L	0.0100	0.0100
OF22C City	dibenzo(a,h)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0100	0.0100
OF22C Tualatin Hills LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	U	0.0037	ug/l	0.0034	0.0034
OF22C Tualatin Hills LW3	dibenzo(a,h)anthracene	4/18/2007	TRUE	composite	U	0.0038	ug/l	0.0034	0.0034
OF22C Tualatin Hills LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	U	0.0038	ug/l	0.0034	0.0034
OF22C Tualatin Hills LW3	dibenzo(a,h)anthracene	4/23/2007	TRUE	composite	U	0.0038	ug/l	0.0034	0.0034
OF22C Tualatin Hills LW3	dibenzo(a,h)anthracene	1/9/2008	FALSE	composite	U	0.0027	ug/l	0.0034	0.0034
OF22D City	dibenzo(a,h)anthracene	2/29/2008	TRUE	grab		0.015	ug/L	0.0201	0.0155
OF22D City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0201	0.0155
OF22D City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab	U	0.0485	ug/L	0.0201	0.0155
OF22D City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab	U	0.0098	ug/L	0.0201	0.0155
OF22D City	dibenzo(a,h)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0201	0.0155
OF45 City	dibenzo(a,h)anthracene	2/5/2008	FALSE	grab		0.0262	ug/L	0.0220	0.0210
OF45 City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab		0.0133	ug/L	0.0220	0.0210
OF45 City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab	U	0.0291	ug/L	0.0220	0.0210
OF45 City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab	U	0.0192	ug/L	0.0220	0.0210
OF46 City	dibenzo(a,h)anthracene	2/5/2008	FALSE	grab		0.0355	ug/L	0.0459	0.0379
OF46 City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab		0.0297	ug/L	0.0459	0.0379
OF46 City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab		0.0986	ug/L	0.0459	0.0379
OF46 City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab		0.0203	ug/L	0.0459	0.0379
OF46 City	dibenzo(a,h)anthracene	4/4/2008	TRUE	grab	U	0.0194	ug/L	0.0459	0.0379
OF47 City	dibenzo(a,h)anthracene	2/5/2008	FALSE	grab		0.0254	ug/L	0.0456	0.0333
OF47 City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab	U	0.01	ug/L	0.0456	0.0333
OF47 City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0456	0.0333
OF47 City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab	U	0.05	ug/L	0.0456	0.0333
OF48 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF48 City	dibenzo(a,h)anthracene	9/28/2007	TRUE	grab	U	0.00971	ug/L	0.0097	0.0097
OF48 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0097	0.0097
OF48 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF48 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab	U	0.00962	ug/L	0.0097	0.0097
OF49 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.0039	ug/l	0.0037	0.0036
OF49 LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	U	0.0038	ug/l	0.0037	0.0036
OF49 LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	J	0.0043	ug/l	0.0037	0.0036
OF49 LW3	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	U	0.0027	ug/l	0.0037	0.0036
OF50 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF50 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0097	0.0097
OF50 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF50 City	dibenzo(a,h)anthracene	12/14/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	9/30/2007	TRUE	grab	U	0.00971	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	10/16/2007	TRUE	grab	U	0.0098	ug/L	0.0097	0.0097
OF52 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OF52A City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0573	0.0208
OF52A City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0573	0.0208
OF52A City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0573	0.0208
OF52A City	dibenzo(a,h)anthracene	12/14/2007	FALSE	grab	U	0.0098	ug/L	0.0573	0.0208
OF52C Basin T Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite		0.029	ug/l	0.0111	0.0075
OF52C Basin T Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite	J	0.0061	ug/l	0.0111	0.0075
OF52C Basin T Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.0062	ug/l	0.0111	0.0075
OF52C Basin T Port	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	U	0.0029	ug/l	0.0111	0.0075
OF53 City+Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite	J	0.01	ug/l	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite	J	0.011	ug/l	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.026	ug/l	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	1/26/2008	FALSE	composite	U	0.0952	ug/L	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	2/6/2008	FALSE	composite	U	0.019	ug/L	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	3/12/2008	TRUE	composite	U	0.0098	ug/L	0.0285	0.0192
OF53 City+Port	dibenzo(a,h)anthracene	3/12/2008	FALSE	composite	U	0.0098	ug/L	0.0285	0.0192
OF53A City	dibenzo(a,h)anthracene	2/29/2008	FALSE	grab	U	0.01	ug/L	0.0171	0.0153
OF53A City	dibenzo(a,h)anthracene	3/20/2008	FALSE	grab	U	0.0291	ug/L	0.0171	0.0153
OF53A City	dibenzo(a,h)anthracene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0171	0.0153
OF53A City	dibenzo(a,h)anthracene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0171	0.0153

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.0098	ug/L	0.0098	0.0098
OFM1 City	dibenzo(a,h)anthracene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFM1 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0098	0.0098
OFM1 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFM1 LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite	U	0.014	ug/l	0.0170	0.0168
OFM1 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.016	ug/l	0.0170	0.0168
OFM1 LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite		0.021	ug/l	0.0170	0.0168
OFM2 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OFM2 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OFM2 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OFM2 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab	U	0.00971	ug/L	0.0097	0.0097
OFM2 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.0068	ug/l	0.0074	0.0067
OFM2 LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.012	ug/l	0.0074	0.0067
OFM2 LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	U	0.0036	ug/l	0.0074	0.0067
OFM2 LW3	dibenzo(a,h)anthracene	5/3/2007	TRUE	composite	U	0.0078	ug/l	0.0074	0.0067
OFM2 LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.0062	ug/l	0.0074	0.0067
OFM3 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.0099	ug/L	0.0098	0.0098
OFM3 City	dibenzo(a,h)anthracene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFM3 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0098	0.0098
OFM3 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFS1 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab		0.0152	ug/L	0.1251	0.0661
OFS1 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab		0.0413	ug/L	0.1251	0.0661
OFS1 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab		0.359	ug/L	0.1251	0.0661
OFS1 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab		0.0847	ug/L	0.1251	0.0661
OFS2 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFS2 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0098	0.0098
OFS2 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0098	0.0098
OFS2 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab	U	0.0098	ug/L	0.0098	0.0098
OFS5 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0132	0.0122
OFS5 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0132	0.0122
OFS5 City	dibenzo(a,h)anthracene	11/16/2007	TRUE	grab		0.0103	ug/L	0.0132	0.0122
OFS5 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0132	0.0122
OFS5 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab		0.0233	ug/L	0.0132	0.0122
OFS6 City	dibenzo(a,h)anthracene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0193	0.0145
OFS6 City	dibenzo(a,h)anthracene	10/16/2007	FALSE	grab	U	0.0481	ug/L	0.0193	0.0145
OFS6 City	dibenzo(a,h)anthracene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0193	0.0145
OFS6 City	dibenzo(a,h)anthracene	12/15/2007	FALSE	grab	U	0.00971	ug/L	0.0193	0.0145
OSM LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite	U	0.0072	ug/l	0.0062	0.0053
OSM LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.0062	0.0053
OSM LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	U	0.0036	ug/l	0.0062	0.0053
OSM LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab	U	0.0028	ug/l	0.0062	0.0053
Portland Shipyard LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite	U	0.0081	ug/l	0.0055	0.0048
Portland Shipyard LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.0082	ug/l	0.0055	0.0048
Portland Shipyard LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.0064	ug/l	0.0055	0.0048
Portland Shipyard LW3	dibenzo(a,h)anthracene	5/22/2007	FALSE	grab	U	0.0025	ug/l	0.0055	0.0048
Portland Shipyard LW3	dibenzo(a,h)anthracene	6/5/2007	FALSE	grab	U	0.0025	ug/l	0.0055	0.0048
Schnitzer Int. LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite		0.024	ug/l	0.0132	0.0106
Schnitzer Int. LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.018	ug/l	0.0132	0.0106
Schnitzer Int. LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite	J	0.0052	ug/l	0.0132	0.0106
Schnitzer Int. LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab	J	0.0057	ug/l	0.0132	0.0106
Schnitzer Riverside LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	U	0.0039	ug/l	0.2380	0.0700
Schnitzer Riverside LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.16	ug/l	0.2380	0.0700
Schnitzer Riverside LW3	dibenzo(a,h)anthracene	4/23/2007	FALSE	composite		0.55	ug/l	0.2380	0.0700
Siltronic LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.014	ug/l	0.0126	0.0117
Siltronic LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite	J	0.012	ug/l	0.0126	0.0117
Siltronic LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.018	ug/l	0.0126	0.0117
Siltronic LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	J	0.0062	ug/l	0.0126	0.0117
SJB LW3	dibenzo(a,h)anthracene	3/26/2007	FALSE	composite		0.13	ug/l	0.0563	0.0374
SJB LW3	dibenzo(a,h)anthracene	4/9/2007	FALSE	composite		0.057	ug/l	0.0563	0.0374
SJB LW3	dibenzo(a,h)anthracene	4/18/2007	FALSE	composite	J	0.029	ug/l	0.0563	0.0374
SJB LW3	dibenzo(a,h)anthracene	5/21/2007	TRUE	grab	J	0.0083	ug/l	0.0563	0.0374
SJB LW3	dibenzo(a,h)anthracene	5/21/2007	FALSE	grab	J	0.01	ug/l	0.0563	0.0374
Sulzer LW3	dibenzo(a,h)anthracene	1/11/2008	FALSE	composite	U	0.0025	ug/l	0.0038	0.0036
Sulzer LW3	dibenzo(a,h)anthracene	1/30/2008	FALSE	composite	J	0.0051	ug/l	0.0038	0.0036
UPRR Albina LW3	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	U	0.005	ug/l	0.0194	0.0117
UPRR Albina LW3	dibenzo(a,h)anthracene	6/10/2007	FALSE	composite	J	0.0036	ug/l	0.0194	0.0117
UPRR Albina LW3	dibenzo(a,h)anthracene	11/27/2007	FALSE	composite		0.023	ug/l	0.0194	0.0117
UPRR Albina LW3	dibenzo(a,h)anthracene	11/29/2007	FALSE	composite		0.046	ug/l	0.0194	0.0117
WR169 Basin D Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite	J	0.013	ug/l	0.0160	0.0101
WR169 Basin D Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite		0.041	ug/l	0.0160	0.0101
WR169 Basin D Port	dibenzo(a,h)anthracene	5/3/2007	TRUE	composite	J	0.005	ug/l	0.0160	0.0101
WR169 Basin D Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.0094	ug/l	0.0160	0.0101

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR169 Basin D Port	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	U	0.0027	ug/l	0.0160	0.0101
WR177 Basin M Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite		0.068	ug/l	0.0413	0.0372
WR177 Basin M Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite		0.038	ug/l	0.0413	0.0372
WR177 Basin M Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.041	ug/l	0.0413	0.0372
WR177 Basin M Port	dibenzo(a,h)anthracene	9/28/2007	FALSE	composite	J	0.018	ug/l	0.0413	0.0372
WR181 Basin Q Port	dibenzo(a,h)anthracene	3/24/2007	TRUE	composite		0.097	ug/l	0.0418	0.0274
WR181 Basin Q Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite		0.094	ug/l	0.0418	0.0274
WR181 Basin Q Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite	J	0.018	ug/l	0.0418	0.0274
WR181 Basin Q Port	dibenzo(a,h)anthracene	9/28/2007	FALSE	composite	J	0.012	ug/l	0.0418	0.0274
WR183 Basin R Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite	U	0.027	ug/l	0.0369	0.0158
WR183 Basin R Port	dibenzo(a,h)anthracene	4/7/2007	FALSE	composite	J	0.008	ug/l	0.0369	0.0158
WR183 Basin R Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.11	ug/l	0.0369	0.0158
WR183 Basin R Port	dibenzo(a,h)anthracene	11/16/2007	TRUE	composite	U	0.0026	ug/l	0.0369	0.0158
WR183 Basin R Port	dibenzo(a,h)anthracene	11/16/2007	FALSE	composite	U	0.0026	ug/l	0.0369	0.0158
WR20 Basin L Port	dibenzo(a,h)anthracene	3/24/2007	FALSE	composite		0.54	ug/l	0.5375	0.4806
WR20 Basin L Port	dibenzo(a,h)anthracene	5/3/2007	FALSE	composite	J	0.56	ug/l	0.5375	0.4806
WR20 Basin L Port	dibenzo(a,h)anthracene	5/20/2007	FALSE	composite		0.84	ug/l	0.5375	0.4806
WR20 Basin L Port	dibenzo(a,h)anthracene	9/28/2007	FALSE	composite		0.21	ug/l	0.5375	0.4806
Arkema LW3	dieldrin	3/26/2007	FALSE	composite	U	0.04	ug/l	0.0112	0.0032
Arkema LW3	dieldrin	4/23/2007	FALSE	composite	U	0.0004	ug/l	0.0112	0.0032
Arkema LW3	dieldrin	5/3/2007	FALSE	composite	U	0.0043	ug/l	0.0112	0.0032
Arkema LW3	dieldrin	6/5/2007	FALSE	grab	U	0.00045	ug/l	0.0112	0.0032
Arkema LW3	dieldrin	11/27/2007	FALSE	composite	U	0.011	ug/l	0.0112	0.0032
OF19_LW3+MS4	dieldrin	2/23/2009	FALSE	composite	U	0.0052	ug/L	0.0052	0.0052
OF22B LW3	dieldrin	3/27/2007	TRUE	composite		0.19	ug/l	0.0981	0.0293
OF22B LW3	dieldrin	3/27/2007	FALSE	composite		0.089	ug/l	0.0981	0.0293
OF22B LW3	dieldrin	5/3/2007	FALSE	composite		0.23	ug/l	0.0981	0.0293
OF22B LW3	dieldrin	5/3/2007	TRUE	composite		0.25	ug/l	0.0981	0.0293
OF22B LW3	dieldrin	6/5/2007	FALSE	grab		0.011	ug/l	0.0981	0.0293
OF22B LW3	dieldrin	11/16/2007	FALSE	composite	U	0.002	ug/l	0.0981	0.0293
OF52C Basin T Port	dieldrin	3/24/2007	FALSE	composite	UJ	0.00049	ug/l	0.0031	0.0018
OF52C Basin T Port	dieldrin	4/7/2007	TRUE	composite	UJ	0.0018	ug/l	0.0031	0.0018
OF52C Basin T Port	dieldrin	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0031	0.0018
OF52C Basin T Port	dieldrin	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0031	0.0018
OF52C Basin T Port	dieldrin	11/16/2007	FALSE	composite	U	0.002	ug/l	0.0031	0.0018
OF52C Basin T Port	dieldrin	11/16/2007	TRUE	composite	U	0.0019	ug/l	0.0031	0.0018
OF53 City+Port	dieldrin	3/24/2007	FALSE	composite	UJ	0.0011	ug/l	0.0023	0.0014
OF53 City+Port	dieldrin	4/7/2007	FALSE	composite	U	0.0005	ug/l	0.0023	0.0014
OF53 City+Port	dieldrin	5/3/2007	FALSE	composite	U	0.0053	ug/l	0.0023	0.0014
WR177 Basin M Port	dieldrin	3/24/2007	FALSE	composite	UJ	0.00084	ug/l	0.0017	0.0011
WR177 Basin M Port	dieldrin	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0017	0.0011
WR177 Basin M Port	dieldrin	5/3/2007	TRUE	composite	U	0.0048	ug/l	0.0017	0.0011
WR177 Basin M Port	dieldrin	5/3/2007	FALSE	composite	U	0.0048	ug/l	0.0017	0.0011
WR177 Basin M Port	dieldrin	9/28/2007	FALSE	composite		0.00079	ug/l	0.0017	0.0011
WR181 Basin Q Port	dieldrin	3/24/2007	TRUE	composite	UJ	0.0021	ug/l	0.0013	0.0011
WR181 Basin Q Port	dieldrin	3/24/2007	FALSE	composite	UJ	0.002	ug/l	0.0013	0.0011
WR181 Basin Q Port	dieldrin	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0013	0.0011
WR181 Basin Q Port	dieldrin	9/28/2007	FALSE	composite		0.0013	ug/l	0.0013	0.0011
WR183 Basin R Port	dieldrin	3/24/2007	FALSE	composite	U	0.00055	ug/l	0.0006	0.0006
WR20 Basin L Port	dieldrin	3/24/2007	FALSE	composite	UJ	0.0019	ug/l	0.0048	0.0028
WR20 Basin L Port	dieldrin	5/3/2007	FALSE	composite	U	0.0059	ug/l	0.0048	0.0028
WR20 Basin L Port	dieldrin	5/20/2007	FALSE	composite	UJ	0.011	ug/l	0.0048	0.0028
WR20 Basin L Port	dieldrin	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0048	0.0028
Arkema LW3	fluoranthene	3/26/2007	FALSE	composite	J	0.018	ug/l	0.0139	0.0136
Arkema LW3	fluoranthene	4/23/2007	FALSE	composite	J	0.0096	ug/l	0.0139	0.0136
Arkema LW3	fluoranthene	5/3/2007	FALSE	composite	J	0.013	ug/l	0.0139	0.0136
Arkema LW3	fluoranthene	6/5/2007	FALSE	grab	J	0.012	ug/l	0.0139	0.0136
Arkema LW3	fluoranthene	11/27/2007	FALSE	composite	J	0.017	ug/l	0.0139	0.0136
Chevron LW3	fluoranthene	3/26/2007	FALSE	composite		1.2	ug/l	0.6967	0.5613
Chevron LW3	fluoranthene	4/9/2007	FALSE	composite		0.67	ug/l	0.6967	0.5613
Chevron LW3	fluoranthene	4/23/2007	FALSE	composite		0.22	ug/l	0.6967	0.5613
Gasco LW3	fluoranthene	3/26/2007	FALSE	composite		0.17	ug/l	0.7175	0.4637
Gasco LW3	fluoranthene	4/9/2007	FALSE	composite		0.27	ug/l	0.7175	0.4637
Gasco LW3	fluoranthene	4/18/2007	FALSE	composite		0.53	ug/l	0.7175	0.4637
Gasco LW3	fluoranthene	5/21/2007	FALSE	grab		1.9	ug/l	0.7175	0.4637
GE MH 2	fluoranthene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1634	0.1551
GE MH 2	fluoranthene	10/19/2007	FALSE	composite	U	0.196	ug/l	0.1634	0.1551
GE MH 2	fluoranthene	10/19/2007	TRUE	composite	U	0.192	ug/l	0.1634	0.1551
GE MH 2	fluoranthene	11/13/2007	TRUE	composite	U	0.2	ug/l	0.1634	0.1551
GE MH 2	fluoranthene	11/13/2007	FALSE	composite	U	0.2	ug/l	0.1634	0.1551
GE SV 1	fluoranthene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1660	0.1577
GE SV 1	fluoranthene	10/19/2007	FALSE	composite	U	0.2	ug/l	0.1660	0.1577

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
GE SV 1	fluoranthene	11/13/2007	FALSE	composite	U	0.2	ug/l	0.1660	0.1577
Gunderson WR142/145 LW3	fluoranthene	4/9/2007	FALSE	composite		0.2	ug/l	0.2082	0.1746
Gunderson WR142/145 LW3	fluoranthene	5/21/2007	FALSE	grab		0.094	ug/l	0.2082	0.1746
Gunderson WR142/145 LW3	fluoranthene	6/10/2007	FALSE	composite		0.35	ug/l	0.2082	0.1746
Gunderson WR142/145 LW3	fluoranthene	11/16/2007	FALSE	composite		0.32	ug/l	0.2082	0.1746
Gunderson WR142/145 LW3	fluoranthene	11/29/2007	FALSE	composite		0.077	ug/l	0.2082	0.1746
Gunderson WR147 LW3	fluoranthene	4/9/2007	FALSE	composite		0.095	ug/l	0.0830	0.0772
Gunderson WR147 LW3	fluoranthene	4/18/2007	FALSE	composite		0.11	ug/l	0.0830	0.0772
Gunderson WR147 LW3	fluoranthene	4/23/2007	FALSE	composite		0.044	ug/l	0.0830	0.0772
HWY30 NW Yeon-35th LW3	fluoranthene	4/9/2007	FALSE	composite		0.17	ug/l	0.0997	0.0884
HWY30 NW Yeon-35th LW3	fluoranthene	5/3/2007	FALSE	composite		0.055	ug/l	0.0997	0.0884
HWY30 NW Yeon-35th LW3	fluoranthene	6/10/2007	FALSE	composite		0.074	ug/l	0.0997	0.0884
HWY30A Reed St. LW3	fluoranthene	11/16/2007	FALSE	composite		0.16	ug/l	0.2900	0.2713
HWY30A Reed St. LW3	fluoranthene	1/28/2008	FALSE	composite		0.32	ug/l	0.2900	0.2713
HWY30A Reed St. LW3	fluoranthene	1/30/2008	FALSE	composite		0.39	ug/l	0.2900	0.2713
HWY30B 35th St. LW3	fluoranthene	11/27/2007	FALSE	composite		0.36	ug/l	0.4150	0.4057
HWY30B 35th St. LW3	fluoranthene	1/11/2008	FALSE	composite		0.33	ug/l	0.4150	0.4057
HWY30B 35th St. LW3	fluoranthene	1/28/2008	FALSE	composite		0.4	ug/l	0.4150	0.4057
HWY30B 35th St. LW3	fluoranthene	1/30/2008	FALSE	composite		0.57	ug/l	0.4150	0.4057
OF16 LW3	fluoranthene	4/9/2007	FALSE	composite		0.15	ug/l	0.1153	0.1012
OF16 LW3	fluoranthene	4/18/2007	FALSE	composite		0.15	ug/l	0.1153	0.1012
OF16 LW3	fluoranthene	4/23/2007	FALSE	composite		0.046	ug/l	0.1153	0.1012
OF18 LW3	fluoranthene	3/26/2007	TRUE	composite		0.21	ug/l	0.1255	0.0805
OF18 LW3	fluoranthene	3/26/2007	FALSE	composite		0.42	ug/l	0.1255	0.0805
OF18 LW3	fluoranthene	4/9/2007	FALSE	composite		0.09	ug/l	0.1255	0.0805
OF18 LW3	fluoranthene	4/18/2007	FALSE	composite		0.078	ug/l	0.1255	0.0805
OF18 LW3	fluoranthene	5/21/2007	FALSE	grab	J	0.019	ug/l	0.1255	0.0805
OF19_LW3+MS4	fluoranthene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	11/2/2006	FALSE	composite	EST	0.18	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	2/14/2007	FALSE	composite		0.25	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	3/26/2007	FALSE	composite		0.11	ug/l	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	4/9/2007	TRUE	composite		0.24	ug/l	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	4/9/2007	FALSE	composite		0.16	ug/l	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	4/18/2007	FALSE	composite		0.16	ug/l	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	11/26/2007	FALSE	composite		0.12	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	3/7/2008	FALSE	composite		0.195	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	3/25/2008	FALSE	composite		0.126	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	11/20/2008	FALSE	composite		0.117	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	2/23/2009	FALSE	composite		0.358	ug/L	0.1596	0.1487
OF19_LW3+MS4	fluoranthene	3/14/2009	FALSE	composite		0.148	ug/L	0.1596	0.1487
OF22 LW3	fluoranthene	4/9/2007	FALSE	composite		0.18	ug/l	0.1720	0.1530
OF22 LW3	fluoranthene	5/3/2007	FALSE	composite		0.13	ug/l	0.1720	0.1530
OF22 LW3	fluoranthene	6/5/2007	FALSE	grab		0.3	ug/l	0.1720	0.1530
OF22 LW3	fluoranthene	6/10/2007	FALSE	composite		0.078	ug/l	0.1720	0.1530
OF22B LW3	fluoranthene	3/27/2007	FALSE	composite		0.17	ug/l	0.1770	0.1620
OF22B LW3	fluoranthene	5/3/2007	FALSE	composite		0.34	ug/l	0.1770	0.1620
OF22B LW3	fluoranthene	6/5/2007	FALSE	grab		0.14	ug/l	0.1770	0.1620
OF22B LW3	fluoranthene	11/16/2007	FALSE	composite		0.12	ug/l	0.1770	0.1620
OF22B LW3	fluoranthene	11/27/2007	FALSE	composite		0.12	ug/l	0.1770	0.1620
OF22B LW3	fluoranthene	11/27/2007	TRUE	composite		0.11	ug/l	0.1770	0.1620
OF22C City	fluoranthene	2/29/2008	FALSE	grab		0.0724	ug/L	0.0694	0.0610
OF22C City	fluoranthene	3/20/2008	FALSE	grab		0.0424	ug/L	0.0694	0.0610
OF22C City	fluoranthene	4/4/2008	FALSE	grab		0.0356	ug/L	0.0694	0.0610
OF22C City	fluoranthene	5/13/2008	FALSE	grab		0.127	ug/L	0.0694	0.0610
OF22C Tualatin Hills LW3	fluoranthene	4/18/2007	TRUE	composite	U	0.0049	ug/l	0.0055	0.0054
OF22C Tualatin Hills LW3	fluoranthene	4/18/2007	FALSE	composite	U	0.0048	ug/l	0.0055	0.0054
OF22C Tualatin Hills LW3	fluoranthene	4/23/2007	FALSE	composite	U	0.005	ug/l	0.0055	0.0054
OF22C Tualatin Hills LW3	fluoranthene	4/23/2007	TRUE	composite	U	0.005	ug/l	0.0055	0.0054
OF22C Tualatin Hills LW3	fluoranthene	1/9/2008	FALSE	composite	J	0.0066	ug/l	0.0055	0.0054
OF22D City	fluoranthene	2/29/2008	FALSE	grab		0.0242	ug/L	0.1278	0.0645
OF22D City	fluoranthene	2/29/2008	TRUE	grab		0.0306	ug/L	0.1278	0.0645
OF22D City	fluoranthene	3/20/2008	FALSE	grab		0.378	ug/L	0.1278	0.0645
OF22D City	fluoranthene	4/4/2008	FALSE	grab		0.0864	ug/L	0.1278	0.0645
OF22D City	fluoranthene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.1278	0.0645
OF45 City	fluoranthene	2/5/2008	FALSE	grab		0.346	ug/L	0.2328	0.2243
OF45 City	fluoranthene	2/29/2008	FALSE	grab		0.196	ug/L	0.2328	0.2243
OF45 City	fluoranthene	3/20/2008	FALSE	grab		0.172	ug/L	0.2328	0.2243
OF45 City	fluoranthene	4/4/2008	FALSE	grab		0.217	ug/L	0.2328	0.2243
OF46 City	fluoranthene	2/5/2008	FALSE	grab		0.77	ug/L	0.5569	0.5336

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF46 City	fluoranthene	2/29/2008	FALSE	grab		0.455	ug/L	0.5569	0.5336
OF46 City	fluoranthene	3/20/2008	FALSE	grab		0.642	ug/L	0.5569	0.5336
OF46 City	fluoranthene	4/4/2008	TRUE	grab		0.218	ug/L	0.5569	0.5336
OF46 City	fluoranthene	4/4/2008	FALSE	grab		0.503	ug/L	0.5569	0.5336
OF47 City	fluoranthene	2/5/2008	FALSE	grab		0.431	ug/L	0.3321	0.2803
OF47 City	fluoranthene	2/29/2008	FALSE	grab		0.0905	ug/L	0.3321	0.2803
OF47 City	fluoranthene	3/20/2008	FALSE	grab		0.471	ug/L	0.3321	0.2803
OF47 City	fluoranthene	4/4/2008	FALSE	grab		0.336	ug/L	0.3321	0.2803
OF48 City	fluoranthene	9/28/2007	TRUE	grab		0.332	ug/L	0.1480	0.0692
OF48 City	fluoranthene	9/28/2007	FALSE	grab		0.554	ug/L	0.1480	0.0692
OF48 City	fluoranthene	10/16/2007	FALSE	grab		0.0257	ug/L	0.1480	0.0692
OF48 City	fluoranthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.1480	0.0692
OF48 City	fluoranthene	12/15/2007	FALSE	grab		0.104	ug/L	0.1480	0.0692
OF49 LW3	fluoranthene	4/9/2007	FALSE	composite	J	0.012	ug/l	0.0173	0.0169
OF49 LW3	fluoranthene	4/23/2007	FALSE	composite		0.022	ug/l	0.0173	0.0169
OF49 LW3	fluoranthene	6/10/2007	FALSE	composite	J	0.018	ug/l	0.0173	0.0169
OF49 LW3	fluoranthene	11/16/2007	FALSE	composite	J	0.017	ug/l	0.0173	0.0169
OF50 City	fluoranthene	9/28/2007	FALSE	grab		0.137	ug/L	0.0591	0.0421
OF50 City	fluoranthene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0591	0.0421
OF50 City	fluoranthene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0591	0.0421
OF50 City	fluoranthene	12/14/2007	FALSE	grab		0.0604	ug/L	0.0591	0.0421
OF52 City	fluoranthene	9/28/2007	FALSE	grab		0.232	ug/L	0.1079	0.0812
OF52 City	fluoranthene	9/30/2007	FALSE	grab		0.0373	ug/L	0.1079	0.0812
OF52 City	fluoranthene	9/30/2007	TRUE	grab		0.0393	ug/L	0.1079	0.0812
OF52 City	fluoranthene	10/16/2007	FALSE	grab		0.133	ug/L	0.1079	0.0812
OF52 City	fluoranthene	10/16/2007	TRUE	grab		0.108	ug/L	0.1079	0.0812
OF52 City	fluoranthene	11/16/2007	FALSE	grab		0.0407	ug/L	0.1079	0.0812
OF52A City	fluoranthene	9/28/2007	FALSE	grab		0.62	ug/L	0.4060	0.3903
OF52A City	fluoranthene	10/16/2007	FALSE	grab		0.333	ug/L	0.4060	0.3903
OF52A City	fluoranthene	11/16/2007	FALSE	grab		0.321	ug/L	0.4060	0.3903
OF52A City	fluoranthene	12/14/2007	FALSE	grab		0.35	ug/L	0.4060	0.3903
OF52C Basin T Port	fluoranthene	3/24/2007	FALSE	composite		0.19	ug/l	0.0935	0.0812
OF52C Basin T Port	fluoranthene	4/7/2007	FALSE	composite		0.056	ug/l	0.0935	0.0812
OF52C Basin T Port	fluoranthene	5/3/2007	FALSE	composite		0.063	ug/l	0.0935	0.0812
OF52C Basin T Port	fluoranthene	11/16/2007	FALSE	composite		0.065	ug/l	0.0935	0.0812
OF53 City+Port	fluoranthene	3/24/2007	FALSE	composite		0.1	ug/l	0.1308	0.1186
OF53 City+Port	fluoranthene	4/7/2007	FALSE	composite		0.082	ug/l	0.1308	0.1186
OF53 City+Port	fluoranthene	5/3/2007	FALSE	composite		0.21	ug/l	0.1308	0.1186
OF53 City+Port	fluoranthene	1/26/2008	FALSE	composite		0.0899	ug/L	0.1308	0.1186
OF53 City+Port	fluoranthene	2/6/2008	FALSE	composite		0.222	ug/L	0.1308	0.1186
OF53 City+Port	fluoranthene	3/12/2008	TRUE	composite		0.088	ug/L	0.1308	0.1186
OF53 City+Port	fluoranthene	3/12/2008	FALSE	composite		0.074	ug/L	0.1308	0.1186
OF53A City	fluoranthene	2/29/2008	FALSE	grab		0.0909	ug/L	0.1163	0.1049
OF53A City	fluoranthene	3/20/2008	FALSE	grab		0.204	ug/L	0.1163	0.1049
OF53A City	fluoranthene	4/4/2008	FALSE	grab		0.112	ug/L	0.1163	0.1049
OF53A City	fluoranthene	5/13/2008	FALSE	grab	U	0.0583	ug/L	0.1163	0.1049
OFM1 City	fluoranthene	9/28/2007	FALSE	grab	U	0.118	ug/L	0.0979	0.0872
OFM1 City	fluoranthene	9/30/2007	FALSE	grab		0.0446	ug/L	0.0979	0.0872
OFM1 City	fluoranthene	10/16/2007	FALSE	grab		0.16	ug/L	0.0979	0.0872
OFM1 City	fluoranthene	11/16/2007	FALSE	grab		0.0688	ug/L	0.0979	0.0872
OFM1 LW3	fluoranthene	3/26/2007	FALSE	composite		0.19	ug/l	0.2267	0.2248
OFM1 LW3	fluoranthene	4/9/2007	FALSE	composite		0.23	ug/l	0.2267	0.2248
OFM1 LW3	fluoranthene	4/18/2007	FALSE	composite		0.26	ug/l	0.2267	0.2248
OFM2 City	fluoranthene	9/28/2007	FALSE	grab		0.0476	ug/L	0.0587	0.0551
OFM2 City	fluoranthene	10/16/2007	FALSE	grab		0.097	ug/L	0.0587	0.0551
OFM2 City	fluoranthene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0587	0.0551
OFM2 City	fluoranthene	12/15/2007	FALSE	grab		0.0515	ug/L	0.0587	0.0551
OFM2 LW3	fluoranthene	4/9/2007	FALSE	composite		0.078	ug/l	0.0793	0.0752
OFM2 LW3	fluoranthene	4/9/2007	FALSE	composite		0.12	ug/l	0.0793	0.0752
OFM2 LW3	fluoranthene	4/23/2007	FALSE	composite		0.048	ug/l	0.0793	0.0752
OFM2 LW3	fluoranthene	5/3/2007	FALSE	composite		0.068	ug/l	0.0793	0.0752
OFM2 LW3	fluoranthene	5/3/2007	TRUE	composite		0.074	ug/l	0.0793	0.0752
OFM3 City	fluoranthene	9/28/2007	FALSE	grab		0.0379	ug/L	0.0486	0.0413
OFM3 City	fluoranthene	9/30/2007	FALSE	grab		0.0245	ug/L	0.0486	0.0413
OFM3 City	fluoranthene	10/16/2007	FALSE	grab		0.101	ug/L	0.0486	0.0413
OFM3 City	fluoranthene	11/16/2007	FALSE	grab		0.031	ug/L	0.0486	0.0413
OFS1 City	fluoranthene	9/28/2007	FALSE	grab		0.435	ug/L	1.8363	1.2962
OFS1 City	fluoranthene	10/16/2007	FALSE	grab		0.82	ug/L	1.8363	1.2962
OFS1 City	fluoranthene	11/16/2007	FALSE	grab		4.21	ug/L	1.8363	1.2962
OFS1 City	fluoranthene	12/15/2007	FALSE	grab		1.88	ug/L	1.8363	1.2962
OFS2 City	fluoranthene	9/28/2007	FALSE	grab		0.0505	ug/L	0.0644	0.0566
OFS2 City	fluoranthene	10/16/2007	FALSE	grab	U	0.0588	ug/L	0.0644	0.0566

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS2 City	fluoranthene	11/16/2007	FALSE	grab	U	0.0291	ug/L	0.0644	0.0566
OFS2 City	fluoranthene	12/15/2007	FALSE	grab		0.119	ug/L	0.0644	0.0566
OFS5 City	fluoranthene	9/28/2007	FALSE	grab		0.0603	ug/L	0.1674	0.1139
OFS5 City	fluoranthene	10/16/2007	FALSE	grab	U	0.0388	ug/L	0.1674	0.1139
OFS5 City	fluoranthene	11/16/2007	FALSE	grab		0.169	ug/L	0.1674	0.1139
OFS5 City	fluoranthene	11/16/2007	TRUE	grab		0.206	ug/L	0.1674	0.1139
OFS5 City	fluoranthene	12/15/2007	FALSE	grab		0.383	ug/L	0.1674	0.1139
OFS6 City	fluoranthene	9/28/2007	FALSE	grab		0.133	ug/L	0.2460	0.2136
OFS6 City	fluoranthene	10/16/2007	FALSE	grab		0.465	ug/L	0.2460	0.2136
OFS6 City	fluoranthene	11/16/2007	FALSE	grab		0.133	ug/L	0.2460	0.2136
OFS6 City	fluoranthene	12/15/2007	FALSE	grab		0.253	ug/L	0.2460	0.2136
OSM LW3	fluoranthene	3/26/2007	FALSE	composite		0.24	ug/l	0.1525	0.1363
OSM LW3	fluoranthene	4/9/2007	FALSE	composite		0.2	ug/l	0.1525	0.1363
OSM LW3	fluoranthene	4/18/2007	FALSE	composite		0.09	ug/l	0.1525	0.1363
OSM LW3	fluoranthene	5/21/2007	FALSE	grab		0.08	ug/l	0.1525	0.1363
Portland Shipyard LW3	fluoranthene	3/26/2007	FALSE	composite		0.11	ug/l	0.1044	0.0955
Portland Shipyard LW3	fluoranthene	4/9/2007	FALSE	composite		0.13	ug/l	0.1044	0.0955
Portland Shipyard LW3	fluoranthene	5/3/2007	FALSE	composite		0.077	ug/l	0.1044	0.0955
Portland Shipyard LW3	fluoranthene	5/22/2007	FALSE	grab		0.045	ug/l	0.1044	0.0955
Portland Shipyard LW3	fluoranthene	6/5/2007	FALSE	grab		0.16	ug/l	0.1044	0.0955
Schnitzer Int. LW3	fluoranthene	4/9/2007	FALSE	composite		0.31	ug/l	0.1823	0.1624
Schnitzer Int. LW3	fluoranthene	4/18/2007	FALSE	composite		0.21	ug/l	0.1823	0.1624
Schnitzer Int. LW3	fluoranthene	4/23/2007	FALSE	composite		0.089	ug/l	0.1823	0.1624
Schnitzer Int. LW3	fluoranthene	5/21/2007	FALSE	grab		0.12	ug/l	0.1823	0.1624
Schnitzer Riverside LW3	fluoranthene	4/9/2007	FALSE	composite		0.042	ug/l	2.5807	0.8173
Schnitzer Riverside LW3	fluoranthene	4/18/2007	FALSE	composite	J	2.5	ug/l	2.5807	0.8173
Schnitzer Riverside LW3	fluoranthene	4/23/2007	FALSE	composite		5.2	ug/l	2.5807	0.8173
Siltronic LW3	fluoranthene	4/9/2007	FALSE	composite		0.14	ug/l	0.1080	0.0959
Siltronic LW3	fluoranthene	4/9/2007	FALSE	composite		0.074	ug/l	0.1080	0.0959
Siltronic LW3	fluoranthene	4/18/2007	FALSE	composite		0.17	ug/l	0.1080	0.0959
Siltronic LW3	fluoranthene	6/10/2007	FALSE	composite		0.048	ug/l	0.1080	0.0959
SJB LW3	fluoranthene	3/26/2007	FALSE	composite		1.9	ug/l	0.7638	0.5148
SJB LW3	fluoranthene	4/9/2007	FALSE	composite		0.66	ug/l	0.7638	0.5148
SJB LW3	fluoranthene	4/18/2007	FALSE	composite	J	0.32	ug/l	0.7638	0.5148
SJB LW3	fluoranthene	5/21/2007	TRUE	grab		0.15	ug/l	0.7638	0.5148
SJB LW3	fluoranthene	5/21/2007	FALSE	grab		0.2	ug/l	0.7638	0.5148
Sulzer LW3	fluoranthene	1/11/2008	FALSE	composite		0.043	ug/l	0.0535	0.0525
Sulzer LW3	fluoranthene	1/30/2008	FALSE	composite		0.064	ug/l	0.0535	0.0525
UPRR Albina LW3	fluoranthene	5/3/2007	FALSE	composite		0.13	ug/l	0.5025	0.2934
UPRR Albina LW3	fluoranthene	6/10/2007	FALSE	composite		0.11	ug/l	0.5025	0.2934
UPRR Albina LW3	fluoranthene	11/27/2007	FALSE	composite		0.37	ug/l	0.5025	0.2934
UPRR Albina LW3	fluoranthene	11/29/2007	FALSE	composite		1.4	ug/l	0.5025	0.2934
WR169 Basin D Port	fluoranthene	3/24/2007	FALSE	composite		0.091	ug/l	0.0753	0.0729
WR169 Basin D Port	fluoranthene	4/7/2007	FALSE	composite		0.091	ug/l	0.0753	0.0729
WR169 Basin D Port	fluoranthene	5/3/2007	FALSE	composite		0.048	ug/l	0.0753	0.0729
WR169 Basin D Port	fluoranthene	5/3/2007	TRUE	composite		0.048	ug/l	0.0753	0.0729
WR169 Basin D Port	fluoranthene	11/16/2007	FALSE	composite		0.071	ug/l	0.0753	0.0729
WR177 Basin M Port	fluoranthene	3/24/2007	FALSE	composite		1.4	ug/l	0.5100	0.3372
WR177 Basin M Port	fluoranthene	4/7/2007	FALSE	composite		0.27	ug/l	0.5100	0.3372
WR177 Basin M Port	fluoranthene	5/3/2007	FALSE	composite		0.18	ug/l	0.5100	0.3372
WR177 Basin M Port	fluoranthene	9/28/2007	FALSE	composite		0.19	ug/l	0.5100	0.3372
WR181 Basin Q Port	fluoranthene	3/24/2007	TRUE	composite		0.8	ug/l	0.3650	0.2517
WR181 Basin Q Port	fluoranthene	3/24/2007	FALSE	composite		0.81	ug/l	0.3650	0.2517
WR181 Basin Q Port	fluoranthene	4/7/2007	FALSE	composite		0.18	ug/l	0.3650	0.2517
WR181 Basin Q Port	fluoranthene	9/28/2007	FALSE	composite		0.11	ug/l	0.3650	0.2517
WR183 Basin R Port	fluoranthene	3/24/2007	FALSE	composite		0.042	ug/l	0.2409	0.1127
WR183 Basin R Port	fluoranthene	4/7/2007	FALSE	composite		0.062	ug/l	0.2409	0.1127
WR183 Basin R Port	fluoranthene	5/3/2007	FALSE	composite		0.78	ug/l	0.2409	0.1127
WR183 Basin R Port	fluoranthene	11/16/2007	FALSE	composite		0.096	ug/l	0.2409	0.1127
WR183 Basin R Port	fluoranthene	11/16/2007	TRUE	composite		0.063	ug/l	0.2409	0.1127
WR20 Basin L Port	fluoranthene	3/24/2007	FALSE	composite		3	ug/l	2.9750	2.7592
WR20 Basin L Port	fluoranthene	5/3/2007	FALSE	composite		2.8	ug/l	2.9750	2.7592
WR20 Basin L Port	fluoranthene	5/20/2007	FALSE	composite		4.6	ug/l	2.9750	2.7592
WR20 Basin L Port	fluoranthene	9/28/2007	FALSE	composite		1.5	ug/l	2.9750	2.7592
Arkema LW3	fluorene	3/26/2007	FALSE	composite	U	0.0036	ug/l	0.0038	0.0038
Arkema LW3	fluorene	4/23/2007	FALSE	composite	U	0.0036	ug/l	0.0038	0.0038
Arkema LW3	fluorene	5/3/2007	FALSE	composite	U	0.0039	ug/l	0.0038	0.0038
Arkema LW3	fluorene	6/5/2007	FALSE	grab	U	0.004	ug/l	0.0038	0.0038
Arkema LW3	fluorene	11/27/2007	FALSE	composite	U	0.0039	ug/l	0.0038	0.0038
Chevron LW3	fluorene	3/26/2007	FALSE	composite	U	0.019	ug/l	0.0163	0.0133
Chevron LW3	fluorene	4/9/2007	FALSE	composite		0.025	ug/l	0.0163	0.0133
Chevron LW3	fluorene	4/23/2007	FALSE	composite	J	0.0049	ug/l	0.0163	0.0133

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Gasco LW3	fluorene	3/26/2007	FALSE	composite	U	0.0094	ug/l	0.0584	0.0262
Gasco LW3	fluorene	4/9/2007	FALSE	composite	J	0.012	ug/l	0.0584	0.0262
Gasco LW3	fluorene	4/18/2007	FALSE	composite		0.022	ug/l	0.0584	0.0262
Gasco LW3	fluorene	5/21/2007	FALSE	grab		0.19	ug/l	0.0584	0.0262
GE MH 2	fluorene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1272	0.1251
GE MH 2	fluorene	10/19/2007	FALSE	composite	U	0.142	ug/l	0.1272	0.1251
GE MH 2	fluorene	10/19/2007	TRUE	composite	U	0.139	ug/l	0.1272	0.1251
GE MH 2	fluorene	11/13/2007	TRUE	composite	U	0.145	ug/l	0.1272	0.1251
GE MH 2	fluorene	11/13/2007	FALSE	composite	U	0.145	ug/l	0.1272	0.1251
GE SV 1	fluorene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1293	0.1272
GE SV 1	fluorene	10/19/2007	FALSE	composite	U	0.145	ug/l	0.1293	0.1272
GE SV 1	fluorene	11/13/2007	FALSE	composite	U	0.145	ug/l	0.1293	0.1272
Gunderson WR142/145 LW3	fluorene	4/9/2007	FALSE	composite		0.028	ug/l	0.0192	0.0155
Gunderson WR142/145 LW3	fluorene	5/21/2007	FALSE	grab	U	0.0038	ug/l	0.0192	0.0155
Gunderson WR142/145 LW3	fluorene	6/10/2007	FALSE	composite		0.031	ug/l	0.0192	0.0155
Gunderson WR142/145 LW3	fluorene	11/16/2007	FALSE	composite	J	0.017	ug/l	0.0192	0.0155
Gunderson WR142/145 LW3	fluorene	11/29/2007	FALSE	composite	J	0.016	ug/l	0.0192	0.0155
Gunderson WR147 LW3	fluorene	4/9/2007	FALSE	composite	J	0.02	ug/l	0.0183	0.0177
Gunderson WR147 LW3	fluorene	4/18/2007	FALSE	composite		0.023	ug/l	0.0183	0.0177
Gunderson WR147 LW3	fluorene	4/23/2007	FALSE	composite	J	0.012	ug/l	0.0183	0.0177
HWY30 NW Yeon-35th LW3	fluorene	4/9/2007	FALSE	composite	J	0.012	ug/l	0.0103	0.0102
HWY30 NW Yeon-35th LW3	fluorene	5/3/2007	FALSE	composite	J	0.0089	ug/l	0.0103	0.0102
HWY30 NW Yeon-35th LW3	fluorene	6/10/2007	FALSE	composite	J	0.0099	ug/l	0.0103	0.0102
HWY30A Reed St. LW3	fluorene	11/16/2007	FALSE	composite	J	0.013	ug/l	0.0280	0.0248
HWY30A Reed St. LW3	fluorene	1/28/2008	FALSE	composite		0.045	ug/l	0.0280	0.0248
HWY30A Reed St. LW3	fluorene	1/30/2008	FALSE	composite		0.026	ug/l	0.0280	0.0248
HWY30B 35th St. LW3	fluorene	11/27/2007	FALSE	composite		0.044	ug/l	0.0415	0.0398
HWY30B 35th St. LW3	fluorene	1/11/2008	FALSE	composite		0.025	ug/l	0.0415	0.0398
HWY30B 35th St. LW3	fluorene	1/28/2008	FALSE	composite		0.057	ug/l	0.0415	0.0398
HWY30B 35th St. LW3	fluorene	1/30/2008	FALSE	composite		0.04	ug/l	0.0415	0.0398
OF16 LW3	fluorene	4/9/2007	FALSE	composite		0.024	ug/l	0.0347	0.0313
OF16 LW3	fluorene	4/18/2007	FALSE	composite		0.022	ug/l	0.0347	0.0313
OF16 LW3	fluorene	4/23/2007	FALSE	composite		0.058	ug/l	0.0347	0.0313
OF18 LW3	fluorene	3/26/2007	TRUE	composite		0.047	ug/l	0.0142	0.0089
OF18 LW3	fluorene	3/26/2007	FALSE	composite		0.031	ug/l	0.0142	0.0089
OF18 LW3	fluorene	4/9/2007	FALSE	composite	U	0.0042	ug/l	0.0142	0.0089
OF18 LW3	fluorene	4/18/2007	FALSE	composite	J	0.0095	ug/l	0.0142	0.0089
OF18 LW3	fluorene	5/21/2007	FALSE	grab	U	0.004	ug/l	0.0142	0.0089
OF19_LW3+MS4	fluorene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	2/14/2007	FALSE	composite		0.013	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	3/26/2007	FALSE	composite	U	0.0097	ug/l	0.0493	0.0335
OF19_LW3+MS4	fluorene	4/9/2007	FALSE	composite		0.023	ug/l	0.0493	0.0335
OF19_LW3+MS4	fluorene	4/9/2007	TRUE	composite	J	0.019	ug/l	0.0493	0.0335
OF19_LW3+MS4	fluorene	4/18/2007	FALSE	composite	J	0.014	ug/l	0.0493	0.0335
OF19_LW3+MS4	fluorene	11/26/2007	FALSE	composite	U	0.02	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	3/7/2008	FALSE	composite	U	0.02	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	3/25/2008	FALSE	composite	U	0.019	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	11/20/2008	FALSE	composite		0.0236	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	2/23/2009	FALSE	composite	U	0.0392	ug/L	0.0493	0.0335
OF19_LW3+MS4	fluorene	3/14/2009	FALSE	composite	U	0.0196	ug/L	0.0493	0.0335
OF22 LW3	fluorene	4/9/2007	FALSE	composite		0.039	ug/l	0.3637	0.0400
OF22 LW3	fluorene	5/3/2007	FALSE	composite	J	0.012	ug/l	0.3637	0.0400
OF22 LW3	fluorene	6/5/2007	FALSE	grab		1.4	ug/l	0.3637	0.0400
OF22 LW3	fluorene	6/10/2007	FALSE	composite	U	0.0039	ug/l	0.3637	0.0400
OF22B LW3	fluorene	3/27/2007	FALSE	composite		0.036	ug/l	0.0305	0.0298
OF22B LW3	fluorene	5/3/2007	FALSE	composite		0.04	ug/l	0.0305	0.0298
OF22B LW3	fluorene	6/5/2007	FALSE	grab		0.029	ug/l	0.0305	0.0298
OF22B LW3	fluorene	11/16/2007	FALSE	composite		0.023	ug/l	0.0305	0.0298
OF22B LW3	fluorene	11/27/2007	FALSE	composite		0.026	ug/l	0.0305	0.0298
OF22B LW3	fluorene	11/27/2007	TRUE	composite		0.023	ug/l	0.0305	0.0298
OF22C City	fluorene	2/29/2008	FALSE	grab		0.218	ug/L	0.1603	0.1334
OF22C City	fluorene	3/20/2008	FALSE	grab		0.0588	ug/L	0.1603	0.1334
OF22C City	fluorene	4/4/2008	FALSE	grab		0.0903	ug/L	0.1603	0.1334
OF22C City	fluorene	5/13/2008	FALSE	grab		0.274	ug/L	0.1603	0.1334
OF22C Tualatin Hills LW3	fluorene	4/18/2007	TRUE	composite	U	0.0038	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	fluorene	4/18/2007	FALSE	composite	U	0.0037	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	fluorene	4/23/2007	TRUE	composite	U	0.0038	ug/l	0.0039	0.0039
OF22C Tualatin Hills LW3	fluorene	4/23/2007	FALSE	composite	U	0.0038	ug/l	0.0039	0.0039

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22C Tualatin Hills LW3	fluorene	1/9/2008	FALSE	composite	U	0.0041	ug/l	0.0039	0.0039
OF22D City	fluorene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	fluorene	2/29/2008	TRUE	grab	U	0.0194	ug/L	0.0389	0.0291
OF22D City	fluorene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0389	0.0291
OF22D City	fluorene	4/4/2008	FALSE	grab	U	0.0196	ug/L	0.0389	0.0291
OF22D City	fluorene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0389	0.0291
OF45 City	fluorene	2/5/2008	FALSE	grab		0.0425	ug/L	0.0309	0.0292
OF45 City	fluorene	2/29/2008	FALSE	grab		0.023	ug/L	0.0309	0.0292
OF45 City	fluorene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0309	0.0292
OF45 City	fluorene	4/4/2008	FALSE	grab	U	0.0385	ug/L	0.0309	0.0292
OF46 City	fluorene	2/5/2008	FALSE	grab	U	0.0396	ug/L	0.0535	0.0490
OF46 City	fluorene	2/29/2008	FALSE	grab	U	0.0385	ug/L	0.0535	0.0490
OF46 City	fluorene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0535	0.0490
OF46 City	fluorene	4/4/2008	TRUE	grab	U	0.0388	ug/L	0.0535	0.0490
OF46 City	fluorene	4/4/2008	FALSE	grab	U	0.0388	ug/L	0.0535	0.0490
OF47 City	fluorene	2/5/2008	FALSE	grab	U	0.0388	ug/L	0.0442	0.0353
OF47 City	fluorene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0442	0.0353
OF47 City	fluorene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.0442	0.0353
OF47 City	fluorene	4/4/2008	FALSE	grab		0.0207	ug/L	0.0442	0.0353
OF48 City	fluorene	9/28/2007	FALSE	grab		0.0451	ug/L	0.0246	0.0233
OF48 City	fluorene	9/28/2007	TRUE	grab		0.0351	ug/L	0.0246	0.0233
OF48 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0246	0.0233
OF48 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0246	0.0233
OF48 City	fluorene	12/15/2007	FALSE	grab	U	0.0192	ug/L	0.0246	0.0233
OF49 LW3	fluorene	4/9/2007	FALSE	composite	J	0.0059	ug/l	0.0051	0.0049
OF49 LW3	fluorene	4/23/2007	FALSE	composite	U	0.0038	ug/l	0.0051	0.0049
OF49 LW3	fluorene	6/10/2007	FALSE	composite	U	0.0039	ug/l	0.0051	0.0049
OF49 LW3	fluorene	11/16/2007	FALSE	composite	J	0.0067	ug/l	0.0051	0.0049
OF50 City	fluorene	9/28/2007	FALSE	grab		0.0361	ug/L	0.0236	0.0227
OF50 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0236	0.0227
OF50 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0236	0.0227
OF50 City	fluorene	12/14/2007	FALSE	grab	U	0.0194	ug/L	0.0236	0.0227
OF52 City	fluorene	9/28/2007	FALSE	grab		0.0441	ug/L	0.0256	0.0239
OF52 City	fluorene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.0256	0.0239
OF52 City	fluorene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0256	0.0239
OF52 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0256	0.0239
OF52 City	fluorene	10/16/2007	TRUE	grab	U	0.0196	ug/L	0.0256	0.0239
OF52 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0256	0.0239
OF52A City	fluorene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.0677	0.0397
OF52A City	fluorene	10/16/2007	FALSE	grab	U	0.0294	ug/L	0.0677	0.0397
OF52A City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0677	0.0397
OF52A City	fluorene	12/14/2007	FALSE	grab		0.0218	ug/L	0.0677	0.0397
OF52C Basin T Port	fluorene	3/24/2007	FALSE	composite	J	0.018	ug/l	0.0121	0.0107
OF52C Basin T Port	fluorene	4/7/2007	FALSE	composite	J	0.014	ug/l	0.0121	0.0107
OF52C Basin T Port	fluorene	5/3/2007	FALSE	composite	J	0.012	ug/l	0.0121	0.0107
OF52C Basin T Port	fluorene	11/16/2007	FALSE	composite	U	0.0044	ug/l	0.0121	0.0107
OF53 City+Port	fluorene	3/24/2007	FALSE	composite	J	0.0094	ug/l	0.0213	0.0189
OF53 City+Port	fluorene	4/7/2007	FALSE	composite	J	0.01	ug/l	0.0213	0.0189
OF53 City+Port	fluorene	5/3/2007	FALSE	composite	J	0.024	ug/l	0.0213	0.0189
OF53 City+Port	fluorene	1/26/2008	FALSE	composite		0.0268	ug/L	0.0213	0.0189
OF53 City+Port	fluorene	2/6/2008	FALSE	composite	U	0.0381	ug/L	0.0213	0.0189
OF53 City+Port	fluorene	3/12/2008	TRUE	composite	U	0.0196	ug/L	0.0213	0.0189
OF53 City+Port	fluorene	3/12/2008	FALSE	composite	U	0.0196	ug/L	0.0213	0.0189
OF53A City	fluorene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.0342	0.0277
OF53A City	fluorene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0342	0.0277
OF53A City	fluorene	4/4/2008	FALSE	grab		0.0779	ug/L	0.0342	0.0277
OF53A City	fluorene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0342	0.0277
OFM1 City	fluorene	9/28/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFM1 City	fluorene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFM1 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFM1 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFM1 LW3	fluorene	3/26/2007	FALSE	composite		0.024	ug/l	0.0357	0.0331
OFM1 LW3	fluorene	4/9/2007	FALSE	composite		0.056	ug/l	0.0357	0.0331
OFM1 LW3	fluorene	4/18/2007	FALSE	composite		0.027	ug/l	0.0357	0.0331
OFM2 City	fluorene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	fluorene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 City	fluorene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0243	0.0231
OFM2 City	fluorene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0243	0.0231
OFM2 LW3	fluorene	4/9/2007	FALSE	composite	J	0.015	ug/l	0.0094	0.0088
OFM2 LW3	fluorene	4/9/2007	FALSE	composite	J	0.0094	ug/l	0.0094	0.0088
OFM2 LW3	fluorene	4/23/2007	FALSE	composite	J	0.0054	ug/l	0.0094	0.0088
OFM2 LW3	fluorene	5/3/2007	FALSE	composite	J	0.0083	ug/l	0.0094	0.0088

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 LW3	fluorene	5/3/2007	TRUE	composite	J	0.0073	ug/l	0.0094	0.0088
OFM3 City	fluorene	9/28/2007	FALSE	grab	U	0.0198	ug/L	0.0196	0.0195
OFM3 City	fluorene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFM3 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0196	0.0195
OFM3 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0196	0.0195
OFS1 City	fluorene	9/28/2007	FALSE	grab		0.0403	ug/L	0.0647	0.0495
OFS1 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0647	0.0495
OFS1 City	fluorene	11/16/2007	FALSE	grab		0.147	ug/L	0.0647	0.0495
OFS1 City	fluorene	12/15/2007	FALSE	grab		0.0518	ug/L	0.0647	0.0495
OFS2 City	fluorene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	fluorene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS2 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0195
OFS2 City	fluorene	12/15/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0195
OFS5 City	fluorene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OFS5 City	fluorene	10/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OFS5 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0195	0.0194
OFS5 City	fluorene	11/16/2007	TRUE	grab	U	0.0194	ug/L	0.0195	0.0194
OFS5 City	fluorene	12/15/2007	FALSE	grab	U	0.0196	ug/L	0.0195	0.0194
OFS6 City	fluorene	9/28/2007	FALSE	grab		0.0419	ug/L	0.0250	0.0235
OFS6 City	fluorene	10/16/2007	FALSE	grab	U	0.0192	ug/L	0.0250	0.0235
OFS6 City	fluorene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0250	0.0235
OFS6 City	fluorene	12/15/2007	FALSE	grab	U	0.0194	ug/L	0.0250	0.0235
OSM LW3	fluorene	3/26/2007	FALSE	composite		0.063	ug/l	0.0315	0.0265
OSM LW3	fluorene	4/9/2007	FALSE	composite		0.031	ug/l	0.0315	0.0265
OSM LW3	fluorene	4/18/2007	FALSE	composite	J	0.018	ug/l	0.0315	0.0265
OSM LW3	fluorene	5/21/2007	FALSE	grab	J	0.014	ug/l	0.0315	0.0265
Portland Shipyard LW3	fluorene	3/26/2007	FALSE	composite	U	0.013	ug/l	0.0212	0.0156
Portland Shipyard LW3	fluorene	4/9/2007	FALSE	composite	J	0.018	ug/l	0.0212	0.0156
Portland Shipyard LW3	fluorene	5/3/2007	FALSE	composite	J	0.021	ug/l	0.0212	0.0156
Portland Shipyard LW3	fluorene	5/22/2007	FALSE	grab	U	0.0038	ug/l	0.0212	0.0156
Portland Shipyard LW3	fluorene	6/5/2007	FALSE	grab		0.05	ug/l	0.0212	0.0156
Schnitzer Int. LW3	fluorene	4/9/2007	FALSE	composite		0.026	ug/l	0.0166	0.0138
Schnitzer Int. LW3	fluorene	4/18/2007	FALSE	composite		0.025	ug/l	0.0166	0.0138
Schnitzer Int. LW3	fluorene	4/23/2007	FALSE	composite	J	0.0065	ug/l	0.0166	0.0138
Schnitzer Int. LW3	fluorene	5/21/2007	FALSE	grab	J	0.0087	ug/l	0.0166	0.0138
Schnitzer Riverside LW3	fluorene	4/9/2007	FALSE	composite	U	0.0039	ug/l	0.1146	0.0462
Schnitzer Riverside LW3	fluorene	4/18/2007	FALSE	composite	J	0.23	ug/l	0.1146	0.0462
Schnitzer Riverside LW3	fluorene	4/23/2007	FALSE	composite		0.11	ug/l	0.1146	0.0462
Siltronic LW3	fluorene	4/9/2007	FALSE	composite	J	0.011	ug/l	0.0107	0.0094
Siltronic LW3	fluorene	4/9/2007	FALSE	composite	U	0.0038	ug/l	0.0107	0.0094
Siltronic LW3	fluorene	4/18/2007	FALSE	composite	J	0.017	ug/l	0.0107	0.0094
Siltronic LW3	fluorene	6/10/2007	FALSE	composite	J	0.011	ug/l	0.0107	0.0094
SJB LW3	fluorene	3/26/2007	FALSE	composite		0.36	ug/l	0.1256	0.0751
SJB LW3	fluorene	4/9/2007	FALSE	composite		0.053	ug/l	0.1256	0.0751
SJB LW3	fluorene	4/18/2007	FALSE	composite	J	0.063	ug/l	0.1256	0.0751
SJB LW3	fluorene	5/21/2007	FALSE	grab		0.029	ug/l	0.1256	0.0751
SJB LW3	fluorene	5/21/2007	TRUE	grab		0.024	ug/l	0.1256	0.0751
Sulzer LW3	fluorene	1/11/2008	FALSE	composite		0.021	ug/l	0.0210	0.0210
Sulzer LW3	fluorene	1/30/2008	FALSE	composite	J	0.021	ug/l	0.0210	0.0210
UPRR Albina LW3	fluorene	5/3/2007	FALSE	composite	J	0.015	ug/l	0.0329	0.0240
UPRR Albina LW3	fluorene	6/10/2007	FALSE	composite	J	0.0097	ug/l	0.0329	0.0240
UPRR Albina LW3	fluorene	11/27/2007	FALSE	composite		0.029	ug/l	0.0329	0.0240
UPRR Albina LW3	fluorene	11/29/2007	FALSE	composite		0.078	ug/l	0.0329	0.0240
WR169 Basin D Port	fluorene	3/24/2007	FALSE	composite	J	0.01	ug/l	0.0084	0.0076
WR169 Basin D Port	fluorene	4/7/2007	FALSE	composite	J	0.013	ug/l	0.0084	0.0076
WR169 Basin D Port	fluorene	5/3/2007	TRUE	composite	J	0.0069	ug/l	0.0084	0.0076
WR169 Basin D Port	fluorene	5/3/2007	FALSE	composite	J	0.0061	ug/l	0.0084	0.0076
WR169 Basin D Port	fluorene	11/16/2007	FALSE	composite	U	0.004	ug/l	0.0084	0.0076
WR177 Basin M Port	fluorene	3/24/2007	FALSE	composite		0.12	ug/l	0.0430	0.0272
WR177 Basin M Port	fluorene	4/7/2007	FALSE	composite		0.025	ug/l	0.0430	0.0272
WR177 Basin M Port	fluorene	5/3/2007	FALSE	composite	J	0.014	ug/l	0.0430	0.0272
WR177 Basin M Port	fluorene	9/28/2007	FALSE	composite	J	0.013	ug/l	0.0430	0.0272
WR181 Basin Q Port	fluorene	3/24/2007	TRUE	composite		0.029	ug/l	0.0193	0.0175
WR181 Basin Q Port	fluorene	3/24/2007	FALSE	composite		0.031	ug/l	0.0193	0.0175
WR181 Basin Q Port	fluorene	4/7/2007	FALSE	composite	J	0.018	ug/l	0.0193	0.0175
WR181 Basin Q Port	fluorene	9/28/2007	FALSE	composite	J	0.01	ug/l	0.0193	0.0175
WR183 Basin R Port	fluorene	3/24/2007	FALSE	composite	J	0.01	ug/l	0.0198	0.0126
WR183 Basin R Port	fluorene	4/7/2007	FALSE	composite	J	0.012	ug/l	0.0198	0.0126
WR183 Basin R Port	fluorene	5/3/2007	FALSE	composite		0.053	ug/l	0.0198	0.0126
WR183 Basin R Port	fluorene	11/16/2007	TRUE	composite	U	0.004	ug/l	0.0198	0.0126
WR183 Basin R Port	fluorene	11/16/2007	FALSE	composite	U	0.004	ug/l	0.0198	0.0126
WR20 Basin L Port	fluorene	3/24/2007	FALSE	composite		0.15	ug/l	0.1160	0.0995

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	fluorene	5/3/2007	FALSE	composite		0.16	ug/l	0.1160	0.0995
WR20 Basin L Port	fluorene	5/20/2007	FALSE	composite		0.12	ug/l	0.1160	0.0995
WR20 Basin L Port	fluorene	9/28/2007	FALSE	composite		0.034	ug/l	0.1160	0.0995
Arkema LW3	heptachlor	3/26/2007	FALSE	composite	U	0.01	ug/l	0.0026	0.0011
Arkema LW3	heptachlor	4/23/2007	FALSE	composite	U	0.0005	ug/l	0.0026	0.0011
Arkema LW3	heptachlor	5/3/2007	FALSE	composite	U	0.0011	ug/l	0.0026	0.0011
Arkema LW3	heptachlor	6/5/2007	FALSE	grab	U	0.00036	ug/l	0.0026	0.0011
Arkema LW3	heptachlor	11/27/2007	FALSE	composite	U	0.0009	ug/l	0.0026	0.0011
OF19_MS4 City	heptachlor	2/23/2009	FALSE	composite		0.0061	ug/L	0.0061	0.0061
OF22B LW3	heptachlor	3/27/2007	TRUE	composite		0.012	ug/l	0.0076	0.0055
OF22B LW3	heptachlor	3/27/2007	FALSE	composite		0.0086	ug/l	0.0076	0.0055
OF22B LW3	heptachlor	5/3/2007	TRUE	composite		0.015	ug/l	0.0076	0.0055
OF22B LW3	heptachlor	5/3/2007	FALSE	composite	NJ	0.015	ug/l	0.0076	0.0055
OF22B LW3	heptachlor	6/5/2007	FALSE	grab	U	0.0017	ug/l	0.0076	0.0055
OF22B LW3	heptachlor	11/16/2007	FALSE	composite	U	0.0034	ug/l	0.0076	0.0055
OF52C Basin T Port	heptachlor	3/24/2007	FALSE	composite	UJ	0.0014	ug/l	0.0032	0.0019
OF52C Basin T Port	heptachlor	4/7/2007	FALSE	composite	UJ	0.00061	ug/l	0.0032	0.0019
OF52C Basin T Port	heptachlor	4/7/2007	TRUE	composite	U	0.00049	ug/l	0.0032	0.0019
OF52C Basin T Port	heptachlor	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0032	0.0019
OF52C Basin T Port	heptachlor	11/16/2007	TRUE	composite	U	0.0009	ug/l	0.0032	0.0019
OF52C Basin T Port	heptachlor	11/16/2007	FALSE	composite	U	0.0032	ug/l	0.0032	0.0019
OF53 Port	heptachlor	3/24/2007	FALSE	composite	UJ	0.00053	ug/l	0.0025	0.0017
OF53 Port	heptachlor	4/7/2007	FALSE	composite		0.0017	ug/l	0.0025	0.0017
OF53 Port	heptachlor	5/3/2007	FALSE	composite	UJ	0.0053	ug/l	0.0025	0.0017
WR177 Basin M Port	heptachlor	3/24/2007	FALSE	composite	UJ	0.00049	ug/l	0.0016	0.0009
WR177 Basin M Port	heptachlor	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0016	0.0009
WR177 Basin M Port	heptachlor	5/3/2007	FALSE	composite	UJ	0.0048	ug/l	0.0016	0.0009
WR177 Basin M Port	heptachlor	5/3/2007	TRUE	composite	U	0.0048	ug/l	0.0016	0.0009
WR177 Basin M Port	heptachlor	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0016	0.0009
WR181 Basin Q Port	heptachlor	3/24/2007	TRUE	composite	UJ	0.00059	ug/l	0.00068	0.00067
WR181 Basin Q Port	heptachlor	3/24/2007	FALSE	composite	UJ	0.0005	ug/l	0.00068	0.00067
WR181 Basin Q Port	heptachlor	4/7/2007	FALSE	composite	UJ	0.00088	ug/l	0.00068	0.00067
WR181 Basin Q Port	heptachlor	9/28/2007	FALSE	composite	U	0.00062	ug/l	0.00068	0.00067
WR183 Basin R Port	heptachlor	3/24/2007	FALSE	composite		0.00096	ug/l	0.00096	0.00096
WR20 Basin L Port	heptachlor	3/24/2007	FALSE	composite	U	0.00048	ug/l	0.0029	0.0016
WR20 Basin L Port	heptachlor	5/3/2007	FALSE	composite	J	0.0055	ug/l	0.0029	0.0016
WR20 Basin L Port	heptachlor	5/20/2007	FALSE	composite	U	0.0052	ug/l	0.0029	0.0016
WR20 Basin L Port	heptachlor	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0029	0.0016
Arkema LW3	heptachlor epoxide	3/26/2007	FALSE	composite	U	0.039	ug/l	0.0230	0.0064
Arkema LW3	heptachlor epoxide	4/23/2007	FALSE	composite	U	0.0011	ug/l	0.0230	0.0064
Arkema LW3	heptachlor epoxide	5/3/2007	FALSE	composite	U	0.068	ug/l	0.0230	0.0064
Arkema LW3	heptachlor epoxide	6/5/2007	FALSE	grab	U	0.00056	ug/l	0.0230	0.0064
Arkema LW3	heptachlor epoxide	11/27/2007	FALSE	composite	U	0.0064	ug/l	0.0230	0.0064
OF19_MS4 City	heptachlor Epoxide	2/23/2009	FALSE	composite	U	0.0052	ug/L	0.0052	0.0052
OF22B LW3	heptachlor epoxide	3/27/2007	TRUE	composite	NJ	0.0058	ug/l	0.0034	0.0024
OF22B LW3	heptachlor epoxide	3/27/2007	FALSE	composite	U	0.0025	ug/l	0.0034	0.0024
OF22B LW3	heptachlor epoxide	5/3/2007	TRUE	composite	NJ	0.0072	ug/l	0.0034	0.0024
OF22B LW3	heptachlor epoxide	5/3/2007	FALSE	composite		0.0074	ug/l	0.0034	0.0024
OF22B LW3	heptachlor epoxide	6/5/2007	FALSE	grab	U	0.00089	ug/l	0.0034	0.0024
OF22B LW3	heptachlor epoxide	11/16/2007	FALSE	composite	U	0.0012	ug/l	0.0034	0.0024
OF52C Basin T Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.00074	ug/l	0.0028	0.0014
OF52C Basin T Port	heptachlor epoxide	4/7/2007	TRUE	composite	U	0.00049	ug/l	0.0028	0.0014
OF52C Basin T Port	heptachlor epoxide	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0028	0.0014
OF52C Basin T Port	heptachlor epoxide	5/3/2007	FALSE	composite	UJ	0.0088	ug/l	0.0028	0.0014
OF52C Basin T Port	heptachlor epoxide	11/16/2007	FALSE	composite	U	0.0012	ug/l	0.0028	0.0014
OF52C Basin T Port	heptachlor epoxide	11/16/2007	TRUE	composite	U	0.0011	ug/l	0.0028	0.0014
OF53 Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.0043	ug/l	0.0031	0.0024
OF53 Port	heptachlor epoxide	4/7/2007	FALSE	composite	J	0.00072	ug/l	0.0031	0.0024
OF53 Port	heptachlor epoxide	5/3/2007	FALSE	composite	J	0.0044	ug/l	0.0031	0.0024
WR177 Basin M Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.0012	ug/l	0.0015	0.0008
WR177 Basin M Port	heptachlor epoxide	4/7/2007	FALSE	composite	J	0.00018	ug/l	0.0015	0.0008
WR177 Basin M Port	heptachlor epoxide	5/3/2007	TRUE	composite	J	0.0032	ug/l	0.0015	0.0008
WR177 Basin M Port	heptachlor epoxide	5/3/2007	FALSE	composite	UJ	0.0048	ug/l	0.0015	0.0008
WR177 Basin M Port	heptachlor epoxide	9/28/2007	FALSE	composite	U	0.00052	ug/l	0.0015	0.0008
WR181 Basin Q Port	heptachlor epoxide	3/24/2007	TRUE	composite	UJ	0.001	ug/l	0.0008	0.0007
WR181 Basin Q Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.00099	ug/l	0.0008	0.0007
WR181 Basin Q Port	heptachlor epoxide	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0008	0.0007
WR181 Basin Q Port	heptachlor epoxide	9/28/2007	FALSE	composite	U	0.00083	ug/l	0.0008	0.0007
WR183 Basin R Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.00055	ug/l	0.00055	0.00055
WR20 Basin L Port	heptachlor epoxide	3/24/2007	FALSE	composite	UJ	0.00063	ug/l	0.0074	0.0039
WR20 Basin L Port	heptachlor epoxide	5/3/2007	FALSE	composite	UJ	0.0059	ug/l	0.0074	0.0039
WR20 Basin L Port	heptachlor epoxide	5/20/2007	FALSE	composite		0.02	ug/l	0.0074	0.0039

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	heptachlor epoxide	9/28/2007	FALSE	composite		0.003	ug/l	0.0074	0.0039
Arkema LW3	hexachlorobenzene	3/26/2007	FALSE	composite	U	0.0094	ug/l	0.0038	0.0025
Arkema LW3	hexachlorobenzene	4/23/2007	FALSE	composite	NJ	0.00093	ug/l	0.0038	0.0025
Arkema LW3	hexachlorobenzene	5/3/2007	FALSE	composite	U	0.0053	ug/l	0.0038	0.0025
Arkema LW3	hexachlorobenzene	6/5/2007	FALSE	grab	U	9.00E-04	ug/l	0.0038	0.0025
Arkema LW3	hexachlorobenzene	11/27/2007	FALSE	composite	U	0.0025	ug/l	0.0038	0.0025
OF19_LW3+MS4	hexachlorobenzene	3/8/2006	FALSE	composite	U	2.1	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	3/15/2006	FALSE	composite	U	2.3	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	5/23/2006	FALSE	composite	U	2	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	11/2/2006	FALSE	composite	U	2.2	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	11/19/2006	FALSE	composite	U	2.1	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	2/14/2007	FALSE	composite	U	0.19	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	11/26/2007	FALSE	composite	U	0.2	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	3/7/2008	FALSE	composite	U	0.39	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	3/25/2008	FALSE	composite	U	0.2	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	11/20/2008	FALSE	composite	U	1.1	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	2/23/2009	FALSE	composite	UJ	1.1	ug/L	1.3233	0.9094
OF19_LW3+MS4	hexachlorobenzene	3/14/2009	FALSE	composite	U	2	ug/L	1.3233	0.9094
OF22B LW3	hexachlorobenzene	3/27/2007	FALSE	composite	U	0.0036	ug/l	0.0030	0.0009
OF22B LW3	hexachlorobenzene	3/27/2007	TRUE	composite	U	0.015	ug/l	0.0030	0.0009
OF22B LW3	hexachlorobenzene	5/3/2007	TRUE	composite	U	0.00015	ug/l	0.0030	0.0009
OF22B LW3	hexachlorobenzene	5/3/2007	FALSE	composite	U	0.00015	ug/l	0.0030	0.0009
OF22B LW3	hexachlorobenzene	6/5/2007	FALSE	grab	U	0.00015	ug/l	0.0030	0.0009
OF22B LW3	hexachlorobenzene	11/16/2007	FALSE	composite	U	0.0025	ug/l	0.0030	0.0009
OF22C City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.21	ug/L	0.2025	0.2025
OF22C City	hexachlorobenzene	3/20/2008	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF22C City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF22C City	hexachlorobenzene	5/13/2008	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF22D City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.21	ug/L	0.2488	0.2378
OF22D City	hexachlorobenzene	2/29/2008	TRUE	grab	U	0.2	ug/L	0.2488	0.2378
OF22D City	hexachlorobenzene	3/20/2008	FALSE	grab	U	0.39	ug/L	0.2488	0.2378
OF22D City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.2	ug/L	0.2488	0.2378
OF22D City	hexachlorobenzene	5/13/2008	FALSE	grab	U	0.2	ug/L	0.2488	0.2378
OF45 City	hexachlorobenzene	2/5/2008	FALSE	grab	U	0.2	ug/L	0.2550	0.2408
OF45 City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.2	ug/L	0.2550	0.2408
OF45 City	hexachlorobenzene	3/20/2008	FALSE	grab	U	0.42	ug/L	0.2550	0.2408
OF45 City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.2	ug/L	0.2550	0.2408
OF46 City	hexachlorobenzene	2/5/2008	FALSE	grab	U	0.2	ug/L	0.5475	0.4216
OF46 City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.79	ug/L	0.5475	0.4216
OF46 City	hexachlorobenzene	3/20/2008	FALSE	grab	U	1	ug/L	0.5475	0.4216
OF46 City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.2	ug/L	0.5475	0.4216
OF46 City	hexachlorobenzene	4/4/2008	TRUE	grab	U	0.2	ug/L	0.5475	0.4216
OF47 City	hexachlorobenzene	2/5/2008	FALSE	grab	U	1.1	ug/L	0.5350	0.4491
OF47 City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.41	ug/L	0.5350	0.4491
OF47 City	hexachlorobenzene	3/20/2008	FALSE	grab	U	0.41	ug/L	0.5350	0.4491
OF47 City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.22	ug/L	0.5350	0.4491
OF48 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF48 City	hexachlorobenzene	9/28/2007	TRUE	grab	U	0.2	ug/L	0.2025	0.2025
OF48 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2025	0.2025
OF48 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF48 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF50 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2075	0.2075
OF50 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2075	0.2075
OF50 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.21	ug/L	0.2075	0.2075
OF50 City	hexachlorobenzene	12/14/2007	FALSE	grab	U	0.21	ug/L	0.2075	0.2075
OF52 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2063	0.2061
OF52 City	hexachlorobenzene	9/30/2007	FALSE	grab	U	0.21	ug/L	0.2063	0.2061
OF52 City	hexachlorobenzene	9/30/2007	TRUE	grab	U	0.21	ug/L	0.2063	0.2061
OF52 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2063	0.2061
OF52 City	hexachlorobenzene	10/16/2007	TRUE	grab	U	0.22	ug/L	0.2063	0.2061
OF52 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2063	0.2061
OF52A City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF52A City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2025	0.2025
OF52A City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF52A City	hexachlorobenzene	12/14/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OF52C Basin T Port	hexachlorobenzene	3/24/2007	FALSE	composite	UJ	0.0022	ug/l	0.0032	0.0019
OF52C Basin T Port	hexachlorobenzene	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0032	0.0019
OF52C Basin T Port	hexachlorobenzene	4/7/2007	TRUE	composite	U	0.00049	ug/l	0.0032	0.0019
OF52C Basin T Port	hexachlorobenzene	5/3/2007	FALSE	composite	UJ	0.0088	ug/l	0.0032	0.0019
OF52C Basin T Port	hexachlorobenzene	11/16/2007	FALSE	composite	U	0.0015	ug/l	0.0032	0.0019
OF52C Basin T Port	hexachlorobenzene	11/16/2007	TRUE	composite	U	0.0014	ug/l	0.0032	0.0019
OF53 City+Port	hexachlorobenzene	3/24/2007	FALSE	composite	UJ	0.00095	ug/l	0.0995	0.0164

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF53 City+Port	hexachlorobenzene	4/7/2007	FALSE	composite	UJ	5.00E-04	ug/l	0.0995	0.0164
OF53 City+Port	hexachlorobenzene	5/3/2007	FALSE	composite	UJ	0.0053	ug/l	0.0995	0.0164
OF53 City+Port	hexachlorobenzene	1/26/2008	FALSE	composite	U	0.2	ug/L	0.0995	0.0164
OF53 City+Port	hexachlorobenzene	2/6/2008	FALSE	composite	U	0.19	ug/L	0.0995	0.0164
OF53 City+Port	hexachlorobenzene	3/12/2008	TRUE	composite	U	0.2	ug/L	0.0995	0.0164
OF53 City+Port	hexachlorobenzene	3/12/2008	FALSE	composite	U	0.2	ug/L	0.0995	0.0164
OF53A City	hexachlorobenzene	2/29/2008	FALSE	grab	U	0.21	ug/L	0.2550	0.2423
OF53A City	hexachlorobenzene	3/20/2008	FALSE	grab	U	0.41	ug/L	0.2550	0.2423
OF53A City	hexachlorobenzene	4/4/2008	FALSE	grab	U	0.2	ug/L	0.2550	0.2423
OF53A City	hexachlorobenzene	5/13/2008	FALSE	grab	U	0.2	ug/L	0.2550	0.2423
OFM1 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.21	ug/L	0.2050	0.2049
OFM1 City	hexachlorobenzene	9/30/2007	FALSE	grab	U	0.2	ug/L	0.2050	0.2049
OFM1 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2050	0.2049
OFM1 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2050	0.2049
OFM2 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.21	ug/L	0.2100	0.2099
OFM2 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2100	0.2099
OFM2 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2100	0.2099
OFM2 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.22	ug/L	0.2100	0.2099
OFM3 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.23	ug/L	0.2150	0.2147
OFM3 City	hexachlorobenzene	9/30/2007	FALSE	grab	U	0.21	ug/L	0.2150	0.2147
OFM3 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.22	ug/L	0.2150	0.2147
OFM3 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2150	0.2147
OFS1 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS1 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS1 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.21	ug/L	0.2025	0.2025
OFS1 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS2 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS2 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.21	ug/L	0.2025	0.2025
OFS2 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS2 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.2	ug/L	0.2025	0.2025
OFS5 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2063	0.2061
OFS5 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.2	ug/L	0.2063	0.2061
OFS5 City	hexachlorobenzene	11/16/2007	TRUE	grab	U	0.2	ug/L	0.2063	0.2061
OFS5 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.21	ug/L	0.2063	0.2061
OFS5 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.22	ug/L	0.2063	0.2061
OFS6 City	hexachlorobenzene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.2000	0.2000
OFS6 City	hexachlorobenzene	10/16/2007	FALSE	grab	U	0.2	ug/L	0.2000	0.2000
OFS6 City	hexachlorobenzene	11/16/2007	FALSE	grab	U	0.2	ug/L	0.2000	0.2000
OFS6 City	hexachlorobenzene	12/15/2007	FALSE	grab	U	0.2	ug/L	0.2000	0.2000
WR177 Basin M Port	hexachlorobenzene	3/24/2007	FALSE	composite	UJ	0.0017	ug/l	0.0015	0.0011
WR177 Basin M Port	hexachlorobenzene	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0015	0.0011
WR177 Basin M Port	hexachlorobenzene	5/3/2007	FALSE	composite	J	0.0018	ug/l	0.0015	0.0011
WR177 Basin M Port	hexachlorobenzene	5/3/2007	TRUE	composite	UJ	0.0048	ug/l	0.0015	0.0011
WR177 Basin M Port	hexachlorobenzene	9/28/2007	FALSE	composite	U	5.00E-04	ug/l	0.0015	0.0011
WR181 Basin Q Port	hexachlorobenzene	3/24/2007	FALSE	composite	UJ	0.00071	ug/l	0.0006	0.0006
WR181 Basin Q Port	hexachlorobenzene	3/24/2007	TRUE	composite	UJ	0.00059	ug/l	0.0006	0.0006
WR181 Basin Q Port	hexachlorobenzene	4/7/2007	FALSE	composite	UJ	0.00049	ug/l	0.0006	0.0006
WR181 Basin Q Port	hexachlorobenzene	9/28/2007	FALSE	composite	U	0.00053	ug/l	0.0006	0.0006
WR183 Basin R Port	hexachlorobenzene	3/24/2007	FALSE	composite	J	0.0014	ug/l	0.0014	0.0014
WR20 Basin L Port	hexachlorobenzene	3/24/2007	FALSE	composite	UJ	0.002	ug/l	0.0034	0.0022
WR20 Basin L Port	hexachlorobenzene	5/3/2007	FALSE	composite	UJ	0.0059	ug/l	0.0034	0.0022
WR20 Basin L Port	hexachlorobenzene	5/20/2007	FALSE	composite	UJ	0.0052	ug/l	0.0034	0.0022
WR20 Basin L Port	hexachlorobenzene	9/28/2007	FALSE	composite	J	0.00036	ug/l	0.0034	0.0022
Arkema LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite	U	0.0035	ug/l	0.0052	0.0049
Arkema LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.0043	ug/l	0.0052	0.0049
Arkema LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	U	0.0058	ug/l	0.0052	0.0049
Arkema LW3	indeno(1,2,3-cd)pyrene	6/5/2007	FALSE	grab	J	0.0036	ug/l	0.0052	0.0049
Arkema LW3	indeno(1,2,3-cd)pyrene	11/27/2007	FALSE	composite	J	0.0089	ug/l	0.0052	0.0049
Chevron LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.9	ug/l	0.5267	0.3836
Chevron LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.57	ug/l	0.5267	0.3836
Chevron LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite		0.11	ug/l	0.5267	0.3836
Gasco LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.29	ug/l	0.5975	0.5537
Gasco LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.52	ug/l	0.5975	0.5537
Gasco LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.76	ug/l	0.5975	0.5537
Gasco LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab		0.82	ug/l	0.5975	0.5537
GE MH 2	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.2259	0.2011
GE MH 2	indeno(1,2,3-cd)pyrene	10/19/2007	FALSE	composite	UJ	0.289	ug/l	0.2259	0.2011
GE MH 2	indeno(1,2,3-cd)pyrene	10/19/2007	TRUE	composite	UJ	0.284	ug/l	0.2259	0.2011
GE MH 2	indeno(1,2,3-cd)pyrene	11/13/2007	TRUE	composite	U	0.295	ug/l	0.2259	0.2011
GE MH 2	indeno(1,2,3-cd)pyrene	11/13/2007	FALSE	composite	U	0.295	ug/l	0.2259	0.2011
GE SV 1	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.2293	0.2043
GE SV 1	indeno(1,2,3-cd)pyrene	10/19/2007	FALSE	composite	UJ	0.295	ug/l	0.2293	0.2043

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
GE SV 1	indeno(1,2,3-cd)pyrene	11/13/2007	FALSE	composite	U	0.295	ug/l	0.2293	0.2043
Gunderson WR142/145 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.043	ug/l	0.0194	0.0125
Gunderson WR142/145 LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab	U	0.0026	ug/l	0.0194	0.0125
Gunderson WR142/145 LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite	J	0.0075	ug/l	0.0194	0.0125
Gunderson WR142/145 LW3	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite		0.033	ug/l	0.0194	0.0125
Gunderson WR142/145 LW3	indeno(1,2,3-cd)pyrene	11/29/2007	FALSE	composite	J	0.011	ug/l	0.0194	0.0125
Gunderson WR147 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.028	ug/l	0.0174	0.0146
Gunderson WR147 LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	U	0.018	ug/l	0.0174	0.0146
Gunderson WR147 LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.0062	ug/l	0.0174	0.0146
HWY30 NW Yeon-35th LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.082	ug/l	0.0393	0.0298
HWY30 NW Yeon-35th LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	U	0.017	ug/l	0.0393	0.0298
HWY30 NW Yeon-35th LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite	J	0.019	ug/l	0.0393	0.0298
HWY30A Reed St. LW3	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite		0.04	ug/l	0.0860	0.0778
HWY30A Reed St. LW3	indeno(1,2,3-cd)pyrene	1/28/2008	FALSE	composite		0.098	ug/l	0.0860	0.0778
HWY30A Reed St. LW3	indeno(1,2,3-cd)pyrene	1/30/2008	FALSE	composite		0.12	ug/l	0.0860	0.0778
HWY30B 35th St. LW3	indeno(1,2,3-cd)pyrene	11/27/2007	FALSE	composite		0.086	ug/l	0.1340	0.1280
HWY30B 35th St. LW3	indeno(1,2,3-cd)pyrene	1/11/2008	FALSE	composite		0.12	ug/l	0.1340	0.1280
HWY30B 35th St. LW3	indeno(1,2,3-cd)pyrene	1/28/2008	FALSE	composite		0.13	ug/l	0.1340	0.1280
HWY30B 35th St. LW3	indeno(1,2,3-cd)pyrene	1/30/2008	FALSE	composite		0.2	ug/l	0.1340	0.1280
OF16 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.056	ug/l	0.0467	0.0415
OF16 LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.064	ug/l	0.0467	0.0415
OF16 LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.02	ug/l	0.0467	0.0415
OF18 LW3	indeno(1,2,3-cd)pyrene	3/26/2007	TRUE	composite		0.091	ug/l	0.0542	0.0301
OF18 LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.14	ug/l	0.0542	0.0301
OF18 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.065	ug/l	0.0542	0.0301
OF18 LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	U	0.033	ug/l	0.0542	0.0301
OF18 LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab	J	0.0033	ug/l	0.0542	0.0301
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	2/14/2007	FALSE	composite		0.091	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.056	ug/l	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.088	ug/l	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	4/9/2007	TRUE	composite		0.12	ug/l	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.064	ug/l	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	11/26/2007	FALSE	composite		0.0282	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/7/2008	FALSE	composite		0.0482	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/25/2008	FALSE	composite		0.0389	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	11/20/2008	FALSE	composite		0.03	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	2/23/2009	FALSE	composite		0.0721	ug/L	0.0740	0.0663
OF19_LW3+MS4	indeno(1,2,3-cd)pyrene	3/14/2009	FALSE	composite		0.0373	ug/L	0.0740	0.0663
OF22 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.13	ug/l	0.0730	0.0658
OF22 LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		0.065	ug/l	0.0730	0.0658
OF22 LW3	indeno(1,2,3-cd)pyrene	6/5/2007	FALSE	grab		0.06	ug/l	0.0730	0.0658
OF22 LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite		0.037	ug/l	0.0730	0.0658
OF22B LW3	indeno(1,2,3-cd)pyrene	3/27/2007	FALSE	composite		0.038	ug/l	0.0481	0.0400
OF22B LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		0.11	ug/l	0.0481	0.0400
OF22B LW3	indeno(1,2,3-cd)pyrene	6/5/2007	FALSE	grab		0.045	ug/l	0.0481	0.0400
OF22B LW3	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite		0.028	ug/l	0.0481	0.0400
OF22B LW3	indeno(1,2,3-cd)pyrene	11/27/2007	FALSE	composite	J	0.018	ug/l	0.0481	0.0400
OF22B LW3	indeno(1,2,3-cd)pyrene	11/27/2007	TRUE	composite		0.021	ug/l	0.0481	0.0400
OF22C City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0123	0.0120
OF22C City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.0166	ug/L	0.0123	0.0120
OF22C City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab		0.0132	ug/L	0.0123	0.0120
OF22C City	indeno(1,2,3-cd)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0123	0.0120
OF22C Tualatin Hills LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	U	0.0034	ug/l	0.0033	0.0032
OF22C Tualatin Hills LW3	indeno(1,2,3-cd)pyrene	4/18/2007	TRUE	composite	U	0.0035	ug/l	0.0033	0.0032
OF22C Tualatin Hills LW3	indeno(1,2,3-cd)pyrene	4/23/2007	TRUE	composite	U	0.0035	ug/l	0.0033	0.0032
OF22C Tualatin Hills LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	U	0.0035	ug/l	0.0033	0.0032
OF22C Tualatin Hills LW3	indeno(1,2,3-cd)pyrene	1/9/2008	FALSE	composite	U	0.0028	ug/l	0.0033	0.0032
OF22D City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab	U	0.00971	ug/L	0.0343	0.0206
OF22D City	indeno(1,2,3-cd)pyrene	2/29/2008	TRUE	grab		0.0169	ug/L	0.0343	0.0206
OF22D City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.1	ug/L	0.0343	0.0206
OF22D City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab		0.014	ug/L	0.0343	0.0206
OF22D City	indeno(1,2,3-cd)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0343	0.0206
OF45 City	indeno(1,2,3-cd)pyrene	2/5/2008	FALSE	grab		0.0682	ug/L	0.0422	0.0398
OF45 City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab		0.0323	ug/L	0.0422	0.0398
OF45 City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.0298	ug/L	0.0422	0.0398
OF45 City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab		0.0384	ug/L	0.0422	0.0398
OF46 City	indeno(1,2,3-cd)pyrene	2/5/2008	FALSE	grab		0.086	ug/L	0.0838	0.0769

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF46 City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab		0.0605	ug/L	0.0838	0.0769
OF46 City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.141	ug/L	0.0838	0.0769
OF46 City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab		0.0515	ug/L	0.0838	0.0769
OF46 City	indeno(1,2,3-cd)pyrene	4/4/2008	TRUE	grab		0.044	ug/L	0.0838	0.0769
OF47 City	indeno(1,2,3-cd)pyrene	2/5/2008	FALSE	grab		0.062	ug/L	0.0744	0.0511
OF47 City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab		0.0127	ug/L	0.0744	0.0511
OF47 City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.173	ug/L	0.0744	0.0511
OF47 City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab	U	0.05	ug/L	0.0744	0.0511
OF48 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.0197	ug/L	0.0118	0.0113
OF48 City	indeno(1,2,3-cd)pyrene	9/28/2007	TRUE	grab		0.0164	ug/L	0.0118	0.0113
OF48 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0118	0.0113
OF48 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0118	0.0113
OF48 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab	U	0.00962	ug/L	0.0118	0.0113
OF49 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite	U	0.0065	ug/l	0.0056	0.0054
OF49 LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.0072	ug/l	0.0056	0.0054
OF49 LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite	J	0.0049	ug/l	0.0056	0.0054
OF49 LW3	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite	J	0.0037	ug/l	0.0056	0.0054
OF50 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.0127	ug/L	0.0105	0.0104
OF50 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0105	0.0104
OF50 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0105	0.0104
OF50 City	indeno(1,2,3-cd)pyrene	12/14/2007	FALSE	grab	U	0.00971	ug/L	0.0105	0.0104
OF52 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.0148	ug/L	0.0134	0.0132
OF52 City	indeno(1,2,3-cd)pyrene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0134	0.0132
OF52 City	indeno(1,2,3-cd)pyrene	9/30/2007	TRUE	grab	U	0.00971	ug/L	0.0134	0.0132
OF52 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0147	ug/L	0.0134	0.0132
OF52 City	indeno(1,2,3-cd)pyrene	10/16/2007	TRUE	grab		0.011	ug/L	0.0134	0.0132
OF52 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab		0.0164	ug/L	0.0134	0.0132
OF52A City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.21	ug/L	0.0644	0.0288
OF52A City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0114	ug/L	0.0644	0.0288
OF52A City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab		0.0246	ug/L	0.0644	0.0288
OF52A City	indeno(1,2,3-cd)pyrene	12/14/2007	FALSE	grab		0.0117	ug/L	0.0644	0.0288
OF52C Basin T Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		0.12	ug/l	0.0443	0.0226
OF52C Basin T Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.027	ug/l	0.0443	0.0226
OF52C Basin T Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	J	0.027	ug/l	0.0443	0.0226
OF52C Basin T Port	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite	U	0.003	ug/l	0.0443	0.0226
OF53 City+Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		0.038	ug/l	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.048	ug/l	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		0.095	ug/l	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	1/26/2008	FALSE	composite		0.016	ug/L	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	2/6/2008	FALSE	composite		0.0523	ug/L	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	3/12/2008	FALSE	composite		0.0165	ug/L	0.0445	0.0370
OF53 City+Port	indeno(1,2,3-cd)pyrene	3/12/2008	TRUE	composite		0.0191	ug/L	0.0445	0.0370
OF53A City	indeno(1,2,3-cd)pyrene	2/29/2008	FALSE	grab		0.0113	ug/L	0.0201	0.0171
OF53A City	indeno(1,2,3-cd)pyrene	3/20/2008	FALSE	grab		0.0399	ug/L	0.0201	0.0171
OF53A City	indeno(1,2,3-cd)pyrene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0201	0.0171
OF53A City	indeno(1,2,3-cd)pyrene	5/13/2008	FALSE	grab	U	0.00971	ug/L	0.0201	0.0171
OFM1 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab	U	0.0098	ug/L	0.0111	0.0109
OFM1 City	indeno(1,2,3-cd)pyrene	9/30/2007	FALSE	grab		0.0098	ug/L	0.0111	0.0109
OFM1 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0149	ug/L	0.0111	0.0109
OFM1 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0111	0.0109
OFM1 LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.077	ug/l	0.0893	0.0888
OFM1 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.099	ug/l	0.0893	0.0888
OFM1 LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.092	ug/l	0.0893	0.0888
OFM2 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0114	0.0111
OFM2 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0163	ug/L	0.0114	0.0111
OFM2 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0114	0.0111
OFM2 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab	U	0.00971	ug/L	0.0114	0.0111
OFM2 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.037	ug/l	0.0374	0.0329
OFM2 LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.068	ug/l	0.0374	0.0329
OFM2 LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.017	ug/l	0.0374	0.0329
OFM2 LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	U	0.025	ug/l	0.0374	0.0329
OFM2 LW3	indeno(1,2,3-cd)pyrene	5/3/2007	TRUE	composite	U	0.03	ug/l	0.0374	0.0329
OFM3 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab	U	0.0099	ug/L	0.0105	0.0105
OFM3 City	indeno(1,2,3-cd)pyrene	9/30/2007	FALSE	grab	U	0.00971	ug/L	0.0105	0.0105
OFM3 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0128	ug/L	0.0105	0.0105
OFM3 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0105	0.0105
OFS1 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.0401	ug/L	0.3000	0.1677
OFS1 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.116	ug/L	0.3000	0.1677
OFS1 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab		0.842	ug/L	0.3000	0.1677
OFS1 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab		0.202	ug/L	0.3000	0.1677
OFS2 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0120	0.0115
OFS2 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab	U	0.0098	ug/L	0.0120	0.0115

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS2 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab	U	0.00971	ug/L	0.0120	0.0115
OFS2 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab		0.0188	ug/L	0.0120	0.0115
OFS5 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab	U	0.00971	ug/L	0.0249	0.0185
OFS5 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab	U	0.00971	ug/L	0.0249	0.0185
OFS5 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab		0.0185	ug/L	0.0249	0.0185
OFS5 City	indeno(1,2,3-cd)pyrene	11/16/2007	TRUE	grab		0.0232	ug/L	0.0249	0.0185
OFS5 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab		0.0592	ug/L	0.0249	0.0185
OFS6 City	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	grab		0.011	ug/L	0.0309	0.0226
OFS6 City	indeno(1,2,3-cd)pyrene	10/16/2007	FALSE	grab		0.0754	ug/L	0.0309	0.0226
OFS6 City	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	grab		0.013	ug/L	0.0309	0.0226
OFS6 City	indeno(1,2,3-cd)pyrene	12/15/2007	FALSE	grab		0.0241	ug/L	0.0309	0.0226
OSM LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.031	ug/l	0.0267	0.0228
OSM LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.047	ug/l	0.0267	0.0228
OSM LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	J	0.0098	ug/l	0.0267	0.0228
OSM LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab	J	0.019	ug/l	0.0267	0.0228
Portland Shipyard LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.037	ug/l	0.0351	0.0228
Portland Shipyard LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.042	ug/l	0.0351	0.0228
Portland Shipyard LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	U	0.021	ug/l	0.0351	0.0228
Portland Shipyard LW3	indeno(1,2,3-cd)pyrene	5/22/2007	FALSE	grab	U	0.0026	ug/l	0.0351	0.0228
Portland Shipyard LW3	indeno(1,2,3-cd)pyrene	6/5/2007	FALSE	grab		0.073	ug/l	0.0351	0.0228
Schnitzer Int. LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.12	ug/l	0.0590	0.0457
Schnitzer Int. LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.07	ug/l	0.0590	0.0457
Schnitzer Int. LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite	J	0.02	ug/l	0.0590	0.0457
Schnitzer Int. LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab		0.026	ug/l	0.0590	0.0457
Schnitzer Riverside LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.027	ug/l	0.9023	0.3204
Schnitzer Riverside LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	J	0.58	ug/l	0.9023	0.3204
Schnitzer Riverside LW3	indeno(1,2,3-cd)pyrene	4/23/2007	FALSE	composite		2.1	ug/l	0.9023	0.3204
Siltronic LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.048	ug/l	0.0455	0.0420
Siltronic LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.046	ug/l	0.0455	0.0420
Siltronic LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite		0.067	ug/l	0.0455	0.0420
Siltronic LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite		0.021	ug/l	0.0455	0.0420
SJB LW3	indeno(1,2,3-cd)pyrene	3/26/2007	FALSE	composite		0.55	ug/l	0.2298	0.1509
SJB LW3	indeno(1,2,3-cd)pyrene	4/9/2007	FALSE	composite		0.22	ug/l	0.2298	0.1509
SJB LW3	indeno(1,2,3-cd)pyrene	4/18/2007	FALSE	composite	J	0.11	ug/l	0.2298	0.1509
SJB LW3	indeno(1,2,3-cd)pyrene	5/21/2007	FALSE	grab		0.045	ug/l	0.2298	0.1509
SJB LW3	indeno(1,2,3-cd)pyrene	5/21/2007	TRUE	grab		0.033	ug/l	0.2298	0.1509
Sulzer LW3	indeno(1,2,3-cd)pyrene	1/11/2008	FALSE	composite	J	0.0079	ug/l	0.0120	0.0112
Sulzer LW3	indeno(1,2,3-cd)pyrene	1/30/2008	FALSE	composite	J	0.016	ug/l	0.0120	0.0112
UPRR Albina LW3	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	U	0.023	ug/l	0.0805	0.0535
UPRR Albina LW3	indeno(1,2,3-cd)pyrene	6/10/2007	FALSE	composite	J	0.019	ug/l	0.0805	0.0535
UPRR Albina LW3	indeno(1,2,3-cd)pyrene	11/27/2007	FALSE	composite		0.11	ug/l	0.0805	0.0535
UPRR Albina LW3	indeno(1,2,3-cd)pyrene	11/29/2007	FALSE	composite		0.17	ug/l	0.0805	0.0535
WR169 Basin D Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		0.057	ug/l	0.0499	0.0435
WR169 Basin D Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.089	ug/l	0.0499	0.0435
WR169 Basin D Port	indeno(1,2,3-cd)pyrene	5/3/2007	TRUE	composite	J	0.02	ug/l	0.0499	0.0435
WR169 Basin D Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite	J	0.027	ug/l	0.0499	0.0435
WR169 Basin D Port	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite		0.03	ug/l	0.0499	0.0435
WR177 Basin M Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		0.3	ug/l	0.1875	0.1693
WR177 Basin M Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.18	ug/l	0.1875	0.1693
WR177 Basin M Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		0.19	ug/l	0.1875	0.1693
WR177 Basin M Port	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	composite		0.08	ug/l	0.1875	0.1693
WR181 Basin Q Port	indeno(1,2,3-cd)pyrene	3/24/2007	TRUE	composite		0.5	ug/l	0.2070	0.1287
WR181 Basin Q Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		0.47	ug/l	0.2070	0.1287
WR181 Basin Q Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.083	ug/l	0.2070	0.1287
WR181 Basin Q Port	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	composite		0.053	ug/l	0.2070	0.1287
WR183 Basin R Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite	J	0.0059	ug/l	0.1214	0.0347
WR183 Basin R Port	indeno(1,2,3-cd)pyrene	4/7/2007	FALSE	composite		0.032	ug/l	0.1214	0.0347
WR183 Basin R Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		0.43	ug/l	0.1214	0.0347
WR183 Basin R Port	indeno(1,2,3-cd)pyrene	11/16/2007	TRUE	composite	U	0.0027	ug/l	0.1214	0.0347
WR183 Basin R Port	indeno(1,2,3-cd)pyrene	11/16/2007	FALSE	composite		0.033	ug/l	0.1214	0.0347
WR20 Basin L Port	indeno(1,2,3-cd)pyrene	3/24/2007	FALSE	composite		2.7	ug/l	2.4925	2.2334
WR20 Basin L Port	indeno(1,2,3-cd)pyrene	5/3/2007	FALSE	composite		2.5	ug/l	2.4925	2.2334
WR20 Basin L Port	indeno(1,2,3-cd)pyrene	5/20/2007	FALSE	composite		3.8	ug/l	2.4925	2.2334
WR20 Basin L Port	indeno(1,2,3-cd)pyrene	9/28/2007	FALSE	composite		0.97	ug/l	2.4925	2.2334
Arkema LW3	lead	3/26/2007	FALSE	composite		8.47	ug/l	14.48	13.84
Arkema LW3	lead	4/23/2007	FALSE	composite	J	12.4	ug/l	14.48	13.84
Arkema LW3	lead	5/3/2007	FALSE	composite		15.3	ug/l	14.48	13.84
Arkema LW3	lead	6/10/2007	FALSE	composite		14.6	ug/l	14.48	13.84
Arkema LW3	lead	11/27/2007	TRUE	composite		21.5	ug/l	14.48	13.84
Arkema LW3	lead	11/27/2007	FALSE	composite		21.8	ug/l	14.48	13.84
Chevron LW3	lead	3/26/2007	FALSE	composite		7.99	ug/l	6.95	6.25
Chevron LW3	lead	4/9/2007	FALSE	composite		6.11	ug/l	6.95	6.25

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Chevron LW3	lead	4/23/2007	FALSE	composite	J	2.55	ug/l	6.95	6.25
Chevron LW3	lead	5/3/2007	FALSE	composite		11.4	ug/l	6.95	6.25
Chevron LW3	lead	6/10/2007	FALSE	composite		6.7	ug/l	6.95	6.25
Gasco LW3	lead	3/26/2007	FALSE	composite		2.79	ug/l	4.90	4.58
Gasco LW3	lead	4/9/2007	FALSE	composite		4.66	ug/l	4.90	4.58
Gasco LW3	lead	4/18/2007	FALSE	composite	J	7.8	ug/l	4.90	4.58
Gasco LW3	lead	5/3/2007	FALSE	composite		4.35	ug/l	4.90	4.58
GE MH 2	lead	4/18/2007	FALSE	composite	J	7.54	ug/l	5.59	5.43
GE MH 2	lead	10/19/2007	TRUE	composite	U	4.43	ug/l	5.59	5.43
GE MH 2	lead	10/19/2007	FALSE	composite	J	4.51	ug/l	5.59	5.43
GE MH 2	lead	11/13/2007	FALSE	composite	U	5.09	ug/l	5.59	5.43
GE MH 2	lead	11/13/2007	TRUE	composite	U	4.43	ug/l	5.59	5.43
GE SV 1	lead	6/10/2007	FALSE	composite	U	10	ug/l	8.75	8.59
GE SV 1	lead	10/19/2007	FALSE	composite	U	6.53	ug/l	8.75	8.59
GE SV 1	lead	11/13/2007	FALSE	composite	J	9.71	ug/l	8.75	8.59
Gunderson WR142/145 LW3	lead	4/9/2007	FALSE	composite		7.01	ug/l	3.79	3.08
Gunderson WR142/145 LW3	lead	6/10/2007	FALSE	composite		1.16	ug/l	3.79	3.08
Gunderson WR142/145 LW3	lead	11/16/2007	FALSE	composite		5.07	ug/l	3.79	3.08
Gunderson WR142/145 LW3	lead	11/27/2007	FALSE	composite		1.65	ug/l	3.79	3.08
Gunderson WR142/145 LW3	lead	1/9/2008	FALSE	composite		4.06	ug/l	3.79	3.08
Gunderson WR147 LW3	lead	4/9/2007	FALSE	composite		34.8	ug/l	63.39	45.13
Gunderson WR147 LW3	lead	4/18/2007	FALSE	composite		98.7	ug/l	63.39	45.13
Gunderson WR147 LW3	lead	4/23/2007	FALSE	composite	J	25.5	ug/l	63.39	45.13
Gunderson WR147 LW3	lead	5/3/2007	FALSE	composite		143	ug/l	63.39	45.13
Gunderson WR147 LW3	lead	6/10/2007	FALSE	composite		14.6	ug/l	63.39	45.13
Gunderson WR147 LW3	lead	6/10/2007	TRUE	composite		15.3	ug/l	63.39	45.13
HWY30 NW Yeon-35th LW3	lead	4/9/2007	FALSE	composite		7.12	ug/l	8.58	7.98
HWY30 NW Yeon-35th LW3	lead	5/3/2007	FALSE	composite		13.2	ug/l	8.58	7.98
HWY30 NW Yeon-35th LW3	lead	6/10/2007	FALSE	composite		5.41	ug/l	8.58	7.98
HWY30A Reed St. LW3	lead	11/16/2007	FALSE	composite		9.9	ug/l	11.86	10.98
HWY30A Reed St. LW3	lead	11/27/2007	FALSE	composite		9.4	ug/l	11.86	10.98
HWY30A Reed St. LW3	lead	1/28/2008	TRUE	composite		7.71	ug/l	11.86	10.98
HWY30A Reed St. LW3	lead	1/28/2008	FALSE	composite		7.53	ug/l	11.86	10.98
HWY30A Reed St. LW3	lead	1/30/2008	FALSE	composite		20.5	ug/l	11.86	10.98
HWY30B 35th St. LW3	lead	11/27/2007	FALSE	composite		24.4	ug/l	24.84	23.55
HWY30B 35th St. LW3	lead	1/11/2008	FALSE	composite	J	18.2	ug/l	24.84	23.55
HWY30B 35th St. LW3	lead	1/15/2008	FALSE	composite	J	38.6	ug/l	24.84	23.55
HWY30B 35th St. LW3	lead	1/28/2008	FALSE	composite		15.2	ug/l	24.84	23.55
HWY30B 35th St. LW3	lead	1/30/2008	FALSE	composite		27.8	ug/l	24.84	23.55
OF16 LW3	lead	4/9/2007	FALSE	composite		21.6	ug/l	30.41	26.94
OF16 LW3	lead	4/18/2007	FALSE	composite	J	39.1	ug/l	30.41	26.94
OF16 LW3	lead	4/23/2007	FALSE	composite	J	13.4	ug/l	30.41	26.94
OF16 LW3	lead	4/23/2007	TRUE	composite	J	13.7	ug/l	30.41	26.94
OF16 LW3	lead	5/3/2007	FALSE	composite		55.4	ug/l	30.41	26.94
OF16 LW3	lead	6/10/2007	FALSE	composite		22.4	ug/l	30.41	26.94
OF18 LW3	lead	3/26/2007	TRUE	composite		44.7	ug/l	40.60	36.95
OF18 LW3	lead	3/26/2007	FALSE	composite		76.3	ug/l	40.60	36.95
OF18 LW3	lead	4/9/2007	FALSE	composite		24.4	ug/l	40.60	36.95
OF18 LW3	lead	4/18/2007	FALSE	composite		23.2	ug/l	40.60	36.95
OF18 LW3	lead	4/18/2007	TRUE	composite		23.4	ug/l	40.60	36.95
OF18 LW3	lead	5/3/2007	FALSE	composite		54.2	ug/l	40.60	36.95
OF19_LW3+MS4	lead	3/8/2006	FALSE	composite		21.4	ug/L	22.36	18.76
OF19_LW3+MS4	lead	3/15/2006	FALSE	composite		12.3	ug/L	22.36	18.76
OF19_LW3+MS4	lead	5/23/2006	FALSE	composite		13.4	ug/L	22.36	18.76
OF19_LW3+MS4	lead	11/2/2006	FALSE	composite		31.7	ug/L	22.36	18.76
OF19_LW3+MS4	lead	11/19/2006	FALSE	composite		5.2	ug/L	22.36	18.76
OF19_LW3+MS4	lead	2/14/2007	FALSE	composite		22	ug/L	22.36	18.76
OF19_LW3+MS4	lead	3/26/2007	FALSE	composite		11.8	ug/l	22.36	18.76
OF19_LW3+MS4	lead	4/9/2007	FALSE	composite		10.4	ug/l	22.36	18.76
OF19_LW3+MS4	lead	4/9/2007	TRUE	composite		12.2	ug/l	22.36	18.76
OF19_LW3+MS4	lead	4/18/2007	FALSE	composite	J	24	ug/l	22.36	18.76
OF19_LW3+MS4	lead	5/3/2007	TRUE	composite		40.2	ug/l	22.36	18.76
OF19_LW3+MS4	lead	5/3/2007	FALSE	composite		41	ug/l	22.36	18.76
OF19_LW3+MS4	lead	11/26/2007	FALSE	composite		13.3	ug/L	22.36	18.76
OF19_LW3+MS4	lead	3/7/2008	FALSE	composite		18.4	ug/L	22.36	18.76
OF19_LW3+MS4	lead	3/25/2008	FALSE	composite		11.3	ug/L	22.36	18.76
OF19_LW3+MS4	lead	11/20/2008	FALSE	composite		45.9	ug/L	22.36	18.76
OF19_LW3+MS4	lead	2/23/2009	FALSE	composite		55	ug/L	22.36	18.76
OF19_LW3+MS4	lead	3/14/2009	FALSE	composite		20.2	ug/L	22.36	18.76
OF22 LW3	lead	4/9/2007	FALSE	composite		14.7	ug/l	16.38	15.23
OF22 LW3	lead	5/3/2007	FALSE	composite		24.7	ug/l	16.38	15.23
OF22 LW3	lead	6/10/2007	FALSE	composite		9.73	ug/l	16.38	15.23

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22B LW3	lead	3/27/2007	FALSE	composite		101	ug/l	101.48	81.73
OF22B LW3	lead	5/3/2007	FALSE	composite		195	ug/l	101.48	81.73
OF22B LW3	lead	11/16/2007	FALSE	composite		82.4	ug/l	101.48	81.73
OF22B LW3	lead	11/27/2007	FALSE	composite		27.5	ug/l	101.48	81.73
OF22C City	lead	2/29/2008	FALSE	grab		0.29	ug/L	0.78	0.69
OF22C City	lead	3/20/2008	FALSE	grab		1.17	ug/L	0.78	0.69
OF22C City	lead	4/4/2008	FALSE	grab		0.71	ug/L	0.78	0.69
OF22C City	lead	5/13/2008	FALSE	grab		0.96	ug/L	0.78	0.69
OF22C Tualatin Hills LW3	lead	4/18/2007	FALSE	composite		0.437	ug/l	0.80	0.65
OF22C Tualatin Hills LW3	lead	4/23/2007	FALSE	composite	J	0.403	ug/l	0.80	0.65
OF22C Tualatin Hills LW3	lead	1/9/2008	FALSE	composite		1.57	ug/l	0.80	0.65
OF22D City	lead	2/29/2008	FALSE	grab		1.35	ug/L	9.28	3.05
OF22D City	lead	2/29/2008	TRUE	grab		1.42	ug/L	9.28	3.05
OF22D City	lead	3/20/2008	FALSE	grab		32.6	ug/L	9.28	3.05
OF22D City	lead	4/4/2008	FALSE	grab		2.3	ug/L	9.28	3.05
OF22D City	lead	5/13/2008	FALSE	grab		0.83	ug/L	9.28	3.05
OF45 City	lead	2/5/2008	FALSE	grab		95.6	ug/L	35.90	23.15
OF45 City	lead	2/29/2008	FALSE	grab		15.1	ug/L	35.90	23.15
OF45 City	lead	3/20/2008	FALSE	grab		7.99	ug/L	35.90	23.15
OF45 City	lead	4/4/2008	FALSE	grab		24.9	ug/L	35.90	23.15
OF46 City	lead	2/5/2008	FALSE	grab		23.7	ug/L	22.65	22.51
OF46 City	lead	2/29/2008	FALSE	grab		18.5	ug/L	22.65	22.51
OF46 City	lead	3/20/2008	FALSE	grab		24.3	ug/L	22.65	22.51
OF46 City	lead	4/4/2008	TRUE	grab		25.3	ug/L	22.65	22.51
OF46 City	lead	4/4/2008	FALSE	grab		22.9	ug/L	22.65	22.51
OF47 City	lead	2/5/2008	FALSE	grab		28.3	ug/L	18.85	17.00
OF47 City	lead	2/29/2008	FALSE	grab		7.6	ug/L	18.85	17.00
OF47 City	lead	3/20/2008	FALSE	grab		21	ug/L	18.85	17.00
OF47 City	lead	4/4/2008	FALSE	grab		18.5	ug/L	18.85	17.00
OF48 City	lead	9/28/2007	FALSE	grab		4.04	ug/L	2.13	1.65
OF48 City	lead	9/28/2007	TRUE	grab		3.99	ug/L	2.13	1.65
OF48 City	lead	10/16/2007	FALSE	grab		0.53	ug/L	2.13	1.65
OF48 City	lead	11/16/2007	FALSE	grab		1.3	ug/L	2.13	1.65
OF48 City	lead	12/15/2007	FALSE	grab		2.69	ug/L	2.13	1.65
OF49 LW3	lead	4/9/2007	FALSE	composite		1.39	ug/l	2.63	2.42
OF49 LW3	lead	4/23/2007	FALSE	composite	J	2.75	ug/l	2.63	2.42
OF49 LW3	lead	6/10/2007	FALSE	composite		4.3	ug/l	2.63	2.42
OF49 LW3	lead	11/16/2007	FALSE	composite		2.09	ug/l	2.63	2.42
OF50 City	lead	9/28/2007	FALSE	grab		11.8	ug/L	3.87	2.06
OF50 City	lead	10/16/2007	FALSE	grab		0.92	ug/L	3.87	2.06
OF50 City	lead	11/16/2007	FALSE	grab		0.87	ug/L	3.87	2.06
OF50 City	lead	12/14/2007	FALSE	grab		1.9	ug/L	3.87	2.06
OF52 City	lead	9/28/2007	FALSE	grab		19.1	ug/L	7.46	5.04
OF52 City	lead	9/30/2007	FALSE	grab		3.95	ug/L	7.46	5.04
OF52 City	lead	9/30/2007	TRUE	grab		3.94	ug/L	7.46	5.04
OF52 City	lead	10/16/2007	FALSE	grab		0.87	ug/L	7.46	5.04
OF52 City	lead	10/16/2007	TRUE	grab		9.38	ug/L	7.46	5.04
OF52 City	lead	11/16/2007	FALSE	grab		1.67	ug/L	7.46	5.04
OF52A City	lead	9/28/2007	FALSE	grab		9.01	ug/L	4.59	3.94
OF52A City	lead	10/16/2007	FALSE	grab		3.34	ug/L	4.59	3.94
OF52A City	lead	11/16/2007	FALSE	grab		1.97	ug/L	4.59	3.94
OF52A City	lead	12/14/2007	FALSE	grab		4.05	ug/L	4.59	3.94
OF52C Basin T Port	lead	3/24/2007	FALSE	composite	J	25	ug/l	23.84	18.08
OF52C Basin T Port	lead	5/3/2007	FALSE	composite		50.4	ug/l	23.84	18.08
OF52C Basin T Port	lead	5/20/2007	FALSE	composite		13.8	ug/l	23.84	18.08
OF52C Basin T Port	lead	11/16/2007	FALSE	composite		6.15	ug/l	23.84	18.08
OF53 City+Port	lead	3/24/2007	FALSE	composite	J	20.9	ug/l	43.45	28.79
OF53 City+Port	lead	5/3/2007	FALSE	composite		138	ug/l	43.45	28.79
OF53 City+Port	lead	1/26/2008	FALSE	composite		14.6	ug/L	43.45	28.79
OF53 City+Port	lead	2/6/2008	FALSE	composite		24.9	ug/L	43.45	28.79
OF53 City+Port	lead	3/12/2008	TRUE	composite		18.9	ug/L	43.45	28.79
OF53 City+Port	lead	3/12/2008	FALSE	composite		18.8	ug/L	43.45	28.79
OF53A City	lead	2/29/2008	FALSE	grab		33.6	ug/L	19.26	16.20
OF53A City	lead	3/20/2008	FALSE	grab		25.1	ug/L	19.26	16.20
OF53A City	lead	4/4/2008	FALSE	grab		10.7	ug/L	19.26	16.20
OF53A City	lead	5/13/2008	FALSE	grab		7.63	ug/L	19.26	16.20
OFM1 City	lead	9/28/2007	FALSE	grab		3.95	ug/L	8.25	6.69
OFM1 City	lead	9/30/2007	FALSE	grab		3.71	ug/L	8.25	6.69
OFM1 City	lead	10/16/2007	FALSE	grab		17.5	ug/L	8.25	6.69
OFM1 City	lead	11/16/2007	FALSE	grab		7.83	ug/L	8.25	6.69
OFM1 LW3	lead	3/26/2007	FALSE	composite		5.28	ug/l	7.38	6.20
OFM1 LW3	lead	4/9/2007	FALSE	composite		4.17	ug/l	7.38	6.20

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 LW3	lead	4/18/2007	FALSE	composite	J	21.4	ug/l	7.38	6.20
OFM1 LW3	lead	4/18/2007	TRUE	composite	J	10.2	ug/l	7.38	6.20
OFM1 LW3	lead	6/10/2007	FALSE	composite		4.25	ug/l	7.38	6.20
OFM2 City	lead	9/28/2007	FALSE	grab		3.27	ug/L	4.47	4.25
OFM2 City	lead	10/16/2007	FALSE	grab		7.13	ug/L	4.47	4.25
OFM2 City	lead	11/16/2007	FALSE	grab		3.66	ug/L	4.47	4.25
OFM2 City	lead	12/15/2007	FALSE	grab		3.81	ug/L	4.47	4.25
OFM2 LW3	lead	4/9/2007	FALSE	composite		3.54	ug/l	4.66	4.25
OFM2 LW3	lead	4/9/2007	FALSE	composite		2.85	ug/l	4.66	4.25
OFM2 LW3	lead	4/23/2007	FALSE	composite	J	4.04	ug/l	4.66	4.25
OFM2 LW3	lead	4/23/2007	TRUE	composite	J	3.69	ug/l	4.66	4.25
OFM2 LW3	lead	5/3/2007	FALSE	composite		8.39	ug/l	4.66	4.25
OFM3 City	lead	9/28/2007	FALSE	grab		2.56	ug/L	3.73	3.25
OFM3 City	lead	9/30/2007	FALSE	grab		1.68	ug/L	3.73	3.25
OFM3 City	lead	10/16/2007	FALSE	grab		6.91	ug/L	3.73	3.25
OFM3 City	lead	11/16/2007	FALSE	grab		3.75	ug/L	3.73	3.25
OFS1 City	lead	9/28/2007	FALSE	grab		5.1	ug/L	11.41	9.84
OFS1 City	lead	10/16/2007	FALSE	grab		10.3	ug/L	11.41	9.84
OFS1 City	lead	11/16/2007	FALSE	grab		22.2	ug/L	11.41	9.84
OFS1 City	lead	12/15/2007	FALSE	grab		8.04	ug/L	11.41	9.84
OFS2 City	lead	9/28/2007	FALSE	grab		2.66	ug/L	2.97	2.58
OFS2 City	lead	10/16/2007	FALSE	grab		5.8	ug/L	2.97	2.58
OFS2 City	lead	11/16/2007	FALSE	grab		1.85	ug/L	2.97	2.58
OFS2 City	lead	12/15/2007	FALSE	grab		1.55	ug/L	2.97	2.58
OFS5 City	lead	9/28/2007	FALSE	grab		3.11	ug/L	4.24	4.10
OFS5 City	lead	10/16/2007	FALSE	grab		3.28	ug/L	4.24	4.10
OFS5 City	lead	11/16/2007	TRUE	grab		5.63	ug/L	4.24	4.10
OFS5 City	lead	11/16/2007	FALSE	grab		5.79	ug/L	4.24	4.10
OFS5 City	lead	12/15/2007	FALSE	grab		4.87	ug/L	4.24	4.10
OFS6 City	lead	9/28/2007	FALSE	grab		7.7	ug/L	8.46	6.32
OFS6 City	lead	10/16/2007	FALSE	grab		19.6	ug/L	8.46	6.32
OFS6 City	lead	11/16/2007	FALSE	grab		3.51	ug/L	8.46	6.32
OFS6 City	lead	12/15/2007	FALSE	grab		3.01	ug/L	8.46	6.32
OSM LW3	lead	3/26/2007	FALSE	composite		56.1	ug/l	48.30	47.66
OSM LW3	lead	4/9/2007	FALSE	composite		42	ug/l	48.30	47.66
OSM LW3	lead	4/18/2007	FALSE	composite	J	39.1	ug/l	48.30	47.66
OSM LW3	lead	5/3/2007	FALSE	composite		56	ug/l	48.30	47.66
Portland Shipyard LW3	lead	3/26/2007	FALSE	composite		17.5	ug/l	27.75	20.27
Portland Shipyard LW3	lead	4/9/2007	FALSE	composite		11.4	ug/l	27.75	20.27
Portland Shipyard LW3	lead	5/3/2007	FALSE	composite		70	ug/l	27.75	20.27
Portland Shipyard LW3	lead	6/10/2007	FALSE	composite		12.1	ug/l	27.75	20.27
Schnitzer Int. LW3	lead	4/9/2007	FALSE	composite		23.9	ug/l	41.68	35.67
Schnitzer Int. LW3	lead	4/18/2007	FALSE	composite	J	71.8	ug/l	41.68	35.67
Schnitzer Int. LW3	lead	4/23/2007	FALSE	composite	J	17.7	ug/l	41.68	35.67
Schnitzer Int. LW3	lead	5/3/2007	FALSE	composite		53.3	ug/l	41.68	35.67
Schnitzer Riverside LW3	lead	4/9/2007	FALSE	composite		6.22	ug/l	376.56	159.85
Schnitzer Riverside LW3	lead	4/18/2007	FALSE	composite	J	580	ug/l	376.56	159.85
Schnitzer Riverside LW3	lead	4/23/2007	FALSE	composite	J	635	ug/l	376.56	159.85
Schnitzer Riverside LW3	lead	5/3/2007	FALSE	composite		285	ug/l	376.56	159.85
Siltronic LW3	lead	4/9/2007	FALSE	composite		1.27	ug/l	3.42	2.20
Siltronic LW3	lead	4/9/2007	FALSE	composite		1.67	ug/l	3.42	2.20
Siltronic LW3	lead	4/18/2007	FALSE	composite	J	4.25	ug/l	3.42	2.20
Siltronic LW3	lead	5/3/2007	FALSE	composite		9.27	ug/l	3.42	2.20
Siltronic LW3	lead	6/10/2007	FALSE	composite		0.616	ug/l	3.42	2.20
SJB LW3	lead	3/26/2007	FALSE	composite		34.2	ug/l	39.60	35.22
SJB LW3	lead	4/9/2007	FALSE	composite		25.8	ug/l	39.60	35.22
SJB LW3	lead	4/18/2007	FALSE	composite	J	75.2	ug/l	39.60	35.22
SJB LW3	lead	5/3/2007	FALSE	composite		23.2	ug/l	39.60	35.22
Sulzer LW3	lead	1/11/2008	FALSE	composite	J	1.82	ug/l	4.01	3.36
Sulzer LW3	lead	1/30/2008	FALSE	composite		6.19	ug/l	4.01	3.36
UPRR Albina LW3	lead	5/3/2007	FALSE	composite		19.5	ug/l	13.14	11.93
UPRR Albina LW3	lead	6/10/2007	FALSE	composite		5.67	ug/l	13.14	11.93
UPRR Albina LW3	lead	11/27/2007	FALSE	composite		15.8	ug/l	13.14	11.93
UPRR Albina LW3	lead	11/29/2007	FALSE	composite		12.1	ug/l	13.14	11.93
UPRR Albina LW3	lead	11/29/2007	TRUE	composite		11.1	ug/l	13.14	11.93
WR169 Basin D Port	lead	3/24/2007	FALSE	composite	J	31.4	ug/l	26.38	23.19
WR169 Basin D Port	lead	5/3/2007	FALSE	composite		40.3	ug/l	26.38	23.19
WR169 Basin D Port	lead	5/3/2007	TRUE	composite		37.5	ug/l	26.38	23.19
WR169 Basin D Port	lead	5/20/2007	FALSE	composite		26.2	ug/l	26.38	23.19
WR169 Basin D Port	lead	11/16/2007	FALSE	composite		9.03	ug/l	26.38	23.19
WR177 Basin M Port	lead	3/24/2007	FALSE	composite	J	104	ug/l	48.20	40.18
WR177 Basin M Port	lead	5/3/2007	FALSE	composite		36.1	ug/l	48.20	40.18

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR177 Basin M Port	lead	5/20/2007	FALSE	composite		26.4	ug/l	48.20	40.18
WR177 Basin M Port	lead	9/28/2007	FALSE	composite		26.3	ug/l	48.20	40.18
WR181 Basin Q Port	lead	3/24/2007	FALSE	composite	J	19.2	ug/l	18.98	18.81
WR181 Basin Q Port	lead	3/24/2007	TRUE	composite	J	13.7	ug/l	18.98	18.81
WR181 Basin Q Port	lead	9/28/2007	FALSE	composite		21.5	ug/l	18.98	18.81
WR183 Basin R Port	lead	3/24/2007	FALSE	composite	J	9.26	ug/l	892.42	126.50
WR183 Basin R Port	lead	5/3/2007	FALSE	composite		2480	ug/l	892.42	126.50
WR183 Basin R Port	lead	5/20/2007	FALSE	composite		1070	ug/l	892.42	126.50
WR183 Basin R Port	lead	11/16/2007	TRUE	composite		7.04	ug/l	892.42	126.50
WR183 Basin R Port	lead	11/16/2007	FALSE	composite		13.8	ug/l	892.42	126.50
WR20 Basin L Port	lead	3/24/2007	FALSE	composite	J	31	ug/l	42.93	42.22
WR20 Basin L Port	lead	5/3/2007	FALSE	composite		43	ug/l	42.93	42.22
WR20 Basin L Port	lead	5/20/2007	FALSE	composite		50.3	ug/l	42.93	42.22
WR20 Basin L Port	lead	9/28/2007	FALSE	composite		47.4	ug/l	42.93	42.22
OF53 City+Port	manganese	1/26/2008	FALSE	composite		105	ug/L	136.00	130.63
OF53 City+Port	manganese	2/6/2008	FALSE	composite		193	ug/L	136.00	130.63
OF53 City+Port	manganese	3/12/2008	TRUE	composite		111	ug/L	136.00	130.63
OF53 City+Port	manganese	3/12/2008	FALSE	composite		109	ug/L	136.00	130.63
Arkema LW3	mercury	3/26/2007	FALSE	composite	J	0.19	ug/l	0.366	0.337
Arkema LW3	mercury	4/23/2007	FALSE	composite		0.24	ug/l	0.366	0.337
Arkema LW3	mercury	5/3/2007	FALSE	composite	U	0.45	ug/l	0.366	0.337
Arkema LW3	mercury	6/10/2007	FALSE	composite		0.36	ug/l	0.366	0.337
Arkema LW3	mercury	11/27/2007	TRUE	composite		0.6	ug/l	0.366	0.337
Arkema LW3	mercury	11/27/2007	FALSE	composite		0.58	ug/l	0.366	0.337
Chevron LW3	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.034	0.032
Chevron LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.034	0.032
Chevron LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.034	0.032
Chevron LW3	mercury	5/3/2007	FALSE	composite	U	0.06	ug/l	0.034	0.032
Chevron LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.034	0.032
Gasco LW3	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.030	0.029
Gasco LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.030	0.029
Gasco LW3	mercury	4/18/2007	FALSE	composite	U	0.03	ug/l	0.030	0.029
Gasco LW3	mercury	5/3/2007	FALSE	composite	U	0.04	ug/l	0.030	0.029
GE MH 2	mercury	4/18/2007	FALSE	composite	UJ	0.05	ug/l	0.033	0.031
GE MH 2	mercury	10/19/2007	FALSE	composite	U	0.025	ug/l	0.033	0.031
GE MH 2	mercury	10/19/2007	TRUE	composite	U	0.025	ug/l	0.033	0.031
GE MH 2	mercury	11/13/2007	FALSE	composite	UJ	0.025	ug/l	0.033	0.031
GE MH 2	mercury	11/13/2007	TRUE	composite	UJ	0.025	ug/l	0.033	0.031
GE SV 1	mercury	6/10/2007	FALSE	composite	UJ	0.05	ug/l	0.033	0.031
GE SV 1	mercury	10/19/2007	FALSE	composite	U	0.025	ug/l	0.033	0.031
GE SV 1	mercury	11/13/2007	FALSE	composite	UJ	0.025	ug/l	0.033	0.031
Gunderson WR142/145 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
Gunderson WR142/145 LW3	mercury	6/10/2007	FALSE	composite	UJ	0.03	ug/l	0.030	0.030
Gunderson WR142/145 LW3	mercury	6/10/2007	TRUE	composite	U	0.03	ug/l	0.030	0.030
Gunderson WR142/145 LW3	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
Gunderson WR142/145 LW3	mercury	11/27/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
Gunderson WR142/145 LW3	mercury	1/9/2008	FALSE	composite	UJ	0.03	ug/l	0.030	0.030
Gunderson WR147 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.066	0.050
Gunderson WR147 LW3	mercury	4/18/2007	FALSE	composite	J	0.07	ug/l	0.066	0.050
Gunderson WR147 LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.066	0.050
Gunderson WR147 LW3	mercury	5/3/2007	FALSE	composite	U	0.17	ug/l	0.066	0.050
Gunderson WR147 LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.066	0.050
HWY30 NW Yeon-35th LW3	mercury	4/9/2007	FALSE	composite	J	0.03	ug/l	0.040	0.038
HWY30 NW Yeon-35th LW3	mercury	5/3/2007	FALSE	composite	U	0.06	ug/l	0.040	0.038
HWY30 NW Yeon-35th LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.040	0.038
HWY30A Reed St. LW3	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30A Reed St. LW3	mercury	11/27/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30A Reed St. LW3	mercury	1/28/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30A Reed St. LW3	mercury	1/30/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	11/27/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	11/27/2007	TRUE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	1/11/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	1/15/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	1/28/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	1/30/2008	TRUE	composite	U	0.03	ug/l	0.030	0.030
HWY30B 35th St. LW3	mercury	1/30/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF16 LW3	mercury	4/9/2007	FALSE	composite	J	0.04	ug/l	0.050	0.046
OF16 LW3	mercury	4/18/2007	FALSE	composite	J	0.04	ug/l	0.050	0.046
OF16 LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.050	0.046
OF16 LW3	mercury	4/23/2007	TRUE	composite	U	0.03	ug/l	0.050	0.046
OF16 LW3	mercury	5/3/2007	FALSE	composite	U	0.09	ug/l	0.050	0.046
OF16 LW3	mercury	6/10/2007	FALSE	composite	U	0.05	ug/l	0.050	0.046

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF18 LW3	mercury	3/26/2007	TRUE	composite	J	0.02	ug/l	0.045	0.040
OF18 LW3	mercury	3/26/2007	FALSE	composite	J	0.02	ug/l	0.045	0.040
OF18 LW3	mercury	4/9/2007	FALSE	composite	J	0.04	ug/l	0.045	0.040
OF18 LW3	mercury	4/18/2007	FALSE	composite	J	0.04	ug/l	0.045	0.040
OF18 LW3	mercury	5/3/2007	FALSE	composite	U	0.08	ug/l	0.045	0.040
OF19_LW3+MS4	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.041	0.035
OF19_LW3+MS4	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.041	0.035
OF19_LW3+MS4	mercury	4/9/2007	TRUE	composite	J	0.03	ug/l	0.041	0.035
OF19_LW3+MS4	mercury	4/18/2007	FALSE	composite	U	0.03	ug/l	0.041	0.035
OF19_LW3+MS4	mercury	5/3/2007	TRUE	composite	U	0.08	ug/l	0.041	0.035
OF19_LW3+MS4	mercury	5/3/2007	FALSE	composite	U	0.09	ug/l	0.041	0.035
OF22 LW3	mercury	4/9/2007	FALSE	composite	J	0.04	ug/l	0.050	0.046
OF22 LW3	mercury	5/3/2007	FALSE	composite	U	0.08	ug/l	0.050	0.046
OF22 LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.050	0.046
OF22B LW3	mercury	3/27/2007	FALSE	composite		0.21	ug/l	0.326	0.185
OF22B LW3	mercury	5/3/2007	TRUE	composite		0.96	ug/l	0.326	0.185
OF22B LW3	mercury	5/3/2007	FALSE	composite		0.89	ug/l	0.326	0.185
OF22B LW3	mercury	11/16/2007	TRUE	composite	J	0.12	ug/l	0.326	0.185
OF22B LW3	mercury	11/16/2007	FALSE	composite	J	0.12	ug/l	0.326	0.185
OF22B LW3	mercury	11/27/2007	FALSE	composite	J	0.05	ug/l	0.326	0.185
OF22C City	mercury	2/29/2008	FALSE	grab		0.0039	ug/L	0.004	0.004
OF22C City	mercury	3/20/2008	FALSE	grab		0.0052	ug/L	0.004	0.004
OF22C City	mercury	4/4/2008	FALSE	grab		0.0061	ug/L	0.004	0.004
OF22C City	mercury	5/13/2008	FALSE	grab		0.0026	ug/L	0.004	0.004
OF22C Tualatin Hills LW3	mercury	4/18/2007	FALSE	composite	UJ	0.03	ug/l	0.030	0.030
OF22C Tualatin Hills LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF22C Tualatin Hills LW3	mercury	1/9/2008	FALSE	composite	UJ	0.03	ug/l	0.030	0.030
OF22C Tualatin Hills LW3	mercury	1/9/2008	TRUE	composite	UJ	0.03	ug/l	0.030	0.030
OF22D City	mercury	2/29/2008	TRUE	grab		0.0036	ug/L	0.013	0.007
OF22D City	mercury	2/29/2008	FALSE	grab		0.0045	ug/L	0.013	0.007
OF22D City	mercury	3/20/2008	FALSE	grab		0.039	ug/L	0.013	0.007
OF22D City	mercury	4/4/2008	FALSE	grab		0.0055	ug/L	0.013	0.007
OF22D City	mercury	5/13/2008	FALSE	grab		0.0034	ug/L	0.013	0.007
OF45 City	mercury	2/5/2008	FALSE	grab		0.009	ug/L	0.037	0.021
OF45 City	mercury	2/29/2008	FALSE	grab		0.092	ug/L	0.037	0.021
OF45 City	mercury	3/20/2008	FALSE	grab		0.0064	ug/L	0.037	0.021
OF45 City	mercury	4/4/2008	FALSE	grab		0.0403	ug/L	0.037	0.021
OF46 City	mercury	2/5/2008	FALSE	grab		0.024	ug/L	0.025	0.025
OF46 City	mercury	2/29/2008	FALSE	grab		0.022	ug/L	0.025	0.025
OF46 City	mercury	3/20/2008	FALSE	grab		0.028	ug/L	0.025	0.025
OF46 City	mercury	4/4/2008	TRUE	grab		0.0342	ug/L	0.025	0.025
OF46 City	mercury	4/4/2008	FALSE	grab		0.0189	ug/L	0.025	0.025
OF47 City	mercury	2/5/2008	FALSE	grab		0.0031	ug/L	0.015	0.012
OF47 City	mercury	2/29/2008	FALSE	grab		0.012	ug/L	0.015	0.012
OF47 City	mercury	3/20/2008	FALSE	grab		0.025	ug/L	0.015	0.012
OF47 City	mercury	4/4/2008	FALSE	grab		0.019	ug/L	0.015	0.012
OF48 City	mercury	9/28/2007	FALSE	grab		0.011	ug/L	0.006	0.005
OF48 City	mercury	9/28/2007	TRUE	grab		0.011	ug/L	0.006	0.005
OF48 City	mercury	10/16/2007	FALSE	grab		0.0043	ug/L	0.006	0.005
OF48 City	mercury	11/16/2007	FALSE	grab		0.0034	ug/L	0.006	0.005
OF48 City	mercury	12/15/2007	FALSE	grab		0.004	ug/L	0.006	0.005
OF49 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF49 LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF49 LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF49 LW3	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.030	0.030
OF50 City	mercury	9/28/2007	FALSE	grab		0.016	ug/L	0.007	0.006
OF50 City	mercury	10/16/2007	FALSE	grab		0.004	ug/L	0.007	0.006
OF50 City	mercury	11/16/2007	FALSE	grab		0.003	ug/L	0.007	0.006
OF50 City	mercury	12/14/2007	FALSE	grab		0.0055	ug/L	0.007	0.006
OF52 City	mercury	9/28/2007	FALSE	grab		0.019	ug/L	0.013	0.011
OF52 City	mercury	9/30/2007	TRUE	grab		0.0073	ug/L	0.013	0.011
OF52 City	mercury	9/30/2007	FALSE	grab		0.0074	ug/L	0.013	0.011
OF52 City	mercury	10/16/2007	FALSE	grab		0.022	ug/L	0.013	0.011
OF52 City	mercury	10/16/2007	TRUE	grab		0.019	ug/L	0.013	0.011
OF52 City	mercury	11/16/2007	FALSE	grab		0.0055	ug/L	0.013	0.011
OF52A City	mercury	9/28/2007	FALSE	grab		0.017	ug/L	0.011	0.010
OF52A City	mercury	10/16/2007	FALSE	grab		0.013	ug/L	0.011	0.010
OF52A City	mercury	11/16/2007	FALSE	grab		0.0062	ug/L	0.011	0.010
OF52A City	mercury	12/14/2007	FALSE	grab		0.0078	ug/L	0.011	0.010
OF52C Basin T Port	mercury	3/24/2007	FALSE	composite	J	0.03	ug/l	0.078	0.055
OF52C Basin T Port	mercury	5/3/2007	FALSE	composite	J	0.05	ug/l	0.078	0.055
OF52C Basin T Port	mercury	5/20/2007	FALSE	composite	U	0.2	ug/l	0.078	0.055

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF52C Basin T Port	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.078	0.055
OF53 City+Port	mercury	3/24/2007	FALSE	composite	J	0.03	ug/l	0.043	0.030
OF53 City+Port	mercury	5/3/2007	FALSE	composite	J	0.13	ug/l	0.043	0.030
OF53 City+Port	mercury	1/26/2008	FALSE	composite		0.0124	ug/L	0.043	0.030
OF53 City+Port	mercury	2/6/2008	FALSE	composite		0.022	ug/L	0.043	0.030
OF53 City+Port	mercury	3/12/2008	TRUE	composite		0.021	ug/L	0.043	0.030
OF53 City+Port	mercury	3/12/2008	FALSE	composite		0.022	ug/L	0.043	0.030
OF53A City	mercury	2/29/2008	FALSE	grab		0.044	ug/L	0.034	0.033
OF53A City	mercury	3/20/2008	FALSE	grab		0.031	ug/L	0.034	0.033
OF53A City	mercury	4/4/2008	FALSE	grab		0.0403	ug/L	0.034	0.033
OF53A City	mercury	5/13/2008	FALSE	grab		0.022	ug/L	0.034	0.033
OFM1 City	mercury	9/28/2007	FALSE	grab		0.0084	ug/L	0.008	0.007
OFM1 City	mercury	9/30/2007	FALSE	grab		0.0041	ug/L	0.008	0.007
OFM1 City	mercury	10/16/2007	FALSE	grab		0.011	ug/L	0.008	0.007
OFM1 City	mercury	11/16/2007	FALSE	grab		0.0076	ug/L	0.008	0.007
OFM1 LW3	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.028	0.027
OFM1 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.028	0.027
OFM1 LW3	mercury	4/18/2007	TRUE	composite	U	0.03	ug/l	0.028	0.027
OFM1 LW3	mercury	4/18/2007	FALSE	composite	U	0.03	ug/l	0.028	0.027
OFM1 LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.028	0.027
OFM2 City	mercury	9/28/2007	FALSE	grab		0.013	ug/L	0.011	0.009
OFM2 City	mercury	10/16/2007	FALSE	grab		0.019	ug/L	0.011	0.009
OFM2 City	mercury	11/16/2007	FALSE	grab		0.0037	ug/L	0.011	0.009
OFM2 City	mercury	12/15/2007	FALSE	grab		0.0066	ug/L	0.011	0.009
OFM2 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.038	0.036
OFM2 LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.038	0.036
OFM2 LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.038	0.036
OFM2 LW3	mercury	4/23/2007	TRUE	composite	U	0.03	ug/l	0.038	0.036
OFM2 LW3	mercury	5/3/2007	FALSE	composite	U	0.06	ug/l	0.038	0.036
OFM3 City	mercury	9/28/2007	FALSE	grab		0.0073	ug/L	0.006	0.005
OFM3 City	mercury	9/30/2007	FALSE	grab		0.0038	ug/L	0.006	0.005
OFM3 City	mercury	10/16/2007	FALSE	grab		0.0083	ug/L	0.006	0.005
OFM3 City	mercury	11/16/2007	FALSE	grab		0.0035	ug/L	0.006	0.005
OFS1 City	mercury	9/28/2007	FALSE	grab		0.021	ug/L	0.014	0.013
OFS1 City	mercury	10/16/2007	FALSE	grab		0.01	ug/L	0.014	0.013
OFS1 City	mercury	11/16/2007	FALSE	grab		0.017	ug/L	0.014	0.013
OFS1 City	mercury	12/15/2007	FALSE	grab		0.0082	ug/L	0.014	0.013
OFS2 City	mercury	9/28/2007	FALSE	grab		0.0061	ug/L	0.005	0.005
OFS2 City	mercury	10/16/2007	FALSE	grab		0.0065	ug/L	0.005	0.005
OFS2 City	mercury	11/16/2007	FALSE	grab		0.0032	ug/L	0.005	0.005
OFS2 City	mercury	12/15/2007	FALSE	grab		0.0039	ug/L	0.005	0.005
OFS5 City	mercury	9/28/2007	FALSE	grab		0.0094	ug/L	0.008	0.008
OFS5 City	mercury	10/16/2007	FALSE	grab		0.0077	ug/L	0.008	0.008
OFS5 City	mercury	11/16/2007	TRUE	grab		0.0071	ug/L	0.008	0.008
OFS5 City	mercury	11/16/2007	FALSE	grab		0.0075	ug/L	0.008	0.008
OFS5 City	mercury	12/15/2007	FALSE	grab		0.0072	ug/L	0.008	0.008
OFS6 City	mercury	9/28/2007	FALSE	grab		0.015	ug/L	0.011	0.009
OFS6 City	mercury	10/16/2007	FALSE	grab		0.02	ug/L	0.011	0.009
OFS6 City	mercury	11/16/2007	FALSE	grab		0.0044	ug/L	0.011	0.009
OFS6 City	mercury	12/15/2007	FALSE	grab		0.0047	ug/L	0.011	0.009
OSM LW3	mercury	3/26/2007	FALSE	composite	J	0.1	ug/l	0.105	0.096
OSM LW3	mercury	4/9/2007	FALSE	composite	J	0.1	ug/l	0.105	0.096
OSM LW3	mercury	4/18/2007	FALSE	composite	J	0.05	ug/l	0.105	0.096
OSM LW3	mercury	5/3/2007	FALSE	composite	U	0.17	ug/l	0.105	0.096
Portland Shipyard LW3	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.040	0.035
Portland Shipyard LW3	mercury	4/9/2007	FALSE	composite	J	0.03	ug/l	0.040	0.035
Portland Shipyard LW3	mercury	5/3/2007	FALSE	composite	U	0.08	ug/l	0.040	0.035
Portland Shipyard LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.040	0.035
Schnitzer Int. LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.063	0.053
Schnitzer Int. LW3	mercury	4/18/2007	FALSE	composite	J	0.08	ug/l	0.063	0.053
Schnitzer Int. LW3	mercury	4/23/2007	FALSE	composite	U	0.03	ug/l	0.063	0.053
Schnitzer Int. LW3	mercury	5/3/2007	FALSE	composite	U	0.11	ug/l	0.063	0.053
Schnitzer Riverside LW3	mercury	4/9/2007	FALSE	composite	J	0.08	ug/l	0.870	0.542
Schnitzer Riverside LW3	mercury	4/18/2007	FALSE	composite		1.79	ug/l	0.870	0.542
Schnitzer Riverside LW3	mercury	4/23/2007	FALSE	composite		1.02	ug/l	0.870	0.542
Schnitzer Riverside LW3	mercury	5/3/2007	FALSE	composite		0.59	ug/l	0.870	0.542
Siltronic LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.033	0.033
Siltronic LW3	mercury	4/9/2007	FALSE	composite	UJ	0.03	ug/l	0.033	0.033
Siltronic LW3	mercury	4/18/2007	FALSE	composite	U	0.03	ug/l	0.033	0.033
Siltronic LW3	mercury	5/3/2007	FALSE	composite	U	0.05	ug/l	0.033	0.033
Siltronic LW3	mercury	6/10/2007	TRUE	composite	U	0.03	ug/l	0.033	0.033
Siltronic LW3	mercury	6/10/2007	FALSE	composite	U	0.03	ug/l	0.033	0.033

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
SJB LW3	mercury	3/26/2007	FALSE	composite	UJ	0.02	ug/l	0.045	0.040
SJB LW3	mercury	4/9/2007	FALSE	composite	U	0.03	ug/l	0.045	0.040
SJB LW3	mercury	4/18/2007	FALSE	composite	J	0.06	ug/l	0.045	0.040
SJB LW3	mercury	5/3/2007	FALSE	composite	U	0.07	ug/l	0.045	0.040
Sulzer LW3	mercury	1/11/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
Sulzer LW3	mercury	1/30/2008	FALSE	composite	U	0.03	ug/l	0.030	0.030
UPRR Albina LW3	mercury	5/3/2007	FALSE	composite	U	0.06	ug/l	0.038	0.036
UPRR Albina LW3	mercury	6/10/2007	FALSE	composite	UJ	0.03	ug/l	0.038	0.036
UPRR Albina LW3	mercury	11/27/2007	FALSE	composite	U	0.03	ug/l	0.038	0.036
UPRR Albina LW3	mercury	11/29/2007	FALSE	composite	U	0.03	ug/l	0.038	0.036
UPRR Albina LW3	mercury	11/29/2007	TRUE	composite	U	0.03	ug/l	0.038	0.036
UPRR Albina LW3	mercury	11/29/2007	TRUE	composite	U	0.03	ug/l	0.038	0.036
WR169 Basin D Port	mercury	3/24/2007	FALSE	composite	J	0.04	ug/l	0.075	0.052
WR169 Basin D Port	mercury	5/3/2007	TRUE	composite	J	0.03	ug/l	0.075	0.052
WR169 Basin D Port	mercury	5/3/2007	FALSE	composite	J	0.03	ug/l	0.075	0.052
WR169 Basin D Port	mercury	5/20/2007	FALSE	composite	U	0.2	ug/l	0.075	0.052
WR169 Basin D Port	mercury	11/16/2007	TRUE	composite	U	0.03	ug/l	0.075	0.052
WR169 Basin D Port	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.075	0.052
WR177 Basin M Port	mercury	3/24/2007	FALSE	composite		0.09	ug/l	0.093	0.072
WR177 Basin M Port	mercury	5/3/2007	FALSE	composite	J	0.05	ug/l	0.093	0.072
WR177 Basin M Port	mercury	5/20/2007	FALSE	composite	U	0.2	ug/l	0.093	0.072
WR177 Basin M Port	mercury	9/28/2007	FALSE	composite		0.03	ug/l	0.093	0.072
WR181 Basin Q Port	mercury	3/24/2007	TRUE	composite	J	0.03	ug/l	0.038	0.035
WR181 Basin Q Port	mercury	3/24/2007	FALSE	composite	U	0.02	ug/l	0.038	0.035
WR181 Basin Q Port	mercury	9/28/2007	FALSE	composite		0.05	ug/l	0.038	0.035
WR183 Basin R Port	mercury	3/24/2007	FALSE	composite	U	0.02	ug/l	0.388	0.133
WR183 Basin R Port	mercury	5/3/2007	FALSE	composite		0.97	ug/l	0.388	0.133
WR183 Basin R Port	mercury	5/20/2007	FALSE	composite		0.53	ug/l	0.388	0.133
WR183 Basin R Port	mercury	11/16/2007	FALSE	composite	U	0.03	ug/l	0.388	0.133
WR20 Basin L Port	mercury	3/24/2007	FALSE	composite		0.02	ug/l	0.075	0.050
WR20 Basin L Port	mercury	5/3/2007	FALSE	composite	J	0.04	ug/l	0.075	0.050
WR20 Basin L Port	mercury	5/20/2007	FALSE	composite		0.2	ug/l	0.075	0.050
WR20 Basin L Port	mercury	9/28/2007	FALSE	composite		0.04	ug/l	0.075	0.050
Arkema LW3	methoxychlor	3/26/2007	FALSE	composite	U	0.017	ug/l	0.005	0.003
Arkema LW3	methoxychlor	4/23/2007	FALSE	composite	U	0.0032	ug/l	0.005	0.003
Arkema LW3	methoxychlor	5/3/2007	FALSE	composite	U	0.0018	ug/l	0.005	0.003
Arkema LW3	methoxychlor	6/5/2007	FALSE	grab	U	0.0018	ug/l	0.005	0.003
Arkema LW3	methoxychlor	11/27/2007	FALSE	composite	U	0.002	ug/l	0.005	0.003
OF19_LW3+MS4	methoxychlor	2/23/2009	FALSE	composite		0.017	ug/L	0.017	0.017
OF22B LW3	methoxychlor	3/27/2007	TRUE	composite		0.26	ug/l	0.069	0.030
OF22B LW3	methoxychlor	3/27/2007	FALSE	composite		0.16	ug/l	0.069	0.030
OF22B LW3	methoxychlor	5/3/2007	TRUE	composite	J	0.051	ug/l	0.069	0.030
OF22B LW3	methoxychlor	5/3/2007	FALSE	composite	J	0.041	ug/l	0.069	0.030
OF22B LW3	methoxychlor	6/5/2007	FALSE	grab	U	0.0065	ug/l	0.069	0.030
OF22B LW3	methoxychlor	11/16/2007	FALSE	composite	NJ	0.013	ug/l	0.069	0.030
OF52C Basin T Port	methoxychlor	3/24/2007	FALSE	composite	UJ	0.0016	ug/l	0.006	0.003
OF52C Basin T Port	methoxychlor	4/7/2007	TRUE	composite	U	0.00049	ug/l	0.006	0.003
OF52C Basin T Port	methoxychlor	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.006	0.003
OF52C Basin T Port	methoxychlor	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.006	0.003
OF52C Basin T Port	methoxychlor	11/16/2007	FALSE	composite	U	0.0015	ug/l	0.006	0.003
OF52C Basin T Port	methoxychlor	11/16/2007	TRUE	composite	U	0.021	ug/l	0.006	0.003
OF53 City+Port	methoxychlor	3/24/2007	FALSE	composite	J	0.0011	ug/l	0.003	0.002
OF53 City+Port	methoxychlor	4/7/2007	FALSE	composite	UJ	0.0011	ug/l	0.003	0.002
OF53 City+Port	methoxychlor	5/3/2007	FALSE	composite	U	0.0053	ug/l	0.003	0.002
WR177 Basin M Port	methoxychlor	3/24/2007	FALSE	composite	U	0.00049	ug/l	0.002	0.001
WR177 Basin M Port	methoxychlor	4/7/2007	FALSE	composite	UJ	0.00051	ug/l	0.002	0.001
WR177 Basin M Port	methoxychlor	5/3/2007	TRUE	composite	U	0.0048	ug/l	0.002	0.001
WR177 Basin M Port	methoxychlor	5/3/2007	FALSE	composite		0.0065	ug/l	0.002	0.001
WR177 Basin M Port	methoxychlor	9/28/2007	FALSE	composite		0.002	ug/l	0.002	0.001
WR181 Basin Q Port	methoxychlor	3/24/2007	TRUE	composite	UJ	0.0025	ug/l	0.002	0.001
WR181 Basin Q Port	methoxychlor	3/24/2007	FALSE	composite	UJ	0.0024	ug/l	0.002	0.001
WR181 Basin Q Port	methoxychlor	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.002	0.001
WR181 Basin Q Port	methoxychlor	9/28/2007	FALSE	composite		0.002	ug/l	0.002	0.001
WR183 Basin R Port	methoxychlor	3/24/2007	FALSE	composite	UJ	0.0011	ug/l	0.001	0.001
WR20 Basin L Port	methoxychlor	3/24/2007	FALSE	composite	UJ	0.0018	ug/l	0.005	0.003
WR20 Basin L Port	methoxychlor	5/3/2007	FALSE	composite	UJ	0.0061	ug/l	0.005	0.003
WR20 Basin L Port	methoxychlor	5/20/2007	FALSE	composite	UJ	0.012	ug/l	0.005	0.003
WR20 Basin L Port	methoxychlor	9/28/2007	FALSE	composite	U	5.00E-04	ug/l	0.005	0.003
Arkema LW3	naphthalene	3/26/2007	FALSE	composite	U	0.029	ug/l	0.023	0.022
Arkema LW3	naphthalene	4/23/2007	FALSE	composite	U	0.022	ug/l	0.023	0.022
Arkema LW3	naphthalene	5/3/2007	FALSE	composite	U	0.024	ug/l	0.023	0.022
Arkema LW3	naphthalene	6/5/2007	FALSE	grab	U	0.011	ug/l	0.023	0.022

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Arkema LW3	naphthalene	11/27/2007	FALSE	composite	U	0.031	ug/l	0.023	0.022
Chevron LW3	naphthalene	3/26/2007	FALSE	composite		0.057	ug/l	0.050	0.049
Chevron LW3	naphthalene	4/9/2007	FALSE	composite	U	0.051	ug/l	0.050	0.049
Chevron LW3	naphthalene	4/23/2007	FALSE	composite		0.041	ug/l	0.050	0.049
Gasco LW3	naphthalene	3/26/2007	FALSE	composite		0.05	ug/l	0.081	0.076
Gasco LW3	naphthalene	4/9/2007	FALSE	composite	U	0.062	ug/l	0.081	0.076
Gasco LW3	naphthalene	4/18/2007	FALSE	composite	U	0.13	ug/l	0.081	0.076
Gasco LW3	naphthalene	5/21/2007	FALSE	grab	U	0.081	ug/l	0.081	0.076
GE MH 2	naphthalene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.160	0.153
GE MH 2	naphthalene	10/19/2007	TRUE	composite	U	0.188	ug/l	0.160	0.153
GE MH 2	naphthalene	10/19/2007	FALSE	composite	U	0.191	ug/l	0.160	0.153
GE MH 2	naphthalene	11/13/2007	TRUE	composite	UJ	0.195	ug/l	0.160	0.153
GE MH 2	naphthalene	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.160	0.153
GE SV 1	naphthalene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.163	0.155
GE SV 1	naphthalene	10/19/2007	FALSE	composite	U	0.195	ug/l	0.163	0.155
GE SV 1	naphthalene	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.163	0.155
Gunderson WR142/145 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.033	ug/l	0.025	0.017
Gunderson WR142/145 LW3	naphthalene	5/21/2007	FALSE	grab	U	0.003	ug/l	0.025	0.017
Gunderson WR142/145 LW3	naphthalene	6/10/2007	FALSE	composite	U	0.019	ug/l	0.025	0.017
Gunderson WR142/145 LW3	naphthalene	11/16/2007	FALSE	composite	U	0.015	ug/l	0.025	0.017
Gunderson WR142/145 LW3	naphthalene	11/29/2007	FALSE	composite	U	0.053	ug/l	0.025	0.017
Gunderson WR147 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.036	ug/l	0.031	0.031
Gunderson WR147 LW3	naphthalene	4/18/2007	FALSE	composite	U	0.025	ug/l	0.031	0.031
Gunderson WR147 LW3	naphthalene	4/23/2007	FALSE	composite	U	0.032	ug/l	0.031	0.031
HWY30 NW Yeon-35th LW3	naphthalene	4/9/2007	FALSE	composite	U	0.032	ug/l	0.027	0.027
HWY30 NW Yeon-35th LW3	naphthalene	5/3/2007	FALSE	composite	U	0.024	ug/l	0.027	0.027
HWY30 NW Yeon-35th LW3	naphthalene	6/10/2007	FALSE	composite	U	0.026	ug/l	0.027	0.027
HWY30A Reed St. LW3	naphthalene	11/16/2007	FALSE	composite		0.034	ug/l	0.071	0.063
HWY30A Reed St. LW3	naphthalene	1/28/2008	FALSE	composite	U	0.11	ug/l	0.071	0.063
HWY30A Reed St. LW3	naphthalene	1/30/2008	FALSE	composite		0.068	ug/l	0.071	0.063
HWY30B 35th St. LW3	naphthalene	11/27/2007	FALSE	composite		0.19	ug/l	0.142	0.121
HWY30B 35th St. LW3	naphthalene	1/11/2008	FALSE	composite	U	0.052	ug/l	0.142	0.121
HWY30B 35th St. LW3	naphthalene	1/28/2008	FALSE	composite	U	0.23	ug/l	0.142	0.121
HWY30B 35th St. LW3	naphthalene	1/30/2008	FALSE	composite		0.094	ug/l	0.142	0.121
OF16 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.063	ug/l	0.088	0.086
OF16 LW3	naphthalene	4/18/2007	FALSE	composite	U	0.091	ug/l	0.088	0.086
OF16 LW3	naphthalene	4/23/2007	FALSE	composite	U	0.11	ug/l	0.088	0.086
OF18 LW3	naphthalene	3/26/2007	FALSE	composite		0.042	ug/l	0.020	0.017
OF18 LW3	naphthalene	3/26/2007	TRUE	composite	U	0.032	ug/l	0.020	0.017
OF18 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.019	ug/l	0.020	0.017
OF18 LW3	naphthalene	4/18/2007	FALSE	composite	U	0.015	ug/l	0.020	0.017
OF18 LW3	naphthalene	5/21/2007	FALSE	grab	U	0.0087	ug/l	0.020	0.017
OF19_LW3+MS4	naphthalene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	2/14/2007	FALSE	composite		0.028	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	3/26/2007	FALSE	composite	U	0.025	ug/l	0.063	0.052
OF19_LW3+MS4	naphthalene	4/9/2007	TRUE	composite	U	0.022	ug/l	0.063	0.052
OF19_LW3+MS4	naphthalene	4/9/2007	FALSE	composite	U	0.026	ug/l	0.063	0.052
OF19_LW3+MS4	naphthalene	4/18/2007	FALSE	composite	U	0.03	ug/l	0.063	0.052
OF19_LW3+MS4	naphthalene	11/26/2007	FALSE	composite	U	0.08	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	3/7/2008	FALSE	composite		0.0527	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	3/25/2008	FALSE	composite		0.0555	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	11/20/2008	FALSE	composite		0.0323	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	2/23/2009	FALSE	composite		0.0566	ug/L	0.063	0.052
OF19_LW3+MS4	naphthalene	3/14/2009	FALSE	composite	U	0.0196	ug/L	0.063	0.052
OF22 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.034	ug/l	0.043	0.039
OF22 LW3	naphthalene	5/3/2007	FALSE	composite	U	0.029	ug/l	0.043	0.039
OF22 LW3	naphthalene	6/5/2007	FALSE	grab	U	0.08	ug/l	0.043	0.039
OF22 LW3	naphthalene	6/10/2007	FALSE	composite	U	0.028	ug/l	0.043	0.039
OF22B LW3	naphthalene	3/27/2007	FALSE	composite		0.061	ug/l	1.292	0.427
OF22B LW3	naphthalene	5/3/2007	FALSE	composite	U	0.1	ug/l	1.292	0.427
OF22B LW3	naphthalene	6/5/2007	FALSE	grab		4.1	ug/l	1.292	0.427
OF22B LW3	naphthalene	11/16/2007	FALSE	composite		0.3	ug/l	1.292	0.427
OF22B LW3	naphthalene	11/27/2007	TRUE	composite		2	ug/l	1.292	0.427
OF22B LW3	naphthalene	11/27/2007	FALSE	composite		1.8	ug/l	1.292	0.427
OF22C City	naphthalene	2/29/2008	FALSE	grab		0.0358	ug/L	0.076	0.069
OF22C City	naphthalene	3/20/2008	FALSE	grab	U	0.0583	ug/L	0.076	0.069
OF22C City	naphthalene	4/4/2008	FALSE	grab		0.0979	ug/L	0.076	0.069
OF22C City	naphthalene	5/13/2008	FALSE	grab		0.111	ug/L	0.076	0.069

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22C Tualatin Hills LW3	naphthalene	4/18/2007	FALSE	composite	U	0.017	ug/l	0.020	0.019
OF22C Tualatin Hills LW3	naphthalene	4/18/2007	TRUE	composite	U	0.017	ug/l	0.020	0.019
OF22C Tualatin Hills LW3	naphthalene	4/23/2007	FALSE	composite	U	0.015	ug/l	0.020	0.019
OF22C Tualatin Hills LW3	naphthalene	4/23/2007	TRUE	composite	U	0.016	ug/l	0.020	0.019
OF22C Tualatin Hills LW3	naphthalene	1/9/2008	FALSE	composite	U	0.028	ug/l	0.020	0.019
OF22D City	naphthalene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.061	0.053
OF22D City	naphthalene	2/29/2008	TRUE	grab	U	0.0194	ug/L	0.061	0.053
OF22D City	naphthalene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.061	0.053
OF22D City	naphthalene	4/4/2008	FALSE	grab		0.0634	ug/L	0.061	0.053
OF22D City	naphthalene	5/13/2008	FALSE	grab		0.0653	ug/L	0.061	0.053
OF45 City	naphthalene	2/5/2008	FALSE	grab		0.0418	ug/L	0.054	0.053
OF45 City	naphthalene	2/29/2008	FALSE	grab		0.0422	ug/L	0.054	0.053
OF45 City	naphthalene	3/20/2008	FALSE	grab	U	0.0583	ug/L	0.054	0.053
OF45 City	naphthalene	4/4/2008	FALSE	grab		0.0752	ug/L	0.054	0.053
OF46 City	naphthalene	2/5/2008	FALSE	grab	U	0.0396	ug/L	0.060	0.056
OF46 City	naphthalene	2/29/2008	FALSE	grab	U	0.0385	ug/L	0.060	0.056
OF46 City	naphthalene	3/20/2008	FALSE	grab	U	0.0971	ug/L	0.060	0.056
OF46 City	naphthalene	4/4/2008	TRUE	grab		0.0493	ug/L	0.060	0.056
OF46 City	naphthalene	4/4/2008	FALSE	grab		0.0824	ug/L	0.060	0.056
OF47 City	naphthalene	2/5/2008	FALSE	grab		0.0391	ug/L	0.079	0.059
OF47 City	naphthalene	2/29/2008	FALSE	grab		0.0297	ug/L	0.079	0.059
OF47 City	naphthalene	3/20/2008	FALSE	grab	U	0.194	ug/L	0.079	0.059
OF47 City	naphthalene	4/4/2008	FALSE	grab		0.0534	ug/L	0.079	0.059
OF48 City	naphthalene	9/28/2007	TRUE	grab		0.0343	ug/L	0.028	0.027
OF48 City	naphthalene	9/28/2007	FALSE	grab	U	0.0388	ug/L	0.028	0.027
OF48 City	naphthalene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.028	0.027
OF48 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.028	0.027
OF48 City	naphthalene	12/15/2007	FALSE	grab		0.0357	ug/L	0.028	0.027
OF49 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.02	ug/l	0.021	0.020
OF49 LW3	naphthalene	4/23/2007	FALSE	composite	U	0.018	ug/l	0.021	0.020
OF49 LW3	naphthalene	6/10/2007	FALSE	composite	U	0.023	ug/l	0.021	0.020
OF49 LW3	naphthalene	11/16/2007	FALSE	composite	U	0.021	ug/l	0.021	0.020
OF50 City	naphthalene	9/28/2007	FALSE	grab		0.0348	ug/L	0.027	0.026
OF50 City	naphthalene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.027	0.026
OF50 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.027	0.026
OF50 City	naphthalene	12/14/2007	FALSE	grab		0.0331	ug/L	0.027	0.026
OF52 City	naphthalene	9/28/2007	FALSE	grab		0.0344	ug/L	0.023	0.022
OF52 City	naphthalene	9/30/2007	TRUE	grab	U	0.0194	ug/L	0.023	0.022
OF52 City	naphthalene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.023	0.022
OF52 City	naphthalene	10/16/2007	TRUE	grab	U	0.0196	ug/L	0.023	0.022
OF52 City	naphthalene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.023	0.022
OF52 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.023	0.022
OF52A City	naphthalene	9/28/2007	FALSE	grab	U	0.2	ug/L	0.076	0.047
OF52A City	naphthalene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.076	0.047
OF52A City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.076	0.047
OF52A City	naphthalene	12/14/2007	FALSE	grab		0.0652	ug/L	0.076	0.047
OF52C Basin T Port	naphthalene	3/24/2007	FALSE	composite		0.051	ug/l	0.028	0.019
OF52C Basin T Port	naphthalene	4/7/2007	FALSE	composite		0.034	ug/l	0.028	0.019
OF52C Basin T Port	naphthalene	5/3/2007	FALSE	composite	J	0.022	ug/l	0.028	0.019
OF52C Basin T Port	naphthalene	11/16/2007	FALSE	composite	U	0.0035	ug/l	0.028	0.019
OF53 City+Port	naphthalene	3/24/2007	FALSE	composite	J	0.028	ug/l	0.048	0.038
OF53 City+Port	naphthalene	4/7/2007	FALSE	composite		0.028	ug/l	0.048	0.038
OF53 City+Port	naphthalene	5/3/2007	FALSE	composite		0.043	ug/l	0.048	0.038
OF53 City+Port	naphthalene	1/26/2008	FALSE	composite		0.129	ug/L	0.048	0.038
OF53 City+Port	naphthalene	2/6/2008	FALSE	composite	U	0.0381	ug/L	0.048	0.038
OF53 City+Port	naphthalene	3/12/2008	TRUE	composite	U	0.0196	ug/L	0.048	0.038
OF53 City+Port	naphthalene	3/12/2008	FALSE	composite	U	0.0196	ug/L	0.048	0.038
OF53A City	naphthalene	2/29/2008	FALSE	grab	U	0.02	ug/L	0.054	0.044
OF53A City	naphthalene	3/20/2008	FALSE	grab	U	0.0583	ug/L	0.054	0.044
OF53A City	naphthalene	4/4/2008	FALSE	grab		0.0309	ug/L	0.054	0.044
OF53A City	naphthalene	5/13/2008	FALSE	grab		0.105	ug/L	0.054	0.044
OFM1 City	naphthalene	9/28/2007	FALSE	grab		0.0312	ug/L	0.029	0.028
OFM1 City	naphthalene	9/30/2007	FALSE	grab	U	0.0194	ug/L	0.029	0.028
OFM1 City	naphthalene	10/16/2007	FALSE	grab		0.0332	ug/L	0.029	0.028
OFM1 City	naphthalene	11/16/2007	FALSE	grab		0.0312	ug/L	0.029	0.028
OFM1 LW3	naphthalene	3/26/2007	FALSE	composite		0.047	ug/l	0.084	0.079
OFM1 LW3	naphthalene	4/9/2007	FALSE	composite		0.11	ug/l	0.084	0.079
OFM1 LW3	naphthalene	4/18/2007	FALSE	composite	U	0.094	ug/l	0.084	0.079
OFM2 City	naphthalene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.035	0.034
OFM2 City	naphthalene	10/16/2007	FALSE	grab		0.0461	ug/L	0.035	0.034
OFM2 City	naphthalene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.035	0.034
OFM2 City	naphthalene	12/15/2007	FALSE	grab		0.0366	ug/L	0.035	0.034

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.027	ug/l	0.026	0.026
OFM2 LW3	naphthalene	4/9/2007	FALSE	composite	U	0.034	ug/l	0.026	0.026
OFM2 LW3	naphthalene	4/23/2007	FALSE	composite	U	0.019	ug/l	0.026	0.026
OFM2 LW3	naphthalene	5/3/2007	FALSE	composite	U	0.03	ug/l	0.026	0.026
OFM2 LW3	naphthalene	5/3/2007	TRUE	composite	U	0.019	ug/l	0.026	0.026
OFM3 City	naphthalene	9/28/2007	FALSE	grab		0.0519	ug/L	0.042	0.040
OFM3 City	naphthalene	9/30/2007	FALSE	grab		0.0291	ug/L	0.042	0.040
OFM3 City	naphthalene	10/16/2007	FALSE	grab		0.0587	ug/L	0.042	0.040
OFM3 City	naphthalene	11/16/2007	FALSE	grab		0.0283	ug/L	0.042	0.040
OFS1 City	naphthalene	9/28/2007	FALSE	grab		0.0307	ug/L	0.131	0.073
OFS1 City	naphthalene	10/16/2007	FALSE	grab		0.0213	ug/L	0.131	0.073
OFS1 City	naphthalene	11/16/2007	FALSE	grab		0.126	ug/L	0.131	0.073
OFS1 City	naphthalene	12/15/2007	FALSE	grab		0.345	ug/L	0.131	0.073
OFS2 City	naphthalene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.031	0.027
OFS2 City	naphthalene	10/16/2007	FALSE	grab		0.0237	ug/L	0.031	0.027
OFS2 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.031	0.027
OFS2 City	naphthalene	12/15/2007	FALSE	grab		0.06	ug/L	0.031	0.027
OFS5 City	naphthalene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.027	0.026
OFS5 City	naphthalene	10/16/2007	FALSE	grab	U	0.0291	ug/L	0.027	0.026
OFS5 City	naphthalene	11/16/2007	TRUE	grab		0.0206	ug/L	0.027	0.026
OFS5 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.027	0.026
OFS5 City	naphthalene	12/15/2007	FALSE	grab		0.039	ug/L	0.027	0.026
OFS6 City	naphthalene	9/28/2007	FALSE	grab	U	0.0194	ug/L	0.024	0.023
OFS6 City	naphthalene	10/16/2007	FALSE	grab		0.0201	ug/L	0.024	0.023
OFS6 City	naphthalene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.024	0.023
OFS6 City	naphthalene	12/15/2007	FALSE	grab		0.0353	ug/L	0.024	0.023
OSM LW3	naphthalene	3/26/2007	FALSE	composite		0.2	ug/l	0.081	0.060
OSM LW3	naphthalene	4/9/2007	FALSE	composite	U	0.052	ug/l	0.081	0.060
OSM LW3	naphthalene	4/18/2007	FALSE	composite	U	0.037	ug/l	0.081	0.060
OSM LW3	naphthalene	5/21/2007	FALSE	grab	U	0.034	ug/l	0.081	0.060
Portland Shipyard LW3	naphthalene	3/26/2007	FALSE	composite		0.04	ug/l	0.043	0.043
Portland Shipyard LW3	naphthalene	4/9/2007	FALSE	composite	U	0.037	ug/l	0.043	0.043
Portland Shipyard LW3	naphthalene	5/3/2007	FALSE	composite	U	0.045	ug/l	0.043	0.043
Portland Shipyard LW3	naphthalene	5/22/2007	FALSE	grab	U	0.054	ug/l	0.043	0.043
Portland Shipyard LW3	naphthalene	6/5/2007	FALSE	grab	U	0.039	ug/l	0.043	0.043
Schnitzer Int. LW3	naphthalene	4/9/2007	FALSE	composite	U	0.036	ug/l	0.087	0.040
Schnitzer Int. LW3	naphthalene	4/18/2007	FALSE	composite		0.28	ug/l	0.087	0.040
Schnitzer Int. LW3	naphthalene	4/23/2007	FALSE	composite	U	0.019	ug/l	0.087	0.040
Schnitzer Int. LW3	naphthalene	5/21/2007	FALSE	grab	U	0.013	ug/l	0.087	0.040
Schnitzer Riverside LW3	naphthalene	4/9/2007	FALSE	composite	U	0.063	ug/l	0.108	0.100
Schnitzer Riverside LW3	naphthalene	4/18/2007	FALSE	composite	UJ	0.16	ug/l	0.108	0.100
Schnitzer Riverside LW3	naphthalene	4/23/2007	FALSE	composite	U	0.1	ug/l	0.108	0.100
Siltronic LW3	naphthalene	4/9/2007	FALSE	composite	U	0.025	ug/l	0.022	0.022
Siltronic LW3	naphthalene	4/9/2007	FALSE	composite	U	0.019	ug/l	0.022	0.022
Siltronic LW3	naphthalene	4/18/2007	FALSE	composite	U	0.022	ug/l	0.022	0.022
Siltronic LW3	naphthalene	6/10/2007	FALSE	composite	U	0.023	ug/l	0.022	0.022
SJB LW3	naphthalene	3/26/2007	FALSE	composite		0.38	ug/l	0.179	0.138
SJB LW3	naphthalene	4/9/2007	FALSE	composite		0.15	ug/l	0.179	0.138
SJB LW3	naphthalene	4/18/2007	FALSE	composite	UJ	0.14	ug/l	0.179	0.138
SJB LW3	naphthalene	5/21/2007	TRUE	grab	U	0.043	ug/l	0.179	0.138
SJB LW3	naphthalene	5/21/2007	FALSE	grab	U	0.048	ug/l	0.179	0.138
Sulzer LW3	naphthalene	1/11/2008	FALSE	composite	U	0.11	ug/l	0.092	0.090
Sulzer LW3	naphthalene	1/30/2008	FALSE	composite		0.073	ug/l	0.092	0.090
UPRR Albina LW3	naphthalene	5/3/2007	FALSE	composite	U	0.029	ug/l	0.055	0.047
UPRR Albina LW3	naphthalene	6/10/2007	FALSE	composite	U	0.026	ug/l	0.055	0.047
UPRR Albina LW3	naphthalene	11/27/2007	FALSE	composite	U	0.085	ug/l	0.055	0.047
UPRR Albina LW3	naphthalene	11/29/2007	FALSE	composite	U	0.079	ug/l	0.055	0.047
WR169 Basin D Port	naphthalene	3/24/2007	FALSE	composite	J	0.031	ug/l	0.029	0.027
WR169 Basin D Port	naphthalene	4/7/2007	FALSE	composite		0.043	ug/l	0.029	0.027
WR169 Basin D Port	naphthalene	5/3/2007	FALSE	composite	J	0.016	ug/l	0.029	0.027
WR169 Basin D Port	naphthalene	5/3/2007	TRUE	composite	J	0.015	ug/l	0.029	0.027
WR169 Basin D Port	naphthalene	11/16/2007	FALSE	composite		0.027	ug/l	0.029	0.027
WR177 Basin M Port	naphthalene	3/24/2007	FALSE	composite		0.059	ug/l	0.029	0.025
WR177 Basin M Port	naphthalene	4/7/2007	FALSE	composite	J	0.018	ug/l	0.029	0.025
WR177 Basin M Port	naphthalene	5/3/2007	FALSE	composite	J	0.017	ug/l	0.029	0.025
WR177 Basin M Port	naphthalene	9/28/2007	FALSE	composite	J	0.02	ug/l	0.029	0.025
WR181 Basin Q Port	naphthalene	3/24/2007	TRUE	composite		0.043	ug/l	0.032	0.030
WR181 Basin Q Port	naphthalene	3/24/2007	FALSE	composite		0.049	ug/l	0.032	0.030
WR181 Basin Q Port	naphthalene	4/7/2007	FALSE	composite		0.027	ug/l	0.032	0.030
WR181 Basin Q Port	naphthalene	9/28/2007	FALSE	composite		0.022	ug/l	0.032	0.030
WR183 Basin R Port	naphthalene	3/24/2007	FALSE	composite	J	0.04	ug/l	0.089	0.056
WR183 Basin R Port	naphthalene	4/7/2007	FALSE	composite		0.039	ug/l	0.089	0.056

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR183 Basin R Port	naphthalene	5/3/2007	FALSE	composite		0.25	ug/l	0.089	0.056
WR183 Basin R Port	naphthalene	11/16/2007	FALSE	composite		0.027	ug/l	0.089	0.056
WR183 Basin R Port	naphthalene	11/16/2007	TRUE	composite		0.024	ug/l	0.089	0.056
WR20 Basin L Port	naphthalene	3/24/2007	FALSE	composite		0.14	ug/l	0.098	0.093
WR20 Basin L Port	naphthalene	5/3/2007	FALSE	composite		0.11	ug/l	0.098	0.093
WR20 Basin L Port	naphthalene	5/20/2007	FALSE	composite		0.085	ug/l	0.098	0.093
WR20 Basin L Port	naphthalene	9/28/2007	FALSE	composite		0.058	ug/l	0.098	0.093
Arkema LW3	nickel	3/26/2007	FALSE	composite		4.51	ug/l	5.94	5.85
Arkema LW3	nickel	4/23/2007	FALSE	composite		5.13	ug/l	5.94	5.85
Arkema LW3	nickel	5/3/2007	FALSE	composite		6.22	ug/l	5.94	5.85
Arkema LW3	nickel	6/10/2007	FALSE	composite		7.38	ug/l	5.94	5.85
Arkema LW3	nickel	11/27/2007	TRUE	composite		6.52	ug/l	5.94	5.85
Arkema LW3	nickel	11/27/2007	FALSE	composite		6.39	ug/l	5.94	5.85
Chevron LW3	nickel	3/26/2007	FALSE	composite		1.75	ug/l	2.60	2.39
Chevron LW3	nickel	4/9/2007	FALSE	composite		3.12	ug/l	2.60	2.39
Chevron LW3	nickel	4/23/2007	FALSE	composite		1.22	ug/l	2.60	2.39
Chevron LW3	nickel	5/3/2007	FALSE	composite		3.83	ug/l	2.60	2.39
Chevron LW3	nickel	6/10/2007	FALSE	composite		3.07	ug/l	2.60	2.39
Gasco LW3	nickel	3/26/2007	FALSE	composite		2.66	ug/l	3.81	3.68
Gasco LW3	nickel	4/9/2007	FALSE	composite		4.64	ug/l	3.81	3.68
Gasco LW3	nickel	4/18/2007	FALSE	composite		4.86	ug/l	3.81	3.68
Gasco LW3	nickel	5/3/2007	FALSE	composite		3.07	ug/l	3.81	3.68
GE MH 2	nickel	4/18/2007	FALSE	composite	UJ	5	ug/l	3.68	2.81
GE MH 2	nickel	10/19/2007	FALSE	composite	J	6.55	ug/l	3.68	2.81
GE MH 2	nickel	10/19/2007	TRUE	composite	J	3.84	ug/l	3.68	2.81
GE MH 2	nickel	11/13/2007	TRUE	composite	U	0.85	ug/l	3.68	2.81
GE MH 2	nickel	11/13/2007	FALSE	composite	U	0.85	ug/l	3.68	2.81
GE SV 1	nickel	6/10/2007	FALSE	composite	U	5	ug/l	4.03	3.86
GE SV 1	nickel	10/19/2007	FALSE	composite	J	4.54	ug/l	4.03	3.86
GE SV 1	nickel	11/13/2007	FALSE	composite	J	2.54	ug/l	4.03	3.86
Gunderson WR142/145 LW3	nickel	4/9/2007	FALSE	composite		5.03	ug/l	4.25	4.19
Gunderson WR142/145 LW3	nickel	6/10/2007	FALSE	composite		4	ug/l	4.25	4.19
Gunderson WR142/145 LW3	nickel	11/16/2007	FALSE	composite		4.8	ug/l	4.25	4.19
Gunderson WR142/145 LW3	nickel	11/27/2007	FALSE	composite		4.41	ug/l	4.25	4.19
Gunderson WR142/145 LW3	nickel	1/9/2008	FALSE	composite		3.03	ug/l	4.25	4.19
Gunderson WR147 LW3	nickel	4/9/2007	FALSE	composite		6.97	ug/l	10.30	9.59
Gunderson WR147 LW3	nickel	4/18/2007	FALSE	composite		14.7	ug/l	10.30	9.59
Gunderson WR147 LW3	nickel	4/23/2007	FALSE	composite		7.57	ug/l	10.30	9.59
Gunderson WR147 LW3	nickel	5/3/2007	FALSE	composite		15.5	ug/l	10.30	9.59
Gunderson WR147 LW3	nickel	6/10/2007	TRUE	composite		6.87	ug/l	10.30	9.59
Gunderson WR147 LW3	nickel	6/10/2007	FALSE	composite		6.61	ug/l	10.30	9.59
HWY30 NW Yeon-35th LW3	nickel	4/9/2007	FALSE	composite		3.78	ug/l	3.69	3.66
HWY30 NW Yeon-35th LW3	nickel	5/3/2007	FALSE	composite		4.2	ug/l	3.69	3.66
HWY30 NW Yeon-35th LW3	nickel	6/10/2007	FALSE	composite		3.1	ug/l	3.69	3.66
HWY30A Reed St. LW3	nickel	11/16/2007	FALSE	composite		2.93	ug/l	4.50	4.18
HWY30A Reed St. LW3	nickel	11/27/2007	FALSE	composite		3.08	ug/l	4.50	4.18
HWY30A Reed St. LW3	nickel	1/28/2008	FALSE	composite		4.53	ug/l	4.50	4.18
HWY30A Reed St. LW3	nickel	1/28/2008	TRUE	composite		4.57	ug/l	4.50	4.18
HWY30A Reed St. LW3	nickel	1/30/2008	FALSE	composite		7.42	ug/l	4.50	4.18
HWY30B 35th St. LW3	nickel	11/27/2007	FALSE	composite		8.06	ug/l	7.88	7.67
HWY30B 35th St. LW3	nickel	1/11/2008	FALSE	composite		4.91	ug/l	7.88	7.67
HWY30B 35th St. LW3	nickel	1/15/2008	FALSE	composite		8.77	ug/l	7.88	7.67
HWY30B 35th St. LW3	nickel	1/28/2008	FALSE	composite		7.55	ug/l	7.88	7.67
HWY30B 35th St. LW3	nickel	1/30/2008	FALSE	composite		10.1	ug/l	7.88	7.67
OF16 LW3	nickel	4/9/2007	FALSE	composite		5.45	ug/l	5.69	5.27
OF16 LW3	nickel	4/18/2007	FALSE	composite		6.57	ug/l	5.69	5.27
OF16 LW3	nickel	4/23/2007	TRUE	composite		2.37	ug/l	5.69	5.27
OF16 LW3	nickel	4/23/2007	FALSE	composite		2.48	ug/l	5.69	5.27
OF16 LW3	nickel	5/3/2007	FALSE	composite		8.47	ug/l	5.69	5.27
OF16 LW3	nickel	6/10/2007	FALSE	composite		5.53	ug/l	5.69	5.27
OF18 LW3	nickel	3/26/2007	TRUE	composite		5.86	ug/l	6.83	6.77
OF18 LW3	nickel	3/26/2007	FALSE	composite		5.82	ug/l	6.83	6.77
OF18 LW3	nickel	4/9/2007	FALSE	composite		6.43	ug/l	6.83	6.77
OF18 LW3	nickel	4/18/2007	FALSE	composite		6.56	ug/l	6.83	6.77
OF18 LW3	nickel	4/18/2007	TRUE	composite		6.77	ug/l	6.83	6.77
OF18 LW3	nickel	5/3/2007	FALSE	composite		8.39	ug/l	6.83	6.77
OF19_LW3+MS4	nickel	3/26/2007	FALSE	composite		2.44	ug/l	5.14	4.58
OF19_LW3+MS4	nickel	4/9/2007	TRUE	composite		3.8	ug/l	5.14	4.58
OF19_LW3+MS4	nickel	4/9/2007	FALSE	composite		3.37	ug/l	5.14	4.58
OF19_LW3+MS4	nickel	4/18/2007	FALSE	composite		5.71	ug/l	5.14	4.58
OF19_LW3+MS4	nickel	5/3/2007	TRUE	composite		8.69	ug/l	5.14	4.58
OF19_LW3+MS4	nickel	5/3/2007	FALSE	composite		8.93	ug/l	5.14	4.58

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22 LW3	nickel	4/9/2007	FALSE	composite		4.52	ug/l	4.34	4.31
OF22 LW3	nickel	5/3/2007	FALSE	composite		4.84	ug/l	4.34	4.31
OF22 LW3	nickel	6/10/2007	FALSE	composite		3.67	ug/l	4.34	4.31
OF22B LW3	nickel	3/27/2007	FALSE	composite		7.97	ug/l	8.50	7.94
OF22B LW3	nickel	5/3/2007	FALSE	composite		13.8	ug/l	8.50	7.94
OF22B LW3	nickel	11/16/2007	FALSE	composite		5.04	ug/l	8.50	7.94
OF22B LW3	nickel	11/27/2007	FALSE	composite		7.18	ug/l	8.50	7.94
OF22C City	nickel	2/29/2008	FALSE	grab		0.68	ug/L	0.84	0.83
OF22C City	nickel	3/20/2008	FALSE	grab		0.96	ug/L	0.84	0.83
OF22C City	nickel	4/4/2008	FALSE	grab		0.78	ug/L	0.84	0.83
OF22C City	nickel	5/13/2008	FALSE	grab		0.93	ug/L	0.84	0.83
OF22C Tualatin Hills LW3	nickel	4/18/2007	FALSE	composite		1.28	ug/l	1.44	1.37
OF22C Tualatin Hills LW3	nickel	4/23/2007	FALSE	composite		0.95	ug/l	1.44	1.37
OF22C Tualatin Hills LW3	nickel	1/9/2008	FALSE	composite		2.1	ug/l	1.44	1.37
OF22D City	nickel	2/29/2008	TRUE	grab		0.76	ug/L	2.40	1.47
OF22D City	nickel	2/29/2008	FALSE	grab		0.79	ug/L	2.40	1.47
OF22D City	nickel	3/20/2008	FALSE	grab		6.76	ug/L	2.40	1.47
OF22D City	nickel	4/4/2008	FALSE	grab		1.47	ug/L	2.40	1.47
OF22D City	nickel	5/13/2008	FALSE	grab		0.6	ug/L	2.40	1.47
OF45 City	nickel	2/5/2008	FALSE	grab		30.8	ug/L	16.58	11.75
OF45 City	nickel	2/29/2008	FALSE	grab		13.5	ug/L	16.58	11.75
OF45 City	nickel	3/20/2008	FALSE	grab		2.33	ug/L	16.58	11.75
OF45 City	nickel	4/4/2008	FALSE	grab		19.7	ug/L	16.58	11.75
OF46 City	nickel	2/5/2008	FALSE	grab		7.54	ug/L	8.04	7.48
OF46 City	nickel	2/29/2008	FALSE	grab		6.46	ug/L	8.04	7.48
OF46 City	nickel	3/20/2008	FALSE	grab		4.82	ug/L	8.04	7.48
OF46 City	nickel	4/4/2008	FALSE	grab		6.56	ug/L	8.04	7.48
OF46 City	nickel	4/4/2008	TRUE	grab		20.1	ug/L	8.04	7.48
OF47 City	nickel	2/5/2008	FALSE	grab		7.77	ug/L	8.00	6.60
OF47 City	nickel	2/29/2008	FALSE	grab		2.84	ug/L	8.00	6.60
OF47 City	nickel	3/20/2008	FALSE	grab		16	ug/L	8.00	6.60
OF47 City	nickel	4/4/2008	FALSE	grab		5.39	ug/L	8.00	6.60
OF48 City	nickel	9/28/2007	FALSE	grab		3.18	ug/L	6.22	5.31
OF48 City	nickel	9/28/2007	TRUE	grab		2.93	ug/L	6.22	5.31
OF48 City	nickel	10/16/2007	FALSE	grab		12.5	ug/L	6.22	5.31
OF48 City	nickel	11/16/2007	FALSE	grab		3.7	ug/L	6.22	5.31
OF48 City	nickel	12/15/2007	FALSE	grab		5.63	ug/L	6.22	5.31
OF49 LW3	nickel	4/9/2007	FALSE	composite		1.22	ug/l	1.59	1.40
OF49 LW3	nickel	4/23/2007	FALSE	composite		1.04	ug/l	1.59	1.40
OF49 LW3	nickel	6/10/2007	FALSE	composite		3.11	ug/l	1.59	1.40
OF49 LW3	nickel	11/16/2007	FALSE	composite		0.98	ug/l	1.59	1.40
OF50 City	nickel	9/28/2007	FALSE	grab		2.22	ug/L	1.63	1.60
OF50 City	nickel	10/16/2007	FALSE	grab		1.63	ug/L	1.63	1.60
OF50 City	nickel	11/16/2007	FALSE	grab		1.36	ug/L	1.63	1.60
OF50 City	nickel	12/14/2007	FALSE	grab		1.32	ug/L	1.63	1.60
OF52 City	nickel	9/28/2007	FALSE	grab		7.07	ug/L	3.61	3.15
OF52 City	nickel	9/30/2007	FALSE	grab		2.34	ug/L	3.61	3.15
OF52 City	nickel	9/30/2007	TRUE	grab		2.3	ug/L	3.61	3.15
OF52 City	nickel	10/16/2007	TRUE	grab		4.49	ug/L	3.61	3.15
OF52 City	nickel	10/16/2007	FALSE	grab		1.69	ug/L	3.61	3.15
OF52 City	nickel	11/16/2007	FALSE	grab		1.95	ug/L	3.61	3.15
OF52A City	nickel	9/28/2007	FALSE	grab		2.41	ug/L	1.74	1.68
OF52A City	nickel	10/16/2007	FALSE	grab		1.54	ug/L	1.74	1.68
OF52A City	nickel	11/16/2007	FALSE	grab		1.14	ug/L	1.74	1.68
OF52A City	nickel	12/14/2007	FALSE	grab		1.88	ug/L	1.74	1.68
OF52C Basin T Port	nickel	3/24/2007	FALSE	composite	J	1.56	ug/l	1.92	1.79
OF52C Basin T Port	nickel	5/3/2007	FALSE	composite		3.13	ug/l	1.92	1.79
OF52C Basin T Port	nickel	5/20/2007	FALSE	composite		1.8	ug/l	1.92	1.79
OF52C Basin T Port	nickel	11/16/2007	FALSE	composite		1.17	ug/l	1.92	1.79
OF53 City+Port	nickel	3/24/2007	FALSE	composite	J	2.79	ug/l	4.91	3.48
OF53 City+Port	nickel	5/3/2007	FALSE	composite		14.6	ug/l	4.91	3.48
OF53 City+Port	nickel	1/26/2008	FALSE	composite		1.87	ug/L	4.91	3.48
OF53 City+Port	nickel	2/6/2008	FALSE	composite		3.17	ug/L	4.91	3.48
OF53 City+Port	nickel	3/12/2008	TRUE	composite		2.15	ug/L	4.91	3.48
OF53 City+Port	nickel	3/12/2008	FALSE	composite		2.1	ug/L	4.91	3.48
OF53A City	nickel	2/29/2008	FALSE	grab		7.39	ug/L	5.95	5.82
OF53A City	nickel	3/20/2008	FALSE	grab		6.07	ug/L	5.95	5.82
OF53A City	nickel	4/4/2008	FALSE	grab		6.21	ug/L	5.95	5.82
OF53A City	nickel	5/13/2008	FALSE	grab		4.11	ug/L	5.95	5.82
OFM1 City	nickel	9/28/2007	FALSE	grab		2.05	ug/L	2.28	2.10
OFM1 City	nickel	9/30/2007	FALSE	grab		1.07	ug/L	2.28	2.10
OFM1 City	nickel	10/16/2007	FALSE	grab		3.26	ug/L	2.28	2.10

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 City	nickel	11/16/2007	FALSE	grab		2.74	ug/L	2.28	2.10
OFM1 LW3	nickel	3/26/2007	FALSE	composite		1.68	ug/l	2.72	2.61
OFM1 LW3	nickel	4/9/2007	FALSE	composite		2.41	ug/l	2.72	2.61
OFM1 LW3	nickel	4/18/2007	FALSE	composite		3.58	ug/l	2.72	2.61
OFM1 LW3	nickel	4/18/2007	TRUE	composite		3.44	ug/l	2.72	2.61
OFM1 LW3	nickel	6/10/2007	FALSE	composite		3.27	ug/l	2.72	2.61
OFM2 City	nickel	9/28/2007	FALSE	grab		2.28	ug/L	2.57	2.53
OFM2 City	nickel	10/16/2007	FALSE	grab		3.33	ug/L	2.57	2.53
OFM2 City	nickel	11/16/2007	FALSE	grab		2.14	ug/L	2.57	2.53
OFM2 City	nickel	12/15/2007	FALSE	grab		2.53	ug/L	2.57	2.53
OFM2 LW3	nickel	4/9/2007	FALSE	composite		1.99	ug/l	2.03	1.97
OFM2 LW3	nickel	4/9/2007	FALSE	composite		1.41	ug/l	2.03	1.97
OFM2 LW3	nickel	4/23/2007	FALSE	composite		1.71	ug/l	2.03	1.97
OFM2 LW3	nickel	4/23/2007	TRUE	composite		2.2	ug/l	2.03	1.97
OFM2 LW3	nickel	5/3/2007	FALSE	composite		2.75	ug/l	2.03	1.97
OFM3 City	nickel	9/28/2007	FALSE	grab		1.88	ug/L	1.78	1.67
OFM3 City	nickel	9/30/2007	FALSE	grab		0.93	ug/L	1.78	1.67
OFM3 City	nickel	10/16/2007	FALSE	grab		2.55	ug/L	1.78	1.67
OFM3 City	nickel	11/16/2007	FALSE	grab		1.76	ug/L	1.78	1.67
OFS1 City	nickel	9/28/2007	FALSE	grab		2.69	ug/L	4.01	3.82
OFS1 City	nickel	10/16/2007	FALSE	grab		3.07	ug/L	4.01	3.82
OFS1 City	nickel	11/16/2007	FALSE	grab		5.89	ug/L	4.01	3.82
OFS1 City	nickel	12/15/2007	FALSE	grab		4.39	ug/L	4.01	3.82
OFS2 City	nickel	9/28/2007	FALSE	grab		2.66	ug/L	1.98	1.90
OFS2 City	nickel	10/16/2007	FALSE	grab		2.37	ug/L	1.98	1.90
OFS2 City	nickel	11/16/2007	FALSE	grab		1.41	ug/L	1.98	1.90
OFS2 City	nickel	12/15/2007	FALSE	grab		1.47	ug/L	1.98	1.90
OFS5 City	nickel	9/28/2007	FALSE	grab		2.14	ug/L	2.35	2.33
OFS5 City	nickel	10/16/2007	FALSE	grab		1.99	ug/L	2.35	2.33
OFS5 City	nickel	11/16/2007	FALSE	grab		2.61	ug/L	2.35	2.33
OFS5 City	nickel	11/16/2007	TRUE	grab		2.62	ug/L	2.35	2.33
OFS5 City	nickel	12/15/2007	FALSE	grab		2.66	ug/L	2.35	2.33
OFS6 City	nickel	9/28/2007	FALSE	grab		5.15	ug/L	3.79	3.58
OFS6 City	nickel	10/16/2007	FALSE	grab		4.85	ug/L	3.79	3.58
OFS6 City	nickel	11/16/2007	FALSE	grab		2.66	ug/L	3.79	3.58
OFS6 City	nickel	12/15/2007	FALSE	grab		2.48	ug/L	3.79	3.58
OSM LW3	nickel	3/26/2007	FALSE	composite		9.6	ug/l	12.23	12.08
OSM LW3	nickel	4/9/2007	FALSE	composite		11.5	ug/l	12.23	12.08
OSM LW3	nickel	4/18/2007	FALSE	composite		14	ug/l	12.23	12.08
OSM LW3	nickel	5/3/2007	FALSE	composite		13.8	ug/l	12.23	12.08
Portland Shipyard LW3	nickel	3/26/2007	FALSE	composite		3.67	ug/l	6.00	5.43
Portland Shipyard LW3	nickel	4/9/2007	FALSE	composite		3.99	ug/l	6.00	5.43
Portland Shipyard LW3	nickel	5/3/2007	FALSE	composite		10.9	ug/l	6.00	5.43
Portland Shipyard LW3	nickel	6/10/2007	FALSE	composite		5.45	ug/l	6.00	5.43
Schnitzer Int. LW3	nickel	4/9/2007	FALSE	composite		6.83	ug/l	9.31	8.33
Schnitzer Int. LW3	nickel	4/18/2007	FALSE	composite		16.5	ug/l	9.31	8.33
Schnitzer Int. LW3	nickel	4/23/2007	FALSE	composite		4.57	ug/l	9.31	8.33
Schnitzer Int. LW3	nickel	5/3/2007	FALSE	composite		9.34	ug/l	9.31	8.33
Schnitzer Riverside LW3	nickel	4/9/2007	FALSE	composite		9.09	ug/l	35.80	26.76
Schnitzer Riverside LW3	nickel	4/18/2007	FALSE	composite		76.9	ug/l	35.80	26.76
Schnitzer Riverside LW3	nickel	4/23/2007	FALSE	composite		37.8	ug/l	35.80	26.76
Schnitzer Riverside LW3	nickel	5/3/2007	FALSE	composite		19.4	ug/l	35.80	26.76
Siltronic LW3	nickel	4/9/2007	FALSE	composite		0.75	ug/l	2.04	1.74
Siltronic LW3	nickel	4/9/2007	FALSE	composite		1.77	ug/l	2.04	1.74
Siltronic LW3	nickel	4/18/2007	FALSE	composite		2.7	ug/l	2.04	1.74
Siltronic LW3	nickel	5/3/2007	FALSE	composite		3.86	ug/l	2.04	1.74
Siltronic LW3	nickel	6/10/2007	FALSE	composite		1.14	ug/l	2.04	1.74
SJB LW3	nickel	3/26/2007	FALSE	composite		7.74	ug/l	8.30	7.88
SJB LW3	nickel	4/9/2007	FALSE	composite		7.59	ug/l	8.30	7.88
SJB LW3	nickel	4/18/2007	FALSE	composite		12.7	ug/l	8.30	7.88
SJB LW3	nickel	5/3/2007	FALSE	composite		5.17	ug/l	8.30	7.88
Sulzer LW3	nickel	1/11/2008	FALSE	composite		1.4	ug/l	1.69	1.66
Sulzer LW3	nickel	1/30/2008	FALSE	composite		1.98	ug/l	1.69	1.66
UPRR Albina LW3	nickel	5/3/2007	FALSE	composite		3.07	ug/l	2.73	2.71
UPRR Albina LW3	nickel	6/10/2007	FALSE	composite		2.79	ug/l	2.73	2.71
UPRR Albina LW3	nickel	11/27/2007	FALSE	composite		2.78	ug/l	2.73	2.71
UPRR Albina LW3	nickel	11/29/2007	TRUE	composite		2.29	ug/l	2.73	2.71
UPRR Albina LW3	nickel	11/29/2007	FALSE	composite		2.26	ug/l	2.73	2.71
WR169 Basin D Port	nickel	3/24/2007	FALSE	composite	J	1.79	ug/l	1.72	1.60
WR169 Basin D Port	nickel	5/3/2007	TRUE	composite		2.27	ug/l	1.72	1.60
WR169 Basin D Port	nickel	5/3/2007	FALSE	composite		2.39	ug/l	1.72	1.60
WR169 Basin D Port	nickel	5/20/2007	FALSE	composite		1.93	ug/l	1.72	1.60

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR169 Basin D Port	nickel	11/16/2007	FALSE	composite		0.82	ug/l	1.72	1.60
WR177 Basin M Port	nickel	3/24/2007	FALSE	composite	J	8.46	ug/l	5.90	5.55
WR177 Basin M Port	nickel	5/3/2007	FALSE	composite		5.91	ug/l	5.90	5.55
WR177 Basin M Port	nickel	5/20/2007	FALSE	composite		6.18	ug/l	5.90	5.55
WR177 Basin M Port	nickel	9/28/2007	FALSE	composite		3.06	ug/l	5.90	5.55
WR181 Basin Q Port	nickel	3/24/2007	FALSE	composite	J	7.95	ug/l	4.57	4.34
WR181 Basin Q Port	nickel	3/24/2007	TRUE	composite	J	4.04	ug/l	4.57	4.34
WR181 Basin Q Port	nickel	9/28/2007	FALSE	composite		3.14	ug/l	4.57	4.34
WR183 Basin R Port	nickel	3/24/2007	FALSE	composite	J	9.91	ug/l	62.45	21.54
WR183 Basin R Port	nickel	5/3/2007	FALSE	composite		170	ug/l	62.45	21.54
WR183 Basin R Port	nickel	5/20/2007	FALSE	composite		68	ug/l	62.45	21.54
WR183 Basin R Port	nickel	11/16/2007	TRUE	composite		1.63	ug/l	62.45	21.54
WR183 Basin R Port	nickel	11/16/2007	FALSE	composite		2.13	ug/l	62.45	21.54
WR20 Basin L Port	nickel	3/24/2007	FALSE	composite	J	3.69	ug/l	6.23	5.78
WR20 Basin L Port	nickel	5/3/2007	FALSE	composite		5.07	ug/l	6.23	5.78
WR20 Basin L Port	nickel	5/20/2007	FALSE	composite		10.4	ug/l	6.23	5.78
WR20 Basin L Port	nickel	9/28/2007	FALSE	composite		5.74	ug/l	6.23	5.78
OF19_LW3+MS4	pentachlorophenol	3/8/2006	FALSE	composite	U	2.1	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	3/15/2006	FALSE	composite	U	4	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	5/23/2006	FALSE	composite	U	3.5	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	11/2/2006	FALSE	composite	U	3.8	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	11/19/2006	FALSE	composite	U	3.7	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	2/14/2007	FALSE	composite	U	0.34	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	11/26/2007	FALSE	composite	U	0.97	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	3/7/2008	FALSE	composite	U	2	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	3/25/2008	FALSE	composite	U	0.97	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	11/20/2008	FALSE	composite	UJ	5.2	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	2/23/2009	FALSE	composite	UJ	5.2	ug/L	3.48	2.54
OF19_LW3+MS4	pentachlorophenol	3/14/2009	FALSE	composite	U	10	ug/L	3.48	2.54
OF22C City	pentachlorophenol	2/29/2008	FALSE	grab	U	1.1	ug/L	1.01	1.01
OF22C City	pentachlorophenol	3/20/2008	FALSE	grab	U	0.96	ug/L	1.01	1.01
OF22C City	pentachlorophenol	4/4/2008	FALSE	grab	U	1	ug/L	1.01	1.01
OF22C City	pentachlorophenol	5/13/2008	FALSE	grab	U	0.99	ug/L	1.01	1.01
OF22D City	pentachlorophenol	2/29/2008	TRUE	grab	U	0.99	ug/L	1.26	1.20
OF22D City	pentachlorophenol	2/29/2008	FALSE	grab	U	1.1	ug/L	1.26	1.20
OF22D City	pentachlorophenol	3/20/2008	FALSE	grab	U	2	ug/L	1.26	1.20
OF22D City	pentachlorophenol	4/4/2008	FALSE	grab	U	1	ug/L	1.26	1.20
OF22D City	pentachlorophenol	5/13/2008	FALSE	grab	U	1	ug/L	1.26	1.20
OF45 City	pentachlorophenol	2/5/2008	FALSE	grab	U	0.98	ug/L	1.26	1.19
OF45 City	pentachlorophenol	2/29/2008	FALSE	grab	U	1	ug/L	1.26	1.19
OF45 City	pentachlorophenol	3/20/2008	FALSE	grab	U	2.1	ug/L	1.26	1.19
OF45 City	pentachlorophenol	4/4/2008	FALSE	grab	U	0.97	ug/L	1.26	1.19
OF46 City	pentachlorophenol	2/5/2008	FALSE	grab	U	0.98	ug/L	2.74	2.10
OF46 City	pentachlorophenol	2/29/2008	FALSE	grab	U	4	ug/L	2.74	2.10
OF46 City	pentachlorophenol	3/20/2008	FALSE	grab	U	5	ug/L	2.74	2.10
OF46 City	pentachlorophenol	4/4/2008	FALSE	grab	U	1	ug/L	2.74	2.10
OF46 City	pentachlorophenol	4/4/2008	TRUE	grab	U	0.97	ug/L	2.74	2.10
OF47 City	pentachlorophenol	2/5/2008	FALSE	grab	U	5.3	ug/L	2.65	2.25
OF47 City	pentachlorophenol	2/29/2008	FALSE	grab	U	2.1	ug/L	2.65	2.25
OF47 City	pentachlorophenol	3/20/2008	FALSE	grab	U	2.1	ug/L	2.65	2.25
OF47 City	pentachlorophenol	4/4/2008	FALSE	grab	U	1.1	ug/L	2.65	2.25
OF48 City	pentachlorophenol	9/28/2007	TRUE	grab	U	0.98	ug/L	1.02	1.02
OF48 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OF48 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.02	1.02
OF48 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OF48 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OF50 City	pentachlorophenol	9/28/2007	FALSE	grab	U	0.98	ug/L	1.07	1.07
OF50 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.07	1.07
OF50 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1.1	ug/L	1.07	1.07
OF50 City	pentachlorophenol	12/14/2007	FALSE	grab	U	1.1	ug/L	1.07	1.07
OF52 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1	ug/L	1.05	1.05
OF52 City	pentachlorophenol	9/30/2007	TRUE	grab	U	1.1	ug/L	1.05	1.05
OF52 City	pentachlorophenol	9/30/2007	FALSE	grab	U	1.1	ug/L	1.05	1.05
OF52 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.05	1.05
OF52 City	pentachlorophenol	10/16/2007	TRUE	grab	U	1.1	ug/L	1.05	1.05
OF52 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1	ug/L	1.05	1.05
OF52A City	pentachlorophenol	9/28/2007	FALSE	grab	U	0.99	ug/L	1.12	1.11
OF52A City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.12	1.11
OF52A City	pentachlorophenol	11/16/2007	FALSE	grab		1.4	ug/L	1.12	1.11
OF52A City	pentachlorophenol	12/14/2007	FALSE	grab	U	1	ug/L	1.12	1.11
OF53 City+Port	pentachlorophenol	1/26/2008	FALSE	composite	U	0.99	ug/L	0.97	0.97
OF53 City+Port	pentachlorophenol	2/6/2008	FALSE	composite	U	0.94	ug/L	0.97	0.97

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF53 City+Port	pentachlorophenol	3/12/2008	TRUE	composite	U	0.98	ug/L	0.97	0.97
OF53 City+Port	pentachlorophenol	3/12/2008	FALSE	composite	U	0.99	ug/L	0.97	0.97
OF53A City	pentachlorophenol	2/29/2008	FALSE	grab	U	1.1	ug/L	1.30	1.23
OF53A City	pentachlorophenol	3/20/2008	FALSE	grab	U	2.1	ug/L	1.30	1.23
OF53A City	pentachlorophenol	4/4/2008	FALSE	grab	U	1	ug/L	1.30	1.23
OF53A City	pentachlorophenol	5/13/2008	FALSE	grab	U	0.99	ug/L	1.30	1.23
OFM1 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1.1	ug/L	1.05	1.04
OFM1 City	pentachlorophenol	9/30/2007	FALSE	grab	U	0.99	ug/L	1.05	1.04
OFM1 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.05	1.04
OFM1 City	pentachlorophenol	11/16/2007	FALSE	grab	U	0.99	ug/L	1.05	1.04
OFM2 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1.1	ug/L	1.08	1.07
OFM2 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.08	1.07
OFM2 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1	ug/L	1.08	1.07
OFM2 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1.1	ug/L	1.08	1.07
OFM3 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1.2	ug/L	1.10	1.10
OFM3 City	pentachlorophenol	9/30/2007	FALSE	grab	U	1.1	ug/L	1.10	1.10
OFM3 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.10	1.10
OFM3 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1	ug/L	1.10	1.10
OFS1 City	pentachlorophenol	9/28/2007	FALSE	grab	U	0.98	ug/L	1.02	1.02
OFS1 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OFS1 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1.1	ug/L	1.02	1.02
OFS1 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OFS2 City	pentachlorophenol	9/28/2007	FALSE	grab	U	0.98	ug/L	1.02	1.02
OFS2 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1.1	ug/L	1.02	1.02
OFS2 City	pentachlorophenol	11/16/2007	FALSE	grab	U	0.99	ug/L	1.02	1.02
OFS2 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1	ug/L	1.02	1.02
OFS5 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1	ug/L	1.04	1.04
OFS5 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1	ug/L	1.04	1.04
OFS5 City	pentachlorophenol	11/16/2007	TRUE	grab	U	1	ug/L	1.04	1.04
OFS5 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1.1	ug/L	1.04	1.04
OFS5 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1.1	ug/L	1.04	1.04
OFS6 City	pentachlorophenol	9/28/2007	FALSE	grab	U	1	ug/L	1.00	1.00
OFS6 City	pentachlorophenol	10/16/2007	FALSE	grab	U	1	ug/L	1.00	1.00
OFS6 City	pentachlorophenol	11/16/2007	FALSE	grab	U	1	ug/L	1.00	1.00
OFS6 City	pentachlorophenol	12/15/2007	FALSE	grab	U	1	ug/L	1.00	1.00
Arkema LW3	phenanthrene	3/26/2007	FALSE	composite	J	0.013	ug/l	0.0084	0.0081
Arkema LW3	phenanthrene	4/23/2007	FALSE	composite	J	0.0054	ug/l	0.0084	0.0081
Arkema LW3	phenanthrene	5/3/2007	FALSE	composite	U	0.0071	ug/l	0.0084	0.0081
Arkema LW3	phenanthrene	6/5/2007	FALSE	grab	J	0.0084	ug/l	0.0084	0.0081
Arkema LW3	phenanthrene	11/27/2007	FALSE	composite	J	0.0083	ug/l	0.0084	0.0081
Chevron LW3	phenanthrene	3/26/2007	FALSE	composite		0.44	ug/l	0.2667	0.2296
Chevron LW3	phenanthrene	4/9/2007	FALSE	composite		0.25	ug/l	0.2667	0.2296
Chevron LW3	phenanthrene	4/23/2007	FALSE	composite		0.11	ug/l	0.2667	0.2296
Gasco LW3	phenanthrene	3/26/2007	FALSE	composite		0.057	ug/l	0.2340	0.1600
Gasco LW3	phenanthrene	4/9/2007	FALSE	composite		0.099	ug/l	0.2340	0.1600
Gasco LW3	phenanthrene	4/18/2007	FALSE	composite		0.2	ug/l	0.2340	0.1600
Gasco LW3	phenanthrene	5/21/2007	FALSE	grab		0.58	ug/l	0.2340	0.1600
GE MH 2	phenanthrene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1634	0.1551
GE MH 2	phenanthrene	10/19/2007	TRUE	composite	U	0.192	ug/l	0.1634	0.1551
GE MH 2	phenanthrene	10/19/2007	FALSE	composite	U	0.196	ug/l	0.1634	0.1551
GE MH 2	phenanthrene	11/13/2007	FALSE	composite	U	0.2	ug/l	0.1634	0.1551
GE MH 2	phenanthrene	11/13/2007	TRUE	composite	U	0.2	ug/l	0.1634	0.1551
GE SV 1	phenanthrene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1660	0.1577
GE SV 1	phenanthrene	10/19/2007	FALSE	composite	U	0.2	ug/l	0.1660	0.1577
GE SV 1	phenanthrene	11/13/2007	FALSE	composite	U	0.2	ug/l	0.1660	0.1577
Gunderson WR142/145 LW3	phenanthrene	4/9/2007	FALSE	composite		0.13	ug/l	0.0824	0.0547
Gunderson WR142/145 LW3	phenanthrene	5/21/2007	FALSE	grab	U	0.005	ug/l	0.0824	0.0547
Gunderson WR142/145 LW3	phenanthrene	6/10/2007	FALSE	composite		0.095	ug/l	0.0824	0.0547
Gunderson WR142/145 LW3	phenanthrene	11/16/2007	FALSE	composite		0.11	ug/l	0.0824	0.0547
Gunderson WR142/145 LW3	phenanthrene	11/29/2007	FALSE	composite		0.072	ug/l	0.0824	0.0547
Gunderson WR147 LW3	phenanthrene	4/9/2007	FALSE	composite		0.12	ug/l	0.1057	0.0986
Gunderson WR147 LW3	phenanthrene	4/18/2007	FALSE	composite		0.14	ug/l	0.1057	0.0986
Gunderson WR147 LW3	phenanthrene	4/23/2007	FALSE	composite		0.057	ug/l	0.1057	0.0986
HWY30 NW Yeon-35th LW3	phenanthrene	4/9/2007	FALSE	composite		0.087	ug/l	0.0650	0.0629
HWY30 NW Yeon-35th LW3	phenanthrene	5/3/2007	FALSE	composite		0.047	ug/l	0.0650	0.0629
HWY30 NW Yeon-35th LW3	phenanthrene	6/10/2007	FALSE	composite		0.061	ug/l	0.0650	0.0629
HWY30A Reed St. LW3	phenanthrene	11/16/2007	FALSE	composite		0.085	ug/l	0.1817	0.1649
HWY30A Reed St. LW3	phenanthrene	1/28/2008	FALSE	composite		0.22	ug/l	0.1817	0.1649
HWY30A Reed St. LW3	phenanthrene	1/30/2008	FALSE	composite		0.24	ug/l	0.1817	0.1649
HWY30B 35th St. LW3	phenanthrene	11/27/2007	FALSE	composite		0.33	ug/l	0.2900	0.2813
HWY30B 35th St. LW3	phenanthrene	1/11/2008	FALSE	composite		0.18	ug/l	0.2900	0.2813
HWY30B 35th St. LW3	phenanthrene	1/28/2008	FALSE	composite		0.31	ug/l	0.2900	0.2813

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
HWY30B 35th St. LW3	phenanthrene	1/30/2008	FALSE	composite		0.34	ug/l	0.2900	0.2813
OF16 LW3	phenanthrene	4/9/2007	FALSE	composite		0.11	ug/l	0.1133	0.1127
OF16 LW3	phenanthrene	4/18/2007	FALSE	composite		0.13	ug/l	0.1133	0.1127
OF16 LW3	phenanthrene	4/23/2007	FALSE	composite		0.1	ug/l	0.1133	0.1127
OF18 LW3	phenanthrene	3/26/2007	TRUE	composite		0.49	ug/l	0.1184	0.0463
OF18 LW3	phenanthrene	3/26/2007	FALSE	composite		0.29	ug/l	0.1184	0.0463
OF18 LW3	phenanthrene	4/9/2007	FALSE	composite		0.037	ug/l	0.1184	0.0463
OF18 LW3	phenanthrene	4/18/2007	FALSE	composite		0.038	ug/l	0.1184	0.0463
OF18 LW3	phenanthrene	5/21/2007	FALSE	grab	J	0.0084	ug/l	0.1184	0.0463
OF19_LW3+MS4	phenanthrene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	11/2/2006	FALSE	composite	U	0.11	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	2/14/2007	FALSE	composite		0.073	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	3/26/2007	FALSE	composite		0.075	ug/l	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	4/9/2007	FALSE	composite		0.1	ug/l	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	4/9/2007	TRUE	composite		0.15	ug/l	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	4/18/2007	FALSE	composite		0.09	ug/l	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	11/26/2007	FALSE	composite		0.0995	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	3/7/2008	FALSE	composite		0.0872	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	3/25/2008	FALSE	composite		0.0516	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	11/20/2008	FALSE	composite		0.122	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	2/23/2009	FALSE	composite		0.272	ug/L	0.1091	0.1020
OF19_LW3+MS4	phenanthrene	3/14/2009	FALSE	composite		0.101	ug/L	0.1091	0.1020
OF22 LW3	phenanthrene	4/9/2007	FALSE	composite		0.097	ug/l	0.3320	0.1404
OF22 LW3	phenanthrene	5/3/2007	FALSE	composite		0.091	ug/l	0.3320	0.1404
OF22 LW3	phenanthrene	6/5/2007	FALSE	grab		1.1	ug/l	0.3320	0.1404
OF22 LW3	phenanthrene	6/10/2007	FALSE	composite		0.04	ug/l	0.3320	0.1404
OF22B LW3	phenanthrene	3/27/2007	FALSE	composite		0.3	ug/l	0.2078	0.1871
OF22B LW3	phenanthrene	5/3/2007	FALSE	composite		0.33	ug/l	0.2078	0.1871
OF22B LW3	phenanthrene	6/5/2007	FALSE	grab		0.094	ug/l	0.2078	0.1871
OF22B LW3	phenanthrene	11/16/2007	FALSE	composite		0.17	ug/l	0.2078	0.1871
OF22B LW3	phenanthrene	11/27/2007	TRUE	composite		0.14	ug/l	0.2078	0.1871
OF22B LW3	phenanthrene	11/27/2007	FALSE	composite		0.15	ug/l	0.2078	0.1871
OF22C City	phenanthrene	2/29/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C City	phenanthrene	3/20/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C City	phenanthrene	4/4/2008	FALSE	grab	U	0.0194	ug/L	0.0206	0.0205
OF22C City	phenanthrene	5/13/2008	FALSE	grab		0.0242	ug/L	0.0206	0.0205
OF22C Tualatin Hills LW3	phenanthrene	4/18/2007	TRUE	composite	U	0.0034	ug/l	0.0041	0.0039
OF22C Tualatin Hills LW3	phenanthrene	4/18/2007	FALSE	composite	U	0.0033	ug/l	0.0041	0.0039
OF22C Tualatin Hills LW3	phenanthrene	4/23/2007	TRUE	composite	U	0.0034	ug/l	0.0041	0.0039
OF22C Tualatin Hills LW3	phenanthrene	4/23/2007	FALSE	composite	U	0.0034	ug/l	0.0041	0.0039
OF22C Tualatin Hills LW3	phenanthrene	1/9/2008	FALSE	composite	U	0.0054	ug/l	0.0041	0.0039
OF22D City	phenanthrene	2/29/2008	FALSE	grab		0.0204	ug/L	0.0588	0.0421
OF22D City	phenanthrene	2/29/2008	TRUE	grab		0.0214	ug/L	0.0588	0.0421
OF22D City	phenanthrene	3/20/2008	FALSE	grab		0.139	ug/L	0.0588	0.0421
OF22D City	phenanthrene	4/4/2008	FALSE	grab		0.0558	ug/L	0.0588	0.0421
OF22D City	phenanthrene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0588	0.0421
OF45 City	phenanthrene	2/5/2008	FALSE	grab		0.173	ug/L	0.1244	0.1175
OF45 City	phenanthrene	2/29/2008	FALSE	grab		0.109	ug/L	0.1244	0.1175
OF45 City	phenanthrene	3/20/2008	FALSE	grab		0.0687	ug/L	0.1244	0.1175
OF45 City	phenanthrene	4/4/2008	FALSE	grab		0.147	ug/L	0.1244	0.1175
OF46 City	phenanthrene	2/5/2008	FALSE	grab		0.178	ug/L	0.1946	0.1930
OF46 City	phenanthrene	2/29/2008	FALSE	grab		0.235	ug/L	0.1946	0.1930
OF46 City	phenanthrene	3/20/2008	FALSE	grab		0.168	ug/L	0.1946	0.1930
OF46 City	phenanthrene	4/4/2008	FALSE	grab		0.234	ug/L	0.1946	0.1930
OF46 City	phenanthrene	4/4/2008	TRUE	grab		0.161	ug/L	0.1946	0.1930
OF47 City	phenanthrene	2/5/2008	FALSE	grab		0.216	ug/L	0.1315	0.1196
OF47 City	phenanthrene	2/29/2008	FALSE	grab		0.0892	ug/L	0.1315	0.1196
OF47 City	phenanthrene	3/20/2008	FALSE	grab		0.0708	ug/L	0.1315	0.1196
OF47 City	phenanthrene	4/4/2008	FALSE	grab		0.15	ug/L	0.1315	0.1196
OF48 City	phenanthrene	9/28/2007	TRUE	grab		0.2	ug/L	0.0814	0.0535
OF48 City	phenanthrene	9/28/2007	FALSE	grab		0.215	ug/L	0.0814	0.0535
OF48 City	phenanthrene	10/16/2007	FALSE	grab		0.0293	ug/L	0.0814	0.0535
OF48 City	phenanthrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0814	0.0535
OF48 City	phenanthrene	12/15/2007	FALSE	grab		0.0693	ug/L	0.0814	0.0535
OF49 LW3	phenanthrene	4/9/2007	FALSE	composite	J	0.013	ug/l	0.0158	0.0154
OF49 LW3	phenanthrene	4/23/2007	FALSE	composite	U	0.019	ug/l	0.0158	0.0154
OF49 LW3	phenanthrene	6/10/2007	FALSE	composite	J	0.012	ug/l	0.0158	0.0154
OF49 LW3	phenanthrene	11/16/2007	FALSE	composite	J	0.019	ug/l	0.0158	0.0154
OF50 City	phenanthrene	9/28/2007	FALSE	grab		0.148	ug/L	0.0568	0.0388

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF50 City	phenanthrene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0568	0.0388
OF50 City	phenanthrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0568	0.0388
OF50 City	phenanthrene	12/14/2007	FALSE	grab		0.0401	ug/L	0.0568	0.0388
OF52 City	phenanthrene	9/28/2007	FALSE	grab		0.141	ug/L	0.0670	0.0503
OF52 City	phenanthrene	9/30/2007	FALSE	grab		0.0313	ug/L	0.0670	0.0503
OF52 City	phenanthrene	9/30/2007	TRUE	grab		0.0291	ug/L	0.0670	0.0503
OF52 City	phenanthrene	10/16/2007	FALSE	grab		0.0827	ug/L	0.0670	0.0503
OF52 City	phenanthrene	10/16/2007	TRUE	grab		0.0722	ug/L	0.0670	0.0503
OF52 City	phenanthrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0670	0.0503
OF52A City	phenanthrene	9/28/2007	FALSE	grab		0.65	ug/L	0.2281	0.1320
OF52A City	phenanthrene	10/16/2007	FALSE	grab		0.0968	ug/L	0.2281	0.1320
OF52A City	phenanthrene	11/16/2007	FALSE	grab		0.0377	ug/L	0.2281	0.1320
OF52A City	phenanthrene	12/14/2007	FALSE	grab		0.128	ug/L	0.2281	0.1320
OF52C Basin T Port	phenanthrene	3/24/2007	FALSE	composite		0.17	ug/l	0.0898	0.0804
OF52C Basin T Port	phenanthrene	4/7/2007	FALSE	composite		0.072	ug/l	0.0898	0.0804
OF52C Basin T Port	phenanthrene	5/3/2007	FALSE	composite		0.061	ug/l	0.0898	0.0804
OF52C Basin T Port	phenanthrene	11/16/2007	FALSE	composite		0.056	ug/l	0.0898	0.0804
OF53 City+Port	phenanthrene	3/24/2007	FALSE	composite		0.068	ug/l	0.0951	0.0879
OF53 City+Port	phenanthrene	4/7/2007	FALSE	composite		0.069	ug/l	0.0951	0.0879
OF53 City+Port	phenanthrene	5/3/2007	FALSE	composite		0.15	ug/l	0.0951	0.0879
OF53 City+Port	phenanthrene	1/26/2008	FALSE	composite		0.107	ug/L	0.0951	0.0879
OF53 City+Port	phenanthrene	2/6/2008	FALSE	composite		0.129	ug/L	0.0951	0.0879
OF53 City+Port	phenanthrene	3/12/2008	TRUE	composite		0.0522	ug/L	0.0951	0.0879
OF53 City+Port	phenanthrene	3/12/2008	FALSE	composite		0.0429	ug/L	0.0951	0.0879
OF53A City	phenanthrene	2/29/2008	FALSE	grab		0.0572	ug/L	0.0837	0.0790
OF53A City	phenanthrene	3/20/2008	FALSE	grab		0.0912	ug/L	0.0837	0.0790
OF53A City	phenanthrene	4/4/2008	FALSE	grab		0.128	ug/L	0.0837	0.0790
OF53A City	phenanthrene	5/13/2008	FALSE	grab		0.0582	ug/L	0.0837	0.0790
OFM1 City	phenanthrene	9/28/2007	FALSE	grab		0.0327	ug/L	0.0393	0.0381
OFM1 City	phenanthrene	9/30/2007	FALSE	grab		0.036	ug/L	0.0393	0.0381
OFM1 City	phenanthrene	10/16/2007	FALSE	grab		0.0571	ug/L	0.0393	0.0381
OFM1 City	phenanthrene	11/16/2007	FALSE	grab		0.0312	ug/L	0.0393	0.0381
OFM1 LW3	phenanthrene	3/26/2007	FALSE	composite		0.068	ug/l	0.0840	0.0830
OFM1 LW3	phenanthrene	4/9/2007	FALSE	composite		0.084	ug/l	0.0840	0.0830
OFM1 LW3	phenanthrene	4/18/2007	FALSE	composite		0.1	ug/l	0.0840	0.0830
OFM2 City	phenanthrene	9/28/2007	FALSE	grab		0.039	ug/L	0.0463	0.0457
OFM2 City	phenanthrene	10/16/2007	FALSE	grab		0.0534	ug/L	0.0463	0.0457
OFM2 City	phenanthrene	11/16/2007	FALSE	grab	U	0.0388	ug/L	0.0463	0.0457
OFM2 City	phenanthrene	12/15/2007	FALSE	grab		0.0541	ug/L	0.0463	0.0457
OFM2 LW3	phenanthrene	4/9/2007	FALSE	composite		0.078	ug/l	0.0565	0.0543
OFM2 LW3	phenanthrene	4/9/2007	FALSE	composite		0.063	ug/l	0.0565	0.0543
OFM2 LW3	phenanthrene	4/23/2007	FALSE	composite		0.036	ug/l	0.0565	0.0543
OFM2 LW3	phenanthrene	5/3/2007	FALSE	composite		0.05	ug/l	0.0565	0.0543
OFM2 LW3	phenanthrene	5/3/2007	TRUE	composite		0.048	ug/l	0.0565	0.0543
OFM3 City	phenanthrene	9/28/2007	FALSE	grab		0.0474	ug/L	0.0500	0.0452
OFM3 City	phenanthrene	9/30/2007	FALSE	grab		0.0458	ug/L	0.0500	0.0452
OFM3 City	phenanthrene	10/16/2007	FALSE	grab		0.0836	ug/L	0.0500	0.0452
OFM3 City	phenanthrene	11/16/2007	FALSE	grab		0.023	ug/L	0.0500	0.0452
OFS1 City	phenanthrene	9/28/2007	FALSE	grab		0.132	ug/L	0.7648	0.4619
OFS1 City	phenanthrene	10/16/2007	FALSE	grab		0.24	ug/L	0.7648	0.4619
OFS1 City	phenanthrene	11/16/2007	FALSE	grab		1.95	ug/L	0.7648	0.4619
OFS1 City	phenanthrene	12/15/2007	FALSE	grab		0.737	ug/L	0.7648	0.4619
OFS2 City	phenanthrene	9/28/2007	FALSE	grab		0.0457	ug/L	0.0537	0.0455
OFS2 City	phenanthrene	10/16/2007	FALSE	grab		0.0475	ug/L	0.0537	0.0455
OFS2 City	phenanthrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0537	0.0455
OFS2 City	phenanthrene	12/15/2007	FALSE	grab		0.102	ug/L	0.0537	0.0455
OFS5 City	phenanthrene	9/28/2007	FALSE	grab		0.0469	ug/L	0.1032	0.0776
OFS5 City	phenanthrene	10/16/2007	FALSE	grab		0.0277	ug/L	0.1032	0.0776
OFS5 City	phenanthrene	11/16/2007	TRUE	grab		0.179	ug/L	0.1032	0.0776
OFS5 City	phenanthrene	11/16/2007	FALSE	grab		0.107	ug/L	0.1032	0.0776
OFS5 City	phenanthrene	12/15/2007	FALSE	grab		0.195	ug/L	0.1032	0.0776
OFS6 City	phenanthrene	9/28/2007	FALSE	grab		0.0702	ug/L	0.0944	0.0887
OFS6 City	phenanthrene	10/16/2007	FALSE	grab		0.107	ug/L	0.0944	0.0887
OFS6 City	phenanthrene	11/16/2007	FALSE	grab		0.0575	ug/L	0.0944	0.0887
OFS6 City	phenanthrene	12/15/2007	FALSE	grab		0.143	ug/L	0.0944	0.0887
OSM LW3	phenanthrene	3/26/2007	FALSE	composite		0.2	ug/l	0.1223	0.1115
OSM LW3	phenanthrene	4/9/2007	FALSE	composite		0.14	ug/l	0.1223	0.1115
OSM LW3	phenanthrene	4/18/2007	FALSE	composite		0.08	ug/l	0.1223	0.1115
OSM LW3	phenanthrene	5/21/2007	FALSE	grab		0.069	ug/l	0.1223	0.1115
Portland Shipyard LW3	phenanthrene	3/26/2007	FALSE	composite		0.11	ug/l	0.0968	0.0630
Portland Shipyard LW3	phenanthrene	4/9/2007	FALSE	composite		0.13	ug/l	0.0968	0.0630
Portland Shipyard LW3	phenanthrene	5/3/2007	FALSE	composite		0.099	ug/l	0.0968	0.0630

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Portland Shipyard LW3	phenanthrene	5/22/2007	FALSE	grab	U	0.005	ug/l	0.0968	0.0630
Portland Shipyard LW3	phenanthrene	6/5/2007	FALSE	grab		0.14	ug/l	0.0968	0.0630
Schnitzer Int. LW3	phenanthrene	4/9/2007	FALSE	composite		0.12	ug/l	0.0810	0.0710
Schnitzer Int. LW3	phenanthrene	4/18/2007	FALSE	composite		0.12	ug/l	0.0810	0.0710
Schnitzer Int. LW3	phenanthrene	4/23/2007	FALSE	composite		0.04	ug/l	0.0810	0.0710
Schnitzer Int. LW3	phenanthrene	5/21/2007	FALSE	grab		0.044	ug/l	0.0810	0.0710
Schnitzer Riverside LW3	phenanthrene	4/9/2007	FALSE	composite	U	0.091	ug/l	0.6137	0.4115
Schnitzer Riverside LW3	phenanthrene	4/18/2007	FALSE	composite	J	0.87	ug/l	0.6137	0.4115
Schnitzer Riverside LW3	phenanthrene	4/23/2007	FALSE	composite		0.88	ug/l	0.6137	0.4115
Siltronic LW3	phenanthrene	4/9/2007	FALSE	composite		0.041	ug/l	0.0545	0.0513
Siltronic LW3	phenanthrene	4/9/2007	FALSE	composite		0.057	ug/l	0.0545	0.0513
Siltronic LW3	phenanthrene	4/18/2007	FALSE	composite		0.085	ug/l	0.0545	0.0513
Siltronic LW3	phenanthrene	6/10/2007	FALSE	composite		0.035	ug/l	0.0545	0.0513
SJB LW3	phenanthrene	3/26/2007	FALSE	composite		2.1	ug/l	0.7625	0.4860
SJB LW3	phenanthrene	4/9/2007	FALSE	composite		0.41	ug/l	0.7625	0.4860
SJB LW3	phenanthrene	4/18/2007	FALSE	composite	J	0.36	ug/l	0.7625	0.4860
SJB LW3	phenanthrene	5/21/2007	FALSE	grab		0.2	ug/l	0.7625	0.4860
SJB LW3	phenanthrene	5/21/2007	TRUE	grab		0.16	ug/l	0.7625	0.4860
Sulzer LW3	phenanthrene	1/11/2008	FALSE	composite		0.1	ug/l	0.1100	0.1095
Sulzer LW3	phenanthrene	1/30/2008	FALSE	composite		0.12	ug/l	0.1100	0.1095
UPRR Albina LW3	phenanthrene	5/3/2007	FALSE	composite		0.068	ug/l	0.1018	0.0879
UPRR Albina LW3	phenanthrene	6/10/2007	FALSE	composite		0.039	ug/l	0.1018	0.0879
UPRR Albina LW3	phenanthrene	11/27/2007	FALSE	composite		0.15	ug/l	0.1018	0.0879
UPRR Albina LW3	phenanthrene	11/29/2007	FALSE	composite		0.15	ug/l	0.1018	0.0879
WR169 Basin D Port	phenanthrene	3/24/2007	FALSE	composite		0.081	ug/l	0.0673	0.0653
WR169 Basin D Port	phenanthrene	4/7/2007	FALSE	composite		0.078	ug/l	0.0673	0.0653
WR169 Basin D Port	phenanthrene	5/3/2007	FALSE	composite		0.039	ug/l	0.0673	0.0653
WR169 Basin D Port	phenanthrene	5/3/2007	TRUE	composite		0.047	ug/l	0.0673	0.0653
WR169 Basin D Port	phenanthrene	11/16/2007	FALSE	composite		0.067	ug/l	0.0673	0.0653
WR177 Basin M Port	phenanthrene	3/24/2007	FALSE	composite		0.35	ug/l	0.1600	0.1328
WR177 Basin M Port	phenanthrene	4/7/2007	FALSE	composite		0.11	ug/l	0.1600	0.1328
WR177 Basin M Port	phenanthrene	5/3/2007	FALSE	composite		0.095	ug/l	0.1600	0.1328
WR177 Basin M Port	phenanthrene	9/28/2007	FALSE	composite		0.085	ug/l	0.1600	0.1328
WR181 Basin Q Port	phenanthrene	3/24/2007	FALSE	composite		0.47	ug/l	0.2107	0.1496
WR181 Basin Q Port	phenanthrene	3/24/2007	TRUE	composite		0.43	ug/l	0.2107	0.1496
WR181 Basin Q Port	phenanthrene	4/7/2007	FALSE	composite		0.12	ug/l	0.2107	0.1496
WR181 Basin Q Port	phenanthrene	9/28/2007	FALSE	composite		0.062	ug/l	0.2107	0.1496
WR183 Basin R Port	phenanthrene	3/24/2007	FALSE	composite		0.055	ug/l	0.2369	0.1456
WR183 Basin R Port	phenanthrene	4/7/2007	FALSE	composite		0.15	ug/l	0.2369	0.1456
WR183 Basin R Port	phenanthrene	5/3/2007	FALSE	composite		0.66	ug/l	0.2369	0.1456
WR183 Basin R Port	phenanthrene	11/16/2007	FALSE	composite		0.089	ug/l	0.2369	0.1456
WR183 Basin R Port	phenanthrene	11/16/2007	TRUE	composite		0.076	ug/l	0.2369	0.1456
WR20 Basin L Port	phenanthrene	3/24/2007	FALSE	composite		1.4	ug/l	1.4075	1.3276
WR20 Basin L Port	phenanthrene	5/3/2007	FALSE	composite		1.6	ug/l	1.4075	1.3276
WR20 Basin L Port	phenanthrene	5/20/2007	FALSE	composite		1.9	ug/l	1.4075	1.3276
WR20 Basin L Port	phenanthrene	9/28/2007	FALSE	composite		0.73	ug/l	1.4075	1.3276
Arkema LW3	pyrene	3/26/2007	FALSE	composite	J	0.018	ug/l	0.0160	0.0153
Arkema LW3	pyrene	4/23/2007	FALSE	composite	J	0.013	ug/l	0.0160	0.0153
Arkema LW3	pyrene	5/3/2007	FALSE	composite	J	0.017	ug/l	0.0160	0.0153
Arkema LW3	pyrene	6/5/2007	FALSE	grab	J	0.0092	ug/l	0.0160	0.0153
Arkema LW3	pyrene	11/27/2007	FALSE	composite		0.023	ug/l	0.0160	0.0153
Chevron LW3	pyrene	3/26/2007	FALSE	composite		1.1	ug/l	0.6333	0.5146
Chevron LW3	pyrene	4/9/2007	FALSE	composite		0.59	ug/l	0.6333	0.5146
Chevron LW3	pyrene	4/23/2007	FALSE	composite		0.21	ug/l	0.6333	0.5146
Gasco LW3	pyrene	3/26/2007	FALSE	composite		0.21	ug/l	0.8125	0.5552
Gasco LW3	pyrene	4/9/2007	FALSE	composite		0.31	ug/l	0.8125	0.5552
Gasco LW3	pyrene	4/18/2007	FALSE	composite		0.73	ug/l	0.8125	0.5552
Gasco LW3	pyrene	5/21/2007	FALSE	grab		2	ug/l	0.8125	0.5552
GE MH 2	pyrene	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.1602	0.1526
GE MH 2	pyrene	10/19/2007	TRUE	composite	U	0.188	ug/l	0.1602	0.1526
GE MH 2	pyrene	10/19/2007	FALSE	composite	U	0.191	ug/l	0.1602	0.1526
GE MH 2	pyrene	11/13/2007	TRUE	composite	UJ	0.195	ug/l	0.1602	0.1526
GE MH 2	pyrene	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.1602	0.1526
GE SV 1	pyrene	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.1627	0.1550
GE SV 1	pyrene	10/19/2007	FALSE	composite	U	0.195	ug/l	0.1627	0.1550
GE SV 1	pyrene	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.1627	0.1550
Gunderson WR142/145 LW3	pyrene	4/9/2007	FALSE	composite		0.16	ug/l	0.1066	0.0975
Gunderson WR142/145 LW3	pyrene	5/21/2007	FALSE	grab		0.072	ug/l	0.1066	0.0975
Gunderson WR142/145 LW3	pyrene	6/10/2007	FALSE	composite		0.1	ug/l	0.1066	0.0975
Gunderson WR142/145 LW3	pyrene	11/16/2007	FALSE	composite		0.15	ug/l	0.1066	0.0975
Gunderson WR142/145 LW3	pyrene	11/29/2007	FALSE	composite		0.051	ug/l	0.1066	0.0975
Gunderson WR147 LW3	pyrene	4/9/2007	FALSE	composite		0.071	ug/l	0.0793	0.0699

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
Gunderson WR147 LW3	pyrene	4/18/2007	FALSE	composite		0.13	ug/l	0.0793	0.0699
Gunderson WR147 LW3	pyrene	4/23/2007	FALSE	composite		0.037	ug/l	0.0793	0.0699
HWY30 NW Yeon-35th LW3	pyrene	4/9/2007	FALSE	composite		0.17	ug/l	0.1023	0.0926
HWY30 NW Yeon-35th LW3	pyrene	5/3/2007	FALSE	composite		0.064	ug/l	0.1023	0.0926
HWY30 NW Yeon-35th LW3	pyrene	6/10/2007	FALSE	composite		0.073	ug/l	0.1023	0.0926
HWY30A Reed St. LW3	pyrene	11/16/2007	FALSE	composite		0.18	ug/l	0.3167	0.2968
HWY30A Reed St. LW3	pyrene	1/28/2008	FALSE	composite		0.33	ug/l	0.3167	0.2968
HWY30A Reed St. LW3	pyrene	1/30/2008	FALSE	composite		0.44	ug/l	0.3167	0.2968
HWY30B 35th St. LW3	pyrene	11/27/2007	FALSE	composite		0.42	ug/l	0.4925	0.4833
HWY30B 35th St. LW3	pyrene	1/11/2008	FALSE	composite		0.41	ug/l	0.4925	0.4833
HWY30B 35th St. LW3	pyrene	1/28/2008	FALSE	composite		0.48	ug/l	0.4925	0.4833
HWY30B 35th St. LW3	pyrene	1/30/2008	FALSE	composite		0.66	ug/l	0.4925	0.4833
OF16 LW3	pyrene	4/9/2007	FALSE	composite		0.15	ug/l	0.1373	0.1303
OF16 LW3	pyrene	4/18/2007	FALSE	composite		0.18	ug/l	0.1373	0.1303
OF16 LW3	pyrene	4/23/2007	FALSE	composite		0.082	ug/l	0.1373	0.1303
OF18 LW3	pyrene	3/26/2007	FALSE	composite		0.54	ug/l	0.1810	0.1232
OF18 LW3	pyrene	3/26/2007	TRUE	composite		0.34	ug/l	0.1810	0.1232
OF18 LW3	pyrene	4/9/2007	FALSE	composite		0.14	ug/l	0.1810	0.1232
OF18 LW3	pyrene	4/18/2007	FALSE	composite		0.11	ug/l	0.1810	0.1232
OF18 LW3	pyrene	5/21/2007	FALSE	grab		0.034	ug/l	0.1810	0.1232
OF19_LW3+MS4	pyrene	3/8/2006	FALSE	composite	U	0.11	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	3/15/2006	FALSE	composite	U	0.11	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	5/23/2006	FALSE	composite	U	0.1	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	11/2/2006	FALSE	composite	EST	0.19	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	11/19/2006	FALSE	composite	U	0.11	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	2/14/2007	FALSE	composite		0.27	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	3/26/2007	FALSE	composite		0.14	ug/l	0.1481	0.1378
OF19_LW3+MS4	pyrene	4/9/2007	TRUE	composite		0.24	ug/l	0.1481	0.1378
OF19_LW3+MS4	pyrene	4/9/2007	FALSE	composite		0.19	ug/l	0.1481	0.1378
OF19_LW3+MS4	pyrene	4/18/2007	FALSE	composite		0.19	ug/l	0.1481	0.1378
OF19_LW3+MS4	pyrene	11/26/2007	FALSE	composite		0.153	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	3/7/2008	FALSE	composite	J	0.126	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	3/25/2008	FALSE	composite		0.0646	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	11/20/2008	FALSE	composite		0.0845	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	2/23/2009	FALSE	composite		0.225	ug/L	0.1481	0.1378
OF19_LW3+MS4	pyrene	3/14/2009	FALSE	composite		0.133	ug/L	0.1481	0.1378
OF22 LW3	pyrene	4/9/2007	FALSE	composite		0.19	ug/l	0.2725	0.2192
OF22 LW3	pyrene	5/3/2007	FALSE	composite		0.14	ug/l	0.2725	0.2192
OF22 LW3	pyrene	6/5/2007	FALSE	grab		0.62	ug/l	0.2725	0.2192
OF22 LW3	pyrene	6/10/2007	FALSE	composite		0.14	ug/l	0.2725	0.2192
OF22B LW3	pyrene	3/27/2007	FALSE	composite		0.17	ug/l	0.1730	0.1586
OF22B LW3	pyrene	5/3/2007	FALSE	composite		0.33	ug/l	0.1730	0.1586
OF22B LW3	pyrene	6/5/2007	FALSE	grab		0.11	ug/l	0.1730	0.1586
OF22B LW3	pyrene	11/16/2007	FALSE	composite		0.13	ug/l	0.1730	0.1586
OF22B LW3	pyrene	11/27/2007	TRUE	composite		0.13	ug/l	0.1730	0.1586
OF22B LW3	pyrene	11/27/2007	FALSE	composite		0.12	ug/l	0.1730	0.1586
OF22C City	pyrene	2/29/2008	FALSE	grab		0.0793	ug/L	0.0780	0.0682
OF22C City	pyrene	3/20/2008	FALSE	grab		0.0469	ug/L	0.0780	0.0682
OF22C City	pyrene	4/4/2008	FALSE	grab		0.0398	ug/L	0.0780	0.0682
OF22C City	pyrene	5/13/2008	FALSE	grab		0.146	ug/L	0.0780	0.0682
OF22C Tualatin Hills LW3	pyrene	4/18/2007	TRUE	composite	U	0.0049	ug/l	0.0048	0.0048
OF22C Tualatin Hills LW3	pyrene	4/18/2007	FALSE	composite	U	0.0048	ug/l	0.0048	0.0048
OF22C Tualatin Hills LW3	pyrene	4/23/2007	FALSE	composite	U	0.005	ug/l	0.0048	0.0048
OF22C Tualatin Hills LW3	pyrene	4/23/2007	TRUE	composite	U	0.005	ug/l	0.0048	0.0048
OF22C Tualatin Hills LW3	pyrene	1/9/2008	FALSE	composite	J	0.0046	ug/l	0.0048	0.0048
OF22D City	pyrene	2/29/2008	TRUE	grab		0.0362	ug/L	0.0962	0.0553
OF22D City	pyrene	2/29/2008	FALSE	grab		0.0316	ug/L	0.0962	0.0553
OF22D City	pyrene	3/20/2008	FALSE	grab		0.281	ug/L	0.0962	0.0553
OF22D City	pyrene	4/4/2008	FALSE	grab		0.0505	ug/L	0.0962	0.0553
OF22D City	pyrene	5/13/2008	FALSE	grab	U	0.0194	ug/L	0.0962	0.0553
OF45 City	pyrene	2/5/2008	FALSE	grab		0.206	ug/L	0.1342	0.1265
OF45 City	pyrene	2/29/2008	FALSE	grab		0.147	ug/L	0.1342	0.1265
OF45 City	pyrene	3/20/2008	FALSE	grab		0.0908	ug/L	0.1342	0.1265
OF45 City	pyrene	4/4/2008	FALSE	grab		0.0931	ug/L	0.1342	0.1265
OF46 City	pyrene	2/5/2008	FALSE	grab		0.32	ug/L	0.2688	0.2561
OF46 City	pyrene	2/29/2008	FALSE	grab		0.309	ug/L	0.2688	0.2561
OF46 City	pyrene	3/20/2008	FALSE	grab		0.302	ug/L	0.2688	0.2561
OF46 City	pyrene	4/4/2008	FALSE	grab		0.186	ug/L	0.2688	0.2561
OF46 City	pyrene	4/4/2008	TRUE	grab		0.102	ug/L	0.2688	0.2561
OF47 City	pyrene	2/5/2008	FALSE	grab		0.235	ug/L	0.2048	0.1807
OF47 City	pyrene	2/29/2008	FALSE	grab		0.073	ug/L	0.2048	0.1807
OF47 City	pyrene	3/20/2008	FALSE	grab		0.312	ug/L	0.2048	0.1807

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF47 City	pyrene	4/4/2008	FALSE	grab		0.199	ug/L	0.2048	0.1807
OF48 City	pyrene	9/28/2007	FALSE	grab		0.317	ug/L	0.0870	0.0461
OF48 City	pyrene	9/28/2007	TRUE	grab		0.211	ug/L	0.0870	0.0461
OF48 City	pyrene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0870	0.0461
OF48 City	pyrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0870	0.0461
OF48 City	pyrene	12/15/2007	FALSE	grab		0.0449	ug/L	0.0870	0.0461
OF49 LW3	pyrene	4/9/2007	FALSE	composite	J	0.022	ug/l	0.0215	0.0209
OF49 LW3	pyrene	4/23/2007	FALSE	composite		0.03	ug/l	0.0215	0.0209
OF49 LW3	pyrene	6/10/2007	FALSE	composite	J	0.016	ug/l	0.0215	0.0209
OF49 LW3	pyrene	11/16/2007	FALSE	composite	J	0.018	ug/l	0.0215	0.0209
OF50 City	pyrene	9/28/2007	FALSE	grab		0.092	ug/L	0.0437	0.0352
OF50 City	pyrene	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.0437	0.0352
OF50 City	pyrene	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.0437	0.0352
OF50 City	pyrene	12/14/2007	FALSE	grab		0.0438	ug/L	0.0437	0.0352
OF52 City	pyrene	9/28/2007	FALSE	grab		0.138	ug/L	0.0735	0.0636
OF52 City	pyrene	9/30/2007	FALSE	grab		0.0392	ug/L	0.0735	0.0636
OF52 City	pyrene	9/30/2007	TRUE	grab		0.0383	ug/L	0.0735	0.0636
OF52 City	pyrene	10/16/2007	FALSE	grab		0.0788	ug/L	0.0735	0.0636
OF52 City	pyrene	10/16/2007	TRUE	grab		0.0762	ug/L	0.0735	0.0636
OF52 City	pyrene	11/16/2007	FALSE	grab		0.0396	ug/L	0.0735	0.0636
OF52A City	pyrene	9/28/2007	FALSE	grab		0.45	ug/L	0.2330	0.2069
OF52A City	pyrene	10/16/2007	FALSE	grab		0.186	ug/L	0.2330	0.2069
OF52A City	pyrene	11/16/2007	FALSE	grab		0.146	ug/L	0.2330	0.2069
OF52A City	pyrene	12/14/2007	FALSE	grab		0.15	ug/L	0.2330	0.2069
OF52C Basin T Port	pyrene	3/24/2007	FALSE	composite		0.2	ug/l	0.0893	0.0728
OF52C Basin T Port	pyrene	4/7/2007	FALSE	composite		0.044	ug/l	0.0893	0.0728
OF52C Basin T Port	pyrene	5/3/2007	FALSE	composite		0.056	ug/l	0.0893	0.0728
OF52C Basin T Port	pyrene	11/16/2007	FALSE	composite		0.057	ug/l	0.0893	0.0728
OF53 City+Port	pyrene	3/24/2007	FALSE	composite		0.13	ug/l	0.1158	0.1059
OF53 City+Port	pyrene	4/7/2007	FALSE	composite		0.093	ug/l	0.1158	0.1059
OF53 City+Port	pyrene	5/3/2007	FALSE	composite		0.21	ug/l	0.1158	0.1059
OF53 City+Port	pyrene	1/26/2008	FALSE	composite		0.0667	ug/L	0.1158	0.1059
OF53 City+Port	pyrene	2/6/2008	FALSE	composite		0.132	ug/L	0.1158	0.1059
OF53 City+Port	pyrene	3/12/2008	FALSE	composite		0.0559	ug/L	0.1158	0.1059
OF53 City+Port	pyrene	3/12/2008	TRUE	composite		0.0701	ug/L	0.1158	0.1059
OF53A City	pyrene	2/29/2008	FALSE	grab		0.0735	ug/L	0.0886	0.0865
OF53A City	pyrene	3/20/2008	FALSE	grab		0.124	ug/L	0.0886	0.0865
OF53A City	pyrene	4/4/2008	FALSE	grab		0.0739	ug/L	0.0886	0.0865
OF53A City	pyrene	5/13/2008	FALSE	grab		0.083	ug/L	0.0886	0.0865
OFM1 City	pyrene	9/28/2007	FALSE	grab	U	0.0784	ug/L	0.0628	0.0593
OFM1 City	pyrene	9/30/2007	FALSE	grab		0.0474	ug/L	0.0628	0.0593
OFM1 City	pyrene	10/16/2007	FALSE	grab		0.0869	ug/L	0.0628	0.0593
OFM1 City	pyrene	11/16/2007	FALSE	grab		0.0384	ug/L	0.0628	0.0593
OFM1 LW3	pyrene	3/26/2007	FALSE	composite		0.2	ug/l	0.2367	0.2351
OFM1 LW3	pyrene	4/9/2007	FALSE	composite		0.26	ug/l	0.2367	0.2351
OFM1 LW3	pyrene	4/18/2007	FALSE	composite		0.25	ug/l	0.2367	0.2351
OFM2 City	pyrene	9/28/2007	FALSE	grab		0.061	ug/L	0.0556	0.0528
OFM2 City	pyrene	10/16/2007	FALSE	grab		0.0726	ug/L	0.0556	0.0528
OFM2 City	pyrene	11/16/2007	FALSE	grab		0.0301	ug/L	0.0556	0.0528
OFM2 City	pyrene	12/15/2007	FALSE	grab		0.0585	ug/L	0.0556	0.0528
OFM2 LW3	pyrene	4/9/2007	FALSE	composite		0.13	ug/l	0.0779	0.0722
OFM2 LW3	pyrene	4/9/2007	FALSE	composite		0.071	ug/l	0.0779	0.0722
OFM2 LW3	pyrene	4/23/2007	FALSE	composite		0.045	ug/l	0.0779	0.0722
OFM2 LW3	pyrene	5/3/2007	TRUE	composite		0.066	ug/l	0.0779	0.0722
OFM2 LW3	pyrene	5/3/2007	FALSE	composite		0.065	ug/l	0.0779	0.0722
OFM3 City	pyrene	9/28/2007	FALSE	grab		0.0585	ug/L	0.0468	0.0425
OFM3 City	pyrene	9/30/2007	FALSE	grab		0.0275	ug/L	0.0468	0.0425
OFM3 City	pyrene	10/16/2007	FALSE	grab		0.0736	ug/L	0.0468	0.0425
OFM3 City	pyrene	11/16/2007	FALSE	grab		0.0276	ug/L	0.0468	0.0425
OFS1 City	pyrene	9/28/2007	FALSE	grab		0.21	ug/L	1.5758	0.8736
OFS1 City	pyrene	10/16/2007	FALSE	grab		0.553	ug/L	1.5758	0.8736
OFS1 City	pyrene	11/16/2007	FALSE	grab		4.4	ug/L	1.5758	0.8736
OFS1 City	pyrene	12/15/2007	FALSE	grab		1.14	ug/L	1.5758	0.8736
OFS2 City	pyrene	9/28/2007	FALSE	grab		0.0574	ug/L	0.0557	0.0519
OFS2 City	pyrene	10/16/2007	FALSE	grab		0.0515	ug/L	0.0557	0.0519
OFS2 City	pyrene	11/16/2007	FALSE	grab	U	0.0291	ug/L	0.0557	0.0519
OFS2 City	pyrene	12/15/2007	FALSE	grab		0.0846	ug/L	0.0557	0.0519
OFS5 City	pyrene	9/28/2007	FALSE	grab		0.0638	ug/L	0.1144	0.0920
OFS5 City	pyrene	10/16/2007	FALSE	grab		0.0408	ug/L	0.1144	0.0920
OFS5 City	pyrene	11/16/2007	TRUE	grab		0.135	ug/L	0.1144	0.0920
OFS5 City	pyrene	11/16/2007	FALSE	grab		0.0972	ug/L	0.1144	0.0920
OFS5 City	pyrene	12/15/2007	FALSE	grab		0.237	ug/L	0.1144	0.0920

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFS6 City	pyrene	9/28/2007	FALSE	grab		0.0903	ug/L	0.1238	0.1197
OFS6 City	pyrene	10/16/2007	FALSE	grab		0.177	ug/L	0.1238	0.1197
OFS6 City	pyrene	11/16/2007	FALSE	grab		0.102	ug/L	0.1238	0.1197
OFS6 City	pyrene	12/15/2007	FALSE	grab		0.126	ug/L	0.1238	0.1197
OSM LW3	pyrene	3/26/2007	FALSE	composite		0.26	ug/l	0.1545	0.1406
OSM LW3	pyrene	4/9/2007	FALSE	composite		0.17	ug/l	0.1545	0.1406
OSM LW3	pyrene	4/18/2007	FALSE	composite		0.095	ug/l	0.1545	0.1406
OSM LW3	pyrene	5/21/2007	FALSE	grab		0.093	ug/l	0.1545	0.1406
Portland Shipyard LW3	pyrene	3/26/2007	FALSE	composite		0.12	ug/l	0.1014	0.0874
Portland Shipyard LW3	pyrene	4/9/2007	FALSE	composite		0.1	ug/l	0.1014	0.0874
Portland Shipyard LW3	pyrene	5/3/2007	FALSE	composite		0.076	ug/l	0.1014	0.0874
Portland Shipyard LW3	pyrene	5/22/2007	FALSE	grab		0.031	ug/l	0.1014	0.0874
Portland Shipyard LW3	pyrene	6/5/2007	FALSE	grab		0.18	ug/l	0.1014	0.0874
Schnitzer Int. LW3	pyrene	4/9/2007	FALSE	composite		0.32	ug/l	0.2225	0.2100
Schnitzer Int. LW3	pyrene	4/18/2007	FALSE	composite		0.23	ug/l	0.2225	0.2100
Schnitzer Int. LW3	pyrene	4/23/2007	FALSE	composite		0.12	ug/l	0.2225	0.2100
Schnitzer Int. LW3	pyrene	5/21/2007	FALSE	grab		0.22	ug/l	0.2225	0.2100
Schnitzer Riverside LW3	pyrene	4/9/2007	FALSE	composite		0.08	ug/l	2.7600	1.0365
Schnitzer Riverside LW3	pyrene	4/18/2007	FALSE	composite	J	2.4	ug/l	2.7600	1.0365
Schnitzer Riverside LW3	pyrene	4/23/2007	FALSE	composite		5.8	ug/l	2.7600	1.0365
Siltronic LW3	pyrene	4/9/2007	FALSE	composite		0.059	ug/l	0.0830	0.0733
Siltronic LW3	pyrene	4/9/2007	FALSE	composite		0.097	ug/l	0.0830	0.0733
Siltronic LW3	pyrene	4/18/2007	FALSE	composite		0.14	ug/l	0.0830	0.0733
Siltronic LW3	pyrene	6/10/2007	FALSE	composite		0.036	ug/l	0.0830	0.0733
SJB LW3	pyrene	3/26/2007	FALSE	composite		1.7	ug/l	0.7500	0.5738
SJB LW3	pyrene	4/9/2007	FALSE	composite		0.63	ug/l	0.7500	0.5738
SJB LW3	pyrene	4/18/2007	FALSE	composite	J	0.44	ug/l	0.7500	0.5738
SJB LW3	pyrene	5/21/2007	FALSE	grab		0.26	ug/l	0.7500	0.5738
SJB LW3	pyrene	5/21/2007	TRUE	grab		0.2	ug/l	0.7500	0.5738
Sulzer LW3	pyrene	1/11/2008	FALSE	composite		0.031	ug/l	0.0510	0.0469
Sulzer LW3	pyrene	1/30/2008	FALSE	composite		0.071	ug/l	0.0510	0.0469
UPRR Albina LW3	pyrene	5/3/2007	FALSE	composite		0.11	ug/l	0.4085	0.2425
UPRR Albina LW3	pyrene	6/10/2007	FALSE	composite		0.084	ug/l	0.4085	0.2425
UPRR Albina LW3	pyrene	11/27/2007	FALSE	composite		0.34	ug/l	0.4085	0.2425
UPRR Albina LW3	pyrene	11/29/2007	FALSE	composite		1.1	ug/l	0.4085	0.2425
WR169 Basin D Port	pyrene	3/24/2007	FALSE	composite		0.082	ug/l	0.0630	0.0598
WR169 Basin D Port	pyrene	4/7/2007	FALSE	composite		0.081	ug/l	0.0630	0.0598
WR169 Basin D Port	pyrene	5/3/2007	TRUE	composite		0.037	ug/l	0.0630	0.0598
WR169 Basin D Port	pyrene	5/3/2007	FALSE	composite		0.037	ug/l	0.0630	0.0598
WR169 Basin D Port	pyrene	11/16/2007	FALSE	composite		0.052	ug/l	0.0630	0.0598
WR177 Basin M Port	pyrene	3/24/2007	FALSE	composite		1.2	ug/l	0.4375	0.2863
WR177 Basin M Port	pyrene	4/7/2007	FALSE	composite		0.25	ug/l	0.4375	0.2863
WR177 Basin M Port	pyrene	5/3/2007	FALSE	composite		0.16	ug/l	0.4375	0.2863
WR177 Basin M Port	pyrene	9/28/2007	FALSE	composite		0.14	ug/l	0.4375	0.2863
WR181 Basin Q Port	pyrene	3/24/2007	TRUE	composite		0.81	ug/l	0.3543	0.2217
WR181 Basin Q Port	pyrene	3/24/2007	FALSE	composite		0.83	ug/l	0.3543	0.2217
WR181 Basin Q Port	pyrene	4/7/2007	FALSE	composite		0.16	ug/l	0.3543	0.2217
WR181 Basin Q Port	pyrene	9/28/2007	FALSE	composite		0.083	ug/l	0.3543	0.2217
WR183 Basin R Port	pyrene	3/24/2007	FALSE	composite	J	0.021	ug/l	0.1808	0.0756
WR183 Basin R Port	pyrene	4/7/2007	FALSE	composite		0.049	ug/l	0.1808	0.0756
WR183 Basin R Port	pyrene	5/3/2007	FALSE	composite		0.6	ug/l	0.1808	0.0756
WR183 Basin R Port	pyrene	11/16/2007	FALSE	composite		0.065	ug/l	0.1808	0.0756
WR183 Basin R Port	pyrene	11/16/2007	TRUE	composite		0.041	ug/l	0.1808	0.0756
WR20 Basin L Port	pyrene	3/24/2007	FALSE	composite		2.7	ug/l	2.5000	2.2421
WR20 Basin L Port	pyrene	5/3/2007	FALSE	composite		2.4	ug/l	2.5000	2.2421
WR20 Basin L Port	pyrene	5/20/2007	FALSE	composite		3.9	ug/l	2.5000	2.2421
WR20 Basin L Port	pyrene	9/28/2007	FALSE	composite		1	ug/l	2.5000	2.2421
Arkema LW3	silver	3/26/2007	FALSE	composite		0.124	ug/l	0.259	0.233
Arkema LW3	silver	4/23/2007	FALSE	composite		0.22	ug/l	0.259	0.233
Arkema LW3	silver	5/3/2007	FALSE	composite	J	0.252	ug/l	0.259	0.233
Arkema LW3	silver	6/10/2007	FALSE	composite		0.204	ug/l	0.259	0.233
Arkema LW3	silver	11/27/2007	FALSE	composite		0.49	ug/l	0.259	0.233
Arkema LW3	silver	11/27/2007	TRUE	composite		0.497	ug/l	0.259	0.233
Chevron LW3	silver	3/26/2007	FALSE	composite	U	0.013	ug/l	0.020	0.019
Chevron LW3	silver	4/9/2007	FALSE	composite		0.021	ug/l	0.020	0.019
Chevron LW3	silver	4/23/2007	FALSE	composite	U	0.014	ug/l	0.020	0.019
Chevron LW3	silver	5/3/2007	FALSE	composite	UJ	0.026	ug/l	0.020	0.019
Chevron LW3	silver	6/10/2007	FALSE	composite	U	0.027	ug/l	0.020	0.019
Gasco LW3	silver	3/26/2007	FALSE	composite	U	0.004	ug/l	0.073	0.024
Gasco LW3	silver	4/9/2007	FALSE	composite	J	0.013	ug/l	0.073	0.024
Gasco LW3	silver	4/18/2007	FALSE	composite	U	0.024	ug/l	0.073	0.024
Gasco LW3	silver	5/3/2007	FALSE	composite	J	0.25	ug/l	0.073	0.024

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
GE MH 2	silver	4/18/2007	FALSE	composite	UJ	5	ug/l	2.208	1.489
GE MH 2	silver	10/19/2007	FALSE	composite	U	0.88	ug/l	2.208	1.489
GE MH 2	silver	10/19/2007	TRUE	composite	U	0.79	ug/l	2.208	1.489
GE MH 2	silver	11/13/2007	FALSE	composite	U	0.79	ug/l	2.208	1.489
GE MH 2	silver	11/13/2007	TRUE	composite	U	0.79	ug/l	2.208	1.489
GE SV 1	silver	6/10/2007	FALSE	composite	U	5	ug/l	2.895	1.987
GE SV 1	silver	11/13/2007	FALSE	composite	U	0.79	ug/l	2.895	1.987
Gunderson WR142/145 LW3	silver	4/9/2007	FALSE	composite		0.042	ug/l	0.040	0.035
Gunderson WR142/145 LW3	silver	6/10/2007	FALSE	composite	U	0.028	ug/l	0.040	0.035
Gunderson WR142/145 LW3	silver	11/16/2007	FALSE	composite		0.081	ug/l	0.040	0.035
Gunderson WR142/145 LW3	silver	11/27/2007	FALSE	composite	U	0.017	ug/l	0.040	0.035
Gunderson WR142/145 LW3	silver	1/9/2008	FALSE	composite	U	0.032	ug/l	0.040	0.035
Gunderson WR147 LW3	silver	4/9/2007	FALSE	composite		0.045	ug/l	0.118	0.082
Gunderson WR147 LW3	silver	4/18/2007	FALSE	composite		0.188	ug/l	0.118	0.082
Gunderson WR147 LW3	silver	4/23/2007	FALSE	composite		0.046	ug/l	0.118	0.082
Gunderson WR147 LW3	silver	5/3/2007	FALSE	composite	J	0.279	ug/l	0.118	0.082
Gunderson WR147 LW3	silver	6/10/2007	FALSE	composite	U	0.031	ug/l	0.118	0.082
Gunderson WR147 LW3	silver	6/10/2007	TRUE	composite	U	0.037	ug/l	0.118	0.082
HWY30 NW Yeon-35th LW3	silver	4/9/2007	FALSE	composite	U	0.028	ug/l	0.028	0.028
HWY30 NW Yeon-35th LW3	silver	5/3/2007	FALSE	composite	UJ	0.031	ug/l	0.028	0.028
HWY30 NW Yeon-35th LW3	silver	6/10/2007	FALSE	composite	U	0.025	ug/l	0.028	0.028
HWY30A Reed St. LW3	silver	11/16/2007	FALSE	composite		0.04	ug/l	0.033	0.032
HWY30A Reed St. LW3	silver	11/27/2007	FALSE	composite	U	0.024	ug/l	0.033	0.032
HWY30A Reed St. LW3	silver	1/28/2008	FALSE	composite	J	0.036	ug/l	0.033	0.032
HWY30A Reed St. LW3	silver	1/28/2008	TRUE	composite	J	0.021	ug/l	0.033	0.032
HWY30A Reed St. LW3	silver	1/30/2008	FALSE	composite		0.04	ug/l	0.033	0.032
HWY30B 35th St. LW3	silver	11/27/2007	FALSE	composite		0.072	ug/l	0.061	0.058
HWY30B 35th St. LW3	silver	1/11/2008	FALSE	composite	U	0.036	ug/l	0.061	0.058
HWY30B 35th St. LW3	silver	1/15/2008	FALSE	composite		0.078	ug/l	0.061	0.058
HWY30B 35th St. LW3	silver	1/28/2008	FALSE	composite		0.049	ug/l	0.061	0.058
HWY30B 35th St. LW3	silver	1/30/2008	FALSE	composite		0.068	ug/l	0.061	0.058
OF16 LW3	silver	4/9/2007	FALSE	composite	U	0.05	ug/l	0.076	0.068
OF16 LW3	silver	4/18/2007	FALSE	composite	U	0.07	ug/l	0.076	0.068
OF16 LW3	silver	4/23/2007	FALSE	composite		0.049	ug/l	0.076	0.068
OF16 LW3	silver	4/23/2007	TRUE	composite		0.032	ug/l	0.076	0.068
OF16 LW3	silver	5/3/2007	FALSE	composite	J	0.156	ug/l	0.076	0.068
OF16 LW3	silver	6/10/2007	FALSE	composite	U	0.065	ug/l	0.076	0.068
OF18 LW3	silver	3/26/2007	FALSE	composite		0.055	ug/l	0.080	0.075
OF18 LW3	silver	3/26/2007	TRUE	composite		0.057	ug/l	0.080	0.075
OF18 LW3	silver	4/9/2007	FALSE	composite	U	0.058	ug/l	0.080	0.075
OF18 LW3	silver	4/18/2007	TRUE	composite		0.081	ug/l	0.080	0.075
OF18 LW3	silver	4/18/2007	FALSE	composite		0.072	ug/l	0.080	0.075
OF18 LW3	silver	5/3/2007	FALSE	composite	J	0.13	ug/l	0.080	0.075
OF19_LW3+MS4	silver	3/8/2006	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	3/15/2006	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	5/23/2006	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	11/2/2006	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	11/19/2006	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	2/14/2007	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	3/26/2007	FALSE	composite	U	0.026	ug/l	0.101	0.092
OF19_LW3+MS4	silver	4/9/2007	FALSE	composite		0.028	ug/l	0.101	0.092
OF19_LW3+MS4	silver	4/9/2007	TRUE	composite	U	0.05	ug/l	0.101	0.092
OF19_LW3+MS4	silver	4/18/2007	FALSE	composite		0.074	ug/l	0.101	0.092
OF19_LW3+MS4	silver	5/3/2007	TRUE	composite	J	0.166	ug/l	0.101	0.092
OF19_LW3+MS4	silver	5/3/2007	FALSE	composite	J	0.154	ug/l	0.101	0.092
OF19_LW3+MS4	silver	11/26/2007	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	3/7/2008	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	3/25/2008	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	11/20/2008	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF19_LW3+MS4	silver	2/23/2009	FALSE	composite		0.21	ug/L	0.101	0.092
OF19_LW3+MS4	silver	3/14/2009	FALSE	composite	U	0.1	ug/L	0.101	0.092
OF22 LW3	silver	4/9/2007	FALSE	composite		0.049	ug/l	0.037	0.036
OF22 LW3	silver	5/3/2007	FALSE	composite	UJ	0.034	ug/l	0.037	0.036
OF22 LW3	silver	6/10/2007	FALSE	composite	U	0.028	ug/l	0.037	0.036
OF22B LW3	silver	3/27/2007	FALSE	composite		0.194	ug/l	0.208	0.175
OF22B LW3	silver	5/3/2007	FALSE	composite	J	0.362	ug/l	0.208	0.175
OF22B LW3	silver	11/16/2007	FALSE	composite		0.21	ug/l	0.208	0.175
OF22B LW3	silver	11/27/2007	FALSE	composite	U	0.064	ug/l	0.208	0.175
OF22C City	silver	2/29/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22C City	silver	3/20/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22C City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22C City	silver	5/13/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22C Tualatin Hills LW3	silver	4/18/2007	FALSE	composite	U	0.009	ug/l	0.009	0.009
OF22C Tualatin Hills LW3	silver	4/23/2007	FALSE	composite	U	0.01	ug/l	0.009	0.009
OF22C Tualatin Hills LW3	silver	1/9/2008	FALSE	composite	U	0.009	ug/l	0.009	0.009
OF22D City	silver	2/29/2008	TRUE	grab	U	0.1	ug/L	0.100	0.100
OF22D City	silver	2/29/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22D City	silver	3/20/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22D City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF22D City	silver	5/13/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF45 City	silver	2/5/2008	FALSE	grab		0.22	ug/L	0.130	0.122
OF45 City	silver	2/29/2008	FALSE	grab	U	0.1	ug/L	0.130	0.122
OF45 City	silver	3/20/2008	FALSE	grab	U	0.1	ug/L	0.130	0.122
OF45 City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.130	0.122
OF46 City	silver	2/5/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF46 City	silver	2/29/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF46 City	silver	3/20/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF46 City	silver	4/4/2008	TRUE	grab	U	0.1	ug/L	0.100	0.100
OF46 City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF47 City	silver	2/5/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF47 City	silver	2/29/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF47 City	silver	3/20/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF47 City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF48 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF48 City	silver	9/28/2007	TRUE	grab	U	0.1	ug/L	0.100	0.100
OF48 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF48 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF48 City	silver	12/15/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF49 LW3	silver	4/9/2007	FALSE	composite		0.033	ug/l	0.027	0.026
OF49 LW3	silver	4/23/2007	FALSE	composite	U	0.016	ug/l	0.027	0.026
OF49 LW3	silver	6/10/2007	FALSE	composite	U	0.022	ug/l	0.027	0.026
OF49 LW3	silver	11/16/2007	FALSE	composite		0.037	ug/l	0.027	0.026
OF50 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF50 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF50 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF50 City	silver	12/14/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	9/30/2007	TRUE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	9/30/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	10/16/2007	TRUE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52A City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52A City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52A City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52A City	silver	12/14/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OF52C Basin T Port	silver	3/24/2007	FALSE	composite	J	0.015	ug/l	0.043	0.033
OF52C Basin T Port	silver	5/3/2007	FALSE	composite		0.098	ug/l	0.043	0.033
OF52C Basin T Port	silver	5/20/2007	FALSE	composite		0.036	ug/l	0.043	0.033
OF52C Basin T Port	silver	11/16/2007	FALSE	composite		0.022	ug/l	0.043	0.033
OF53 City+Port	silver	3/24/2007	FALSE	composite	J	0.022	ug/l	0.096	0.081
OF53 City+Port	silver	5/3/2007	FALSE	composite		0.156	ug/l	0.096	0.081
OF53 City+Port	silver	1/26/2008	FALSE	composite	U	0.1	ug/L	0.096	0.081
OF53 City+Port	silver	2/6/2008	FALSE	composite	U	0.1	ug/L	0.096	0.081
OF53 City+Port	silver	3/12/2008	FALSE	composite	U	0.1	ug/L	0.096	0.081
OF53 City+Port	silver	3/12/2008	TRUE	composite	U	0.1	ug/L	0.096	0.081
OF53A City	silver	2/29/2008	FALSE	grab		0.17	ug/L	0.133	0.128
OF53A City	silver	3/20/2008	FALSE	grab	U	0.16	ug/L	0.133	0.128
OF53A City	silver	4/4/2008	FALSE	grab	U	0.1	ug/L	0.133	0.128
OF53A City	silver	5/13/2008	FALSE	grab	U	0.1	ug/L	0.133	0.128
OFM1 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM1 City	silver	9/30/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM1 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM1 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM1 LW3	silver	3/26/2007	FALSE	composite	U	0.017	ug/l	0.020	0.018
OFM1 LW3	silver	4/9/2007	FALSE	composite	J	0.01	ug/l	0.020	0.018
OFM1 LW3	silver	4/18/2007	TRUE	composite	U	0.032	ug/l	0.020	0.018
OFM1 LW3	silver	4/18/2007	FALSE	composite	U	0.037	ug/l	0.020	0.018
OFM1 LW3	silver	6/10/2007	FALSE	composite	U	0.019	ug/l	0.020	0.018
OFM2 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.208	0.160
OFM2 City	silver	10/16/2007	FALSE	grab		0.5	ug/L	0.208	0.160
OFM2 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.208	0.160
OFM2 City	silver	12/15/2007	FALSE	grab		0.13	ug/L	0.208	0.160
OFM2 LW3	silver	4/9/2007	FALSE	composite		0.065	ug/l	0.553	0.284

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 LW3	silver	4/9/2007	FALSE	composite		0.145	ug/l	0.553	0.284
OFM2 LW3	silver	4/23/2007	TRUE	composite		3.03	ug/l	0.553	0.284
OFM2 LW3	silver	4/23/2007	FALSE	composite		0.091	ug/l	0.553	0.284
OFM2 LW3	silver	5/3/2007	FALSE	composite	J	0.441	ug/l	0.553	0.284
OFM3 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM3 City	silver	9/30/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM3 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFM3 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS1 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS1 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS1 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS1 City	silver	12/15/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS2 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS2 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS2 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS2 City	silver	12/15/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS5 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS5 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS5 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS5 City	silver	11/16/2007	TRUE	grab	U	0.1	ug/L	0.100	0.100
OFS5 City	silver	12/15/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS6 City	silver	9/28/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS6 City	silver	10/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS6 City	silver	11/16/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OFS6 City	silver	12/15/2007	FALSE	grab	U	0.1	ug/L	0.100	0.100
OSM LW3	silver	3/26/2007	FALSE	composite		0.174	ug/l	0.173	0.172
OSM LW3	silver	4/9/2007	FALSE	composite		0.156	ug/l	0.173	0.172
OSM LW3	silver	4/18/2007	FALSE	composite		0.162	ug/l	0.173	0.172
OSM LW3	silver	5/3/2007	FALSE	composite	J	0.201	ug/l	0.173	0.172
Portland Shipyard LW3	silver	3/26/2007	FALSE	composite	U	0.024	ug/l	0.113	0.065
Portland Shipyard LW3	silver	4/9/2007	FALSE	composite		0.03	ug/l	0.113	0.065
Portland Shipyard LW3	silver	5/3/2007	FALSE	composite	J	0.318	ug/l	0.113	0.065
Portland Shipyard LW3	silver	6/10/2007	FALSE	composite	U	0.078	ug/l	0.113	0.065
Schnitzer Int. LW3	silver	4/9/2007	FALSE	composite		0.06	ug/l	0.098	0.087
Schnitzer Int. LW3	silver	4/18/2007	FALSE	composite		0.178	ug/l	0.098	0.087
Schnitzer Int. LW3	silver	4/23/2007	FALSE	composite		0.055	ug/l	0.098	0.087
Schnitzer Int. LW3	silver	5/3/2007	FALSE	composite	J	0.097	ug/l	0.098	0.087
Schnitzer Riverside LW3	silver	4/9/2007	FALSE	composite	J	0.009	ug/l	0.403	0.167
Schnitzer Riverside LW3	silver	4/18/2007	FALSE	composite		0.971	ug/l	0.403	0.167
Schnitzer Riverside LW3	silver	4/23/2007	FALSE	composite		0.425	ug/l	0.403	0.167
Schnitzer Riverside LW3	silver	5/3/2007	FALSE	composite	J	0.208	ug/l	0.403	0.167
Siltronic LW3	silver	4/9/2007	FALSE	composite	J	0.019	ug/l	0.023	0.019
Siltronic LW3	silver	4/9/2007	FALSE	composite	U	0.009	ug/l	0.023	0.019
Siltronic LW3	silver	4/18/2007	FALSE	composite	U	0.043	ug/l	0.023	0.019
Siltronic LW3	silver	5/3/2007	FALSE	composite	UJ	0.035	ug/l	0.023	0.019
Siltronic LW3	silver	6/10/2007	FALSE	composite	U	0.01	ug/l	0.023	0.019
SJB LW3	silver	3/26/2007	FALSE	composite	U	0.034	ug/l	0.061	0.047
SJB LW3	silver	4/9/2007	FALSE	composite		0.031	ug/l	0.061	0.047
SJB LW3	silver	4/18/2007	FALSE	composite		0.145	ug/l	0.061	0.047
SJB LW3	silver	5/3/2007	FALSE	composite	UJ	0.032	ug/l	0.061	0.047
Sulzer LW3	silver	1/11/2008	FALSE	composite	U	0.006	ug/l	0.010	0.009
Sulzer LW3	silver	1/30/2008	FALSE	composite	U	0.013	ug/l	0.010	0.009
UPRR Albina LW3	silver	5/3/2007	FALSE	composite	J	0.047	ug/l	0.035	0.033
UPRR Albina LW3	silver	6/10/2007	FALSE	composite	U	0.018	ug/l	0.035	0.033
UPRR Albina LW3	silver	11/27/2007	FALSE	composite	U	0.034	ug/l	0.035	0.033
UPRR Albina LW3	silver	11/29/2007	TRUE	composite	U	0.036	ug/l	0.035	0.033
UPRR Albina LW3	silver	11/29/2007	FALSE	composite	U	0.042	ug/l	0.035	0.033
WR169 Basin D Port	silver	3/24/2007	FALSE	composite	J	0.004	ug/l	0.020	0.015
WR169 Basin D Port	silver	5/3/2007	TRUE	composite	J	0.012	ug/l	0.020	0.015
WR169 Basin D Port	silver	5/3/2007	FALSE	composite	J	0.016	ug/l	0.020	0.015
WR169 Basin D Port	silver	5/20/2007	FALSE	composite		0.041	ug/l	0.020	0.015
WR169 Basin D Port	silver	11/16/2007	FALSE	composite		0.022	ug/l	0.020	0.015
WR177 Basin M Port	silver	3/24/2007	FALSE	composite	J	0.252	ug/l	0.155	0.139
WR177 Basin M Port	silver	5/3/2007	FALSE	composite		0.148	ug/l	0.155	0.139
WR177 Basin M Port	silver	5/20/2007	FALSE	composite		0.155	ug/l	0.155	0.139
WR177 Basin M Port	silver	9/28/2007	FALSE	composite		0.065	ug/l	0.155	0.139
WR181 Basin Q Port	silver	3/24/2007	FALSE	composite	J	0.031	ug/l	0.042	0.038
WR181 Basin Q Port	silver	3/24/2007	TRUE	composite	J	0.02	ug/l	0.042	0.038
WR181 Basin Q Port	silver	9/28/2007	FALSE	composite		0.058	ug/l	0.042	0.038
WR183 Basin R Port	silver	3/24/2007	FALSE	composite	J	0.028	ug/l	1.246	0.258
WR183 Basin R Port	silver	5/3/2007	FALSE	composite		3.63	ug/l	1.246	0.258
WR183 Basin R Port	silver	5/20/2007	FALSE	composite		1.29	ug/l	1.246	0.258

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR183 Basin R Port	silver	11/16/2007	FALSE	composite		0.036	ug/l	1.246	0.258
WR183 Basin R Port	silver	11/16/2007	TRUE	composite		0.032	ug/l	1.246	0.258
WR20 Basin L Port	silver	3/24/2007	FALSE	composite	J	0.062	ug/l	0.161	0.118
WR20 Basin L Port	silver	5/3/2007	FALSE	composite	J	0.072	ug/l	0.161	0.118
WR20 Basin L Port	silver	5/20/2007	FALSE	composite		0.401	ug/l	0.161	0.118
WR20 Basin L Port	silver	9/28/2007	FALSE	composite		0.107	ug/l	0.161	0.118
Arkema LW3	total Chlordane	3/26/2007	FALSE	composite	U	0.015	ug/l	0.042	0.022
Arkema LW3	total Chlordane	4/23/2007	FALSE	composite	U	0.032	ug/l	0.042	0.022
Arkema LW3	total Chlordane	5/3/2007	FALSE	composite	U	0.14	ug/l	0.042	0.022
Arkema LW3	total Chlordane	6/5/2007	FALSE	grab	U	0.021	ug/l	0.042	0.022
Arkema LW3	total Chlordane	11/27/2007	FALSE	composite	U	0.0039	ug/l	0.042	0.022
OF19_MS4 City	total Chlordane	2/23/2009	FALSE	composite		0.0347	ug/l	0.0347	0.0347
OF22B LW3	total Chlordane	3/27/2007	TRUE	composite		0.108	ug/l	0.043	0.028
OF22B LW3	total Chlordane	3/27/2007	FALSE	composite		0.071	ug/l	0.043	0.028
OF22B LW3	total Chlordane	5/3/2007	TRUE	composite		0.066	ug/l	0.043	0.028
OF22B LW3	total Chlordane	5/3/2007	FALSE	composite		0.057	ug/l	0.043	0.028
OF22B LW3	total Chlordane	6/5/2007	FALSE	grab	U	0.0082	ug/l	0.043	0.028
OF22B LW3	total Chlordane	11/16/2007	FALSE	composite		0.014	ug/l	0.043	0.028
OF52C Basin T Port	total Chlordane	3/24/2007	FALSE	composite		0.0014	ug/l	0.0035	0.0026
OF52C Basin T Port	total Chlordane	4/7/2007	TRUE	composite		0.0039	ug/l	0.0035	0.0026
OF52C Basin T Port	total Chlordane	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0035	0.0026
OF52C Basin T Port	total Chlordane	5/3/2007	FALSE	composite	U	0.0088	ug/l	0.0035	0.0026
OF52C Basin T Port	total Chlordane	11/16/2007	TRUE	composite	U	0.0016	ug/l	0.0035	0.0026
OF52C Basin T Port	total Chlordane	11/16/2007	FALSE	composite	U	0.0017	ug/l	0.0035	0.0026
OF53 Port	total Chlordane	3/24/2007	FALSE	composite	U	0.00092	ug/l	0.0018	0.0012
OF53 Port	total Chlordane	4/7/2007	FALSE	composite	UJ	0.0005	ug/l	0.0018	0.0012
OF53 Port	total Chlordane	5/3/2007	FALSE	composite		0.0039	ug/l	0.0018	0.0012
WR177 Basin M Port	total Chlordane	3/24/2007	FALSE	composite	UJ	0.00049	ug/l	0.0012	0.0009
WR177 Basin M Port	total Chlordane	4/7/2007	FALSE	composite		0.00097	ug/l	0.0012	0.0009
WR177 Basin M Port	total Chlordane	5/3/2007	TRUE	composite		0.00097	ug/l	0.0012	0.0009
WR177 Basin M Port	total Chlordane	5/3/2007	FALSE	composite	U	0.0048	ug/l	0.0012	0.0009
WR177 Basin M Port	total Chlordane	9/28/2007	FALSE	composite	U	0.0005	ug/l	0.0012	0.0009
WR181 Basin Q Port	total Chlordane	3/24/2007	TRUE	composite		0.0033	ug/l	0.0012	0.0010
WR181 Basin Q Port	total Chlordane	3/24/2007	FALSE	composite	UJ	0.0012	ug/l	0.0012	0.0010
WR181 Basin Q Port	total Chlordane	4/7/2007	FALSE	composite	U	0.00049	ug/l	0.0012	0.0010
WR181 Basin Q Port	total Chlordane	9/28/2007	FALSE	composite	U	0.00097	ug/l	0.0012	0.0010
WR183 Basin R Port	total Chlordane	3/24/2007	FALSE	composite		0.00045	ug/l	0.00045	0.00045
WR20 Basin L Port	total Chlordane	3/24/2007	FALSE	composite	UJ	0.0016	ug/l	0.0080	0.0060
WR20 Basin L Port	total Chlordane	5/3/2007	FALSE	composite	UJ	0.0059	ug/l	0.0080	0.0060
WR20 Basin L Port	total Chlordane	5/20/2007	FALSE	composite		0.016	ug/l	0.0080	0.0060
WR20 Basin L Port	total Chlordane	9/28/2007	FALSE	composite		0.00838	ug/l	0.0080	0.0060
Arkema LW3	total DDx	3/26/2007	FALSE	composite		3.26	ug/l	3.68	2.34
Arkema LW3	total DDx	4/23/2007	FALSE	composite		2.47	ug/l	3.68	2.34
Arkema LW3	total DDx	5/3/2007	FALSE	composite		10.86	ug/l	3.68	2.34
Arkema LW3	total DDx	6/5/2007	FALSE	grab		0.901	ug/l	3.68	2.34
Arkema LW3	total DDx	11/27/2007	FALSE	composite		0.888	ug/l	3.68	2.34
OF19_LW3+MS4	total DDx	2/23/2009	FALSE	composite		0.014	ug/l	0.014	0.014
OF22B LW3	total DDx	3/27/2007	FALSE	composite		0.071	ug/l	0.0725	0.0531
OF22B LW3	total DDx	3/27/2007	TRUE	composite		0.138	ug/l	0.0725	0.0531
OF22B LW3	total DDx	5/3/2007	FALSE	composite		0.209	ug/l	0.0725	0.0531
OF22B LW3	total DDx	5/3/2007	TRUE	composite		0.034	ug/l	0.0725	0.0531
OF22B LW3	total DDx	6/5/2007	FALSE	grab		0.012	ug/l	0.0725	0.0531
OF22B LW3	total DDx	11/16/2007	FALSE	composite		0.0521	ug/l	0.0725	0.0531
OF52C Basin T Port	total DDx	3/24/2007	FALSE	composite		0.031	ug/l	0.0122	0.0067
OF52C Basin T Port	total DDx	4/7/2007	FALSE	composite	U	0.0024	ug/l	0.0122	0.0067
OF52C Basin T Port	total DDx	4/7/2007	TRUE	composite		0.0071	ug/l	0.0122	0.0067
OF52C Basin T Port	total DDx	5/3/2007	FALSE	composite	U	0.012	ug/l	0.0122	0.0067
OF52C Basin T Port	total DDx	11/16/2007	FALSE	composite	U	0.0012	ug/l	0.0122	0.0067
OF52C Basin T Port	total DDx	11/16/2007	TRUE	composite	U	0.0011	ug/l	0.0122	0.0067
OF53 City+Port	total DDx	3/24/2007	FALSE	composite	UJ	0.0042	ug/l	0.0053	0.0033
OF53 City+Port	total DDx	4/7/2007	FALSE	composite		0.00081	ug/l	0.0053	0.0033
OF53 City+Port	total DDx	5/3/2007	FALSE	composite	U	0.011	ug/l	0.0053	0.0033
WR177 Basin M Port	total DDx	3/24/2007	FALSE	composite		0.0224	ug/l	0.0115	0.0102
WR177 Basin M Port	total DDx	4/7/2007	FALSE	composite		0.00809	ug/l	0.0115	0.0102
WR177 Basin M Port	total DDx	5/3/2007	FALSE	composite		0.0141	ug/l	0.0115	0.0102
WR177 Basin M Port	total DDx	5/3/2007	TRUE	composite		0.0048	ug/l	0.0115	0.0102
WR177 Basin M Port	total DDx	9/28/2007	FALSE	composite		0.00623	ug/l	0.0115	0.0102
WR181 Basin Q Port	total DDx	3/24/2007	FALSE	composite		0.0054	ug/l	0.0062	0.0053
WR181 Basin Q Port	total DDx	3/24/2007	TRUE	composite		0.015	ug/l	0.0062	0.0053
WR181 Basin Q Port	total DDx	4/7/2007	FALSE	composite	U	0.0024	ug/l	0.0062	0.0053
WR181 Basin Q Port	total DDx	9/28/2007	FALSE	composite		0.006	ug/l	0.0062	0.0053
WR183 Basin R Port	total DDx	3/24/2007	FALSE	composite	U	0.002	ug/l	0.002	0.002

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	total DDx	3/24/2007	FALSE	composite		0.00688	ug/l	0.0087	0.0064
WR20 Basin L Port	total DDx	5/3/2007	FALSE	composite		0.0121	ug/l	0.0087	0.0064
WR20 Basin L Port	total DDx	5/20/2007	FALSE	composite		0.0145	ug/l	0.0087	0.0064
WR20 Basin L Port	total DDx	9/28/2007	FALSE	composite	U	0.0014	ug/l	0.0087	0.0064
Arkema LW3	total PAH	3/26/2007	FALSE	composite	NA	0.0724	ug/l	0.07	0.06
Arkema LW3	total PAH	4/23/2007	FALSE	composite	NA	0.0478	ug/l	0.07	0.06
Arkema LW3	total PAH	5/3/2007	FALSE	composite	NA	0.0521	ug/l	0.07	0.06
Arkema LW3	total PAH	6/5/2007	FALSE	grab	NA	0.0504	ug/l	0.07	0.06
Arkema LW3	total PAH	11/27/2007	FALSE	composite	NA	0.109	ug/l	0.07	0.06
Chevron LW3	total PAH	3/26/2007	FALSE	composite	NA	8.76	ug/l	5.10	3.99
Chevron LW3	total PAH	4/9/2007	FALSE	composite	NA	5.11	ug/l	5.10	3.99
Chevron LW3	total PAH	4/23/2007	FALSE	composite	NA	1.42	ug/l	5.10	3.99
Gasco LW3	total PAH	3/26/2007	FALSE	composite	NA	2.03	ug/l	5.76	4.64
Gasco LW3	total PAH	4/9/2007	FALSE	composite	NA	3.43	ug/l	5.76	4.64
Gasco LW3	total PAH	4/18/2007	FALSE	composite	NA	5.56	ug/l	5.76	4.64
Gasco LW3	total PAH	5/21/2007	FALSE	grab	NA	12	ug/l	5.76	4.64
GE MH 2	total PAH	4/18/2007	FALSE	composite	UJ	0.0962	ug/l	0.16	0.15
GE MH 2	total PAH	10/19/2007	FALSE	composite	U	0.191	ug/l	0.16	0.15
GE MH 2	total PAH	10/19/2007	TRUE	composite	U	0.188	ug/l	0.16	0.15
GE MH 2	total PAH	11/13/2007	TRUE	composite	UJ	0.195	ug/l	0.16	0.15
GE MH 2	total PAH	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.16	0.15
GE SV 1	total PAH	6/10/2007	FALSE	composite	UJ	0.098	ug/l	0.16	0.16
GE SV 1	total PAH	10/19/2007	FALSE	composite	U	0.195	ug/l	0.16	0.16
GE SV 1	total PAH	11/13/2007	FALSE	composite	UJ	0.195	ug/l	0.16	0.16
Gunderson WR142/145 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.896	ug/l	0.60	0.49
Gunderson WR142/145 LW3	total PAH	5/21/2007	FALSE	grab	NA	0.166	ug/l	0.60	0.49
Gunderson WR142/145 LW3	total PAH	6/10/2007	FALSE	composite	NA	0.692	ug/l	0.60	0.49
Gunderson WR142/145 LW3	total PAH	11/16/2007	FALSE	composite	NA	0.974	ug/l	0.60	0.49
Gunderson WR142/145 LW3	total PAH	11/29/2007	FALSE	composite	NA	0.288	ug/l	0.60	0.49
Gunderson WR147 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.584	ug/l	0.46	0.42
Gunderson WR147 LW3	total PAH	4/18/2007	FALSE	composite	NA	0.564	ug/l	0.46	0.42
Gunderson WR147 LW3	total PAH	4/23/2007	FALSE	composite	NA	0.224	ug/l	0.46	0.42
HWY30 NW Yeon-35th LW3	total PAH	4/9/2007	FALSE	composite	NA	1.03	ug/l	0.57	0.48
HWY30 NW Yeon-35th LW3	total PAH	5/3/2007	FALSE	composite	NA	0.276	ug/l	0.57	0.48
HWY30 NW Yeon-35th LW3	total PAH	6/10/2007	FALSE	composite	NA	0.39	ug/l	0.57	0.48
HWY30A Reed St. LW3	total PAH	11/16/2007	FALSE	composite	NA	0.956	ug/l	1.72	1.61
HWY30A Reed St. LW3	total PAH	1/28/2008	FALSE	composite	NA	1.87	ug/l	1.72	1.61
HWY30A Reed St. LW3	total PAH	1/30/2008	FALSE	composite	NA	2.32	ug/l	1.72	1.61
HWY30B 35th St. LW3	total PAH	11/27/2007	FALSE	composite	NA	2.27	ug/l	2.50	2.45
HWY30B 35th St. LW3	total PAH	1/11/2008	FALSE	composite	NA	1.89	ug/l	2.50	2.45
HWY30B 35th St. LW3	total PAH	1/28/2008	FALSE	composite	NA	2.5	ug/l	2.50	2.45
HWY30B 35th St. LW3	total PAH	1/30/2008	FALSE	composite	NA	3.35	ug/l	2.50	2.45
OF16 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.958	ug/l	0.80	0.75
OF16 LW3	total PAH	4/18/2007	FALSE	composite	NA	0.978	ug/l	0.80	0.75
OF16 LW3	total PAH	4/23/2007	FALSE	composite	NA	0.454	ug/l	0.80	0.75
OF18 LW3	total PAH	3/26/2007	FALSE	composite	NA	2.58	ug/l	0.87	0.49
OF18 LW3	total PAH	3/26/2007	TRUE	composite	NA	1.9	ug/l	0.87	0.49
OF18 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.717	ug/l	0.87	0.49
OF18 LW3	total PAH	4/18/2007	FALSE	composite	NA	0.432	ug/l	0.87	0.49
OF18 LW3	total PAH	5/21/2007	FALSE	grab	NA	0.0832	ug/l	0.87	0.49
OF19_LW3+MS4	total PAH	3/8/2006	FALSE	composite	U	0.11	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	3/15/2006	FALSE	composite	U	0.11	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	5/23/2006	FALSE	composite	U	0.1	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	11/2/2006	FALSE	composite	NA	0.37	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	11/19/2006	FALSE	composite	U	0.11	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	2/14/2007	FALSE	composite	NA	1.25	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	3/26/2007	FALSE	composite	NA	0.751	ug/l	0.70	0.49
OF19_LW3+MS4	total PAH	4/9/2007	TRUE	composite	NA	1.56	ug/l	0.70	0.49
OF19_LW3+MS4	total PAH	4/9/2007	FALSE	composite	NA	1.14	ug/l	0.70	0.49
OF19_LW3+MS4	total PAH	4/18/2007	FALSE	composite	NA	0.976	ug/l	0.70	0.49
OF19_LW3+MS4	total PAH	11/26/2007	FALSE	composite	NA	0.714	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	3/7/2008	FALSE	composite	NA	0.948	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	3/25/2008	FALSE	composite	NA	0.618	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	11/20/2008	FALSE	composite	NA	0.672	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	2/23/2009	FALSE	composite	NA	1.67	ug/L	0.70	0.49
OF19_LW3+MS4	total PAH	3/14/2009	FALSE	composite	NA	0.724	ug/L	0.70	0.49
OF22 LW3	total PAH	4/9/2007	FALSE	composite	NA	1.34	ug/l	1.80	1.25
OF22 LW3	total PAH	5/3/2007	FALSE	composite	NA	0.78	ug/l	1.80	1.25
OF22 LW3	total PAH	6/5/2007	FALSE	grab	NA	4.54	ug/l	1.80	1.25
OF22 LW3	total PAH	6/10/2007	FALSE	composite	NA	0.52	ug/l	1.80	1.25
OF22B LW3	total PAH	3/27/2007	FALSE	composite	NA	1.12	ug/l	2.32	1.96
OF22B LW3	total PAH	5/3/2007	FALSE	composite	NA	2.01	ug/l	2.32	1.96

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22B LW3	total PAH	6/5/2007	FALSE	grab	NA	4.86	ug/l	2.32	1.96
OF22B LW3	total PAH	11/16/2007	FALSE	composite	NA	1.02	ug/l	2.32	1.96
OF22B LW3	total PAH	11/27/2007	TRUE	composite	NA	2.66	ug/l	2.32	1.96
OF22B LW3	total PAH	11/27/2007	FALSE	composite	NA	2.47	ug/l	2.32	1.96
OF22C City	total PAH	2/29/2008	FALSE	grab	NA	1.91	ug/L	1.33	1.01
OF22C City	total PAH	3/20/2008	FALSE	grab	NA	0.278	ug/L	1.33	1.01
OF22C City	total PAH	4/4/2008	FALSE	grab	NA	0.867	ug/L	1.33	1.01
OF22C City	total PAH	5/13/2008	FALSE	grab	NA	2.25	ug/L	1.33	1.01
OF22C Tualatin Hills LW3	total PAH	4/18/2007	FALSE	composite	U	0.0048	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	total PAH	4/18/2007	TRUE	composite	U	0.0049	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	total PAH	4/23/2007	TRUE	composite	U	0.005	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	total PAH	4/23/2007	FALSE	composite	U	0.005	ug/l	0.01	0.01
OF22C Tualatin Hills LW3	total PAH	1/9/2008	FALSE	composite	NA	0.02	ug/l	0.01	0.01
OF22D City	total PAH	2/29/2008	FALSE	grab	NA	0.089	ug/L	0.61	0.30
OF22D City	total PAH	2/29/2008	TRUE	grab	NA	0.244	ug/L	0.61	0.30
OF22D City	total PAH	3/20/2008	FALSE	grab	NA	1.79	ug/L	0.61	0.30
OF22D City	total PAH	4/4/2008	FALSE	grab	NA	0.409	ug/L	0.61	0.30
OF22D City	total PAH	5/13/2008	FALSE	grab	NA	0.0653	ug/L	0.61	0.30
OF45 City	total PAH	2/5/2008	FALSE	grab	NA	1.66	ug/L	1.07	1.02
OF45 City	total PAH	2/29/2008	FALSE	grab	NA	0.921	ug/L	1.07	1.02
OF45 City	total PAH	3/20/2008	FALSE	grab	NA	0.742	ug/L	1.07	1.02
OF45 City	total PAH	4/4/2008	FALSE	grab	NA	0.96	ug/L	1.07	1.02
OF46 City	total PAH	2/5/2008	FALSE	grab	NA	2.89	ug/L	2.24	2.17
OF46 City	total PAH	2/29/2008	FALSE	grab	NA	1.97	ug/L	2.24	2.17
OF46 City	total PAH	3/20/2008	FALSE	grab	NA	2.64	ug/L	2.24	2.17
OF46 City	total PAH	4/4/2008	TRUE	grab	NA	1.03	ug/L	2.24	2.17
OF46 City	total PAH	4/4/2008	FALSE	grab	NA	1.9	ug/L	2.24	2.17
OF47 City	total PAH	2/5/2008	FALSE	grab	NA	1.8	ug/L	1.55	1.28
OF47 City	total PAH	2/29/2008	FALSE	grab	NA	0.451	ug/L	1.55	1.28
OF47 City	total PAH	3/20/2008	FALSE	grab	NA	2.71	ug/L	1.55	1.28
OF47 City	total PAH	4/4/2008	FALSE	grab	NA	1.22	ug/L	1.55	1.28
OF48 City	total PAH	9/28/2007	TRUE	grab	NA	1.12	ug/L	0.44	0.15
OF48 City	total PAH	9/28/2007	FALSE	grab	NA	1.6	ug/L	0.44	0.15
OF48 City	total PAH	10/16/2007	FALSE	grab	NA	0.055	ug/L	0.44	0.15
OF48 City	total PAH	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.44	0.15
OF48 City	total PAH	12/15/2007	FALSE	grab	NA	0.328	ug/L	0.44	0.15
OF49 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.0741	ug/l	0.09	0.09
OF49 LW3	total PAH	4/23/2007	FALSE	composite	NA	0.103	ug/l	0.09	0.09
OF49 LW3	total PAH	6/10/2007	FALSE	composite	NA	0.0915	ug/l	0.09	0.09
OF49 LW3	total PAH	11/16/2007	FALSE	composite	NA	0.104	ug/l	0.09	0.09
OF50 City	total PAH	9/28/2007	FALSE	grab	NA	0.675	ug/L	0.24	0.09
OF50 City	total PAH	10/16/2007	FALSE	grab	U	0.0196	ug/L	0.24	0.09
OF50 City	total PAH	11/16/2007	FALSE	grab	U	0.0194	ug/L	0.24	0.09
OF50 City	total PAH	12/14/2007	FALSE	grab	NA	0.248	ug/L	0.24	0.09
OF52 City	total PAH	9/28/2007	FALSE	grab	NA	0.873	ug/L	0.42	0.34
OF52 City	total PAH	9/30/2007	TRUE	grab	NA	0.132	ug/L	0.42	0.34
OF52 City	total PAH	9/30/2007	FALSE	grab	NA	0.148	ug/L	0.42	0.34
OF52 City	total PAH	10/16/2007	FALSE	grab	NA	0.493	ug/L	0.42	0.34
OF52 City	total PAH	10/16/2007	TRUE	grab	NA	0.396	ug/L	0.42	0.34
OF52 City	total PAH	11/16/2007	FALSE	grab	NA	0.242	ug/L	0.42	0.34
OF52A City	total PAH	9/28/2007	FALSE	grab	T	2.2	ug/L	1.28	1.19
OF52A City	total PAH	10/16/2007	FALSE	grab	NA	0.95	ug/L	1.28	1.19
OF52A City	total PAH	11/16/2007	FALSE	grab	NA	0.97	ug/L	1.28	1.19
OF52A City	total PAH	12/14/2007	FALSE	grab	NA	1	ug/L	1.28	1.19
OF52C Basin T Port	total PAH	3/24/2007	FALSE	composite	NA	1.57	ug/l	0.67	0.52
OF52C Basin T Port	total PAH	4/7/2007	FALSE	composite	NA	0.431	ug/l	0.67	0.52
OF52C Basin T Port	total PAH	5/3/2007	FALSE	composite	NA	0.431	ug/l	0.67	0.52
OF52C Basin T Port	total PAH	11/16/2007	FALSE	composite	NA	0.253	ug/l	0.67	0.52
OF53 City+Port	total PAH	3/24/2007	FALSE	composite	NA	0.682	ug/l	0.80	0.73
OF53 City+Port	total PAH	4/7/2007	FALSE	composite	NA	0.64	ug/l	0.80	0.73
OF53 City+Port	total PAH	5/3/2007	FALSE	composite	NA	1.4	ug/l	0.80	0.73
OF53 City+Port	total PAH	1/26/2008	FALSE	composite	NA	0.666	ug/L	0.80	0.73
OF53 City+Port	total PAH	2/6/2008	FALSE	composite	NA	1.04	ug/L	0.80	0.73
OF53 City+Port	total PAH	3/12/2008	FALSE	composite	NA	0.335	ug/L	0.80	0.73
OF53 City+Port	total PAH	3/12/2008	TRUE	composite	NA	0.391	ug/L	0.80	0.73
OF53A City	total PAH	2/29/2008	FALSE	grab	NA	0.419	ug/L	0.72	0.65
OF53A City	total PAH	3/20/2008	FALSE	grab	NA	1.02	ug/L	0.72	0.65
OF53A City	total PAH	4/4/2008	FALSE	grab	NA	1.03	ug/L	0.72	0.65
OF53A City	total PAH	5/13/2008	FALSE	grab	NA	0.399	ug/L	0.72	0.65
OFM1 City	total PAH	9/28/2007	FALSE	grab	NA	0.148	ug/L	0.29	0.26
OFM1 City	total PAH	9/30/2007	FALSE	grab	NA	0.231	ug/L	0.29	0.26
OFM1 City	total PAH	10/16/2007	FALSE	grab	NA	0.532	ug/L	0.29	0.26

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM1 City	total PAH	11/16/2007	FALSE	grab	NA	0.248	ug/L	0.29	0.26
OFM1 LW3	total PAH	3/26/2007	FALSE	composite	NA	1.05	ug/l	1.32	1.30
OFM1 LW3	total PAH	4/9/2007	FALSE	composite	NA	1.51	ug/l	1.32	1.30
OFM1 LW3	total PAH	4/18/2007	FALSE	composite	NA	1.39	ug/l	1.32	1.30
OFM2 City	total PAH	9/28/2007	FALSE	grab	NA	0.244	ug/L	0.24	0.18
OFM2 City	total PAH	10/16/2007	FALSE	grab	NA	0.438	ug/L	0.24	0.18
OFM2 City	total PAH	11/16/2007	FALSE	grab	NA	0.0411	ug/L	0.24	0.18
OFM2 City	total PAH	12/15/2007	FALSE	grab	NA	0.248	ug/L	0.24	0.18
OFM2 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.463	ug/l	0.46	0.42
OFM2 LW3	total PAH	4/9/2007	FALSE	composite	NA	0.802	ug/l	0.46	0.42
OFM2 LW3	total PAH	4/23/2007	FALSE	composite	NA	0.258	ug/l	0.46	0.42
OFM2 LW3	total PAH	5/3/2007	TRUE	composite	NA	0.327	ug/l	0.46	0.42
OFM2 LW3	total PAH	5/3/2007	FALSE	composite	NA	0.324	ug/l	0.46	0.42
OFM3 City	total PAH	9/28/2007	FALSE	grab	NA	0.24	ug/L	0.25	0.21
OFM3 City	total PAH	9/30/2007	FALSE	grab	NA	0.138	ug/L	0.25	0.21
OFM3 City	total PAH	10/16/2007	FALSE	grab	NA	0.491	ug/L	0.25	0.21
OFM3 City	total PAH	11/16/2007	FALSE	grab	NA	0.122	ug/L	0.25	0.21
OFS1 City	total PAH	9/28/2007	FALSE	grab	NA	1.52	ug/L	8.79	5.41
OFS1 City	total PAH	10/16/2007	FALSE	grab	NA	3.32	ug/L	8.79	5.41
OFS1 City	total PAH	11/16/2007	FALSE	grab	NA	22.9	ug/L	8.79	5.41
OFS1 City	total PAH	12/15/2007	FALSE	grab	NA	7.4	ug/L	8.79	5.41
OFS2 City	total PAH	9/28/2007	FALSE	grab	NA	0.209	ug/L	0.26	0.16
OFS2 City	total PAH	10/16/2007	FALSE	grab	NA	0.188	ug/L	0.26	0.16
OFS2 City	total PAH	11/16/2007	FALSE	grab	U	0.0291	ug/L	0.26	0.16
OFS2 City	total PAH	12/15/2007	FALSE	grab	NA	0.597	ug/L	0.26	0.16
OFS5 City	total PAH	9/28/2007	FALSE	grab	NA	0.198	ug/L	0.69	0.39
OFS5 City	total PAH	10/16/2007	FALSE	grab	NA	0.0844	ug/L	0.69	0.39
OFS5 City	total PAH	11/16/2007	TRUE	grab	NA	1.03	ug/L	0.69	0.39
OFS5 City	total PAH	11/16/2007	FALSE	grab	NA	0.647	ug/L	0.69	0.39
OFS5 City	total PAH	12/15/2007	FALSE	grab	NA	1.62	ug/L	0.69	0.39
OFS6 City	total PAH	9/28/2007	FALSE	grab	NA	0.49	ug/L	0.88	0.78
OFS6 City	total PAH	10/16/2007	FALSE	grab	NA	1.56	ug/L	0.88	0.78
OFS6 City	total PAH	11/16/2007	FALSE	grab	NA	0.519	ug/L	0.88	0.78
OFS6 City	total PAH	12/15/2007	FALSE	grab	NA	0.953	ug/L	0.88	0.78
OSM LW3	total PAH	3/26/2007	FALSE	composite	NA	1.45	ug/l	0.83	0.72
OSM LW3	total PAH	4/9/2007	FALSE	composite	NA	1.01	ug/l	0.83	0.72
OSM LW3	total PAH	4/18/2007	FALSE	composite	NA	0.422	ug/l	0.83	0.72
OSM LW3	total PAH	5/21/2007	FALSE	grab	NA	0.432	ug/l	0.83	0.72
Portland Shipyard LW3	total PAH	3/26/2007	FALSE	composite	NA	0.711	ug/l	0.62	0.49
Portland Shipyard LW3	total PAH	4/9/2007	FALSE	composite	NA	0.789	ug/l	0.62	0.49
Portland Shipyard LW3	total PAH	5/3/2007	FALSE	composite	NA	0.409	ug/l	0.62	0.49
Portland Shipyard LW3	total PAH	5/22/2007	FALSE	grab	NA	0.118	ug/l	0.62	0.49
Portland Shipyard LW3	total PAH	6/5/2007	FALSE	grab	NA	1.08	ug/l	0.62	0.49
Schnitzer Int. LW3	total PAH	4/9/2007	FALSE	composite	NA	1.68	ug/l	1.06	0.92
Schnitzer Int. LW3	total PAH	4/18/2007	FALSE	composite	NA	1.46	ug/l	1.06	0.92
Schnitzer Int. LW3	total PAH	4/23/2007	FALSE	composite	NA	0.436	ug/l	1.06	0.92
Schnitzer Int. LW3	total PAH	5/21/2007	FALSE	grab	NA	0.669	ug/l	1.06	0.92
Schnitzer Riverside LW3	total PAH	4/9/2007	FALSE	composite	NA	0.348	ug/l	14.32	5.05
Schnitzer Riverside LW3	total PAH	4/18/2007	FALSE	composite	NA	12.2	ug/l	14.32	5.05
Schnitzer Riverside LW3	total PAH	4/23/2007	FALSE	composite	NA	30.4	ug/l	14.32	5.05
Siltronic LW3	total PAH	4/9/2007	FALSE	composite	NA	0.503	ug/l	0.64	0.58
Siltronic LW3	total PAH	4/9/2007	FALSE	composite	NA	0.701	ug/l	0.64	0.58
Siltronic LW3	total PAH	4/18/2007	FALSE	composite	NA	1.03	ug/l	0.64	0.58
Siltronic LW3	total PAH	6/10/2007	FALSE	composite	NA	0.312	ug/l	0.64	0.58
SJB LW3	total PAH	3/26/2007	FALSE	composite	NA	12	ug/l	4.69	3.14
SJB LW3	total PAH	4/9/2007	FALSE	composite	NA	3.48	ug/l	4.69	3.14
SJB LW3	total PAH	4/18/2007	FALSE	composite	NA	2.26	ug/l	4.69	3.14
SJB LW3	total PAH	5/21/2007	FALSE	grab	NA	1.16	ug/l	4.69	3.14
SJB LW3	total PAH	5/21/2007	TRUE	grab	NA	0.896	ug/l	4.69	3.14
Sulzer LW3	total PAH	1/11/2008	FALSE	composite	NA	0.254	ug/l	0.38	0.36
Sulzer LW3	total PAH	1/30/2008	FALSE	composite	NA	0.51	ug/l	0.38	0.36
UPRR Albina LW3	total PAH	5/3/2007	FALSE	composite	NA	0.525	ug/l	2.05	1.24
UPRR Albina LW3	total PAH	6/10/2007	FALSE	composite	NA	0.444	ug/l	2.05	1.24
UPRR Albina LW3	total PAH	11/27/2007	FALSE	composite	NA	1.94	ug/l	2.05	1.24
UPRR Albina LW3	total PAH	11/29/2007	FALSE	composite	NA	5.28	ug/l	2.05	1.24
WR169 Basin D Port	total PAH	3/24/2007	FALSE	composite	NA	0.734	ug/l	0.59	0.54
WR169 Basin D Port	total PAH	4/7/2007	FALSE	composite	NA	0.928	ug/l	0.59	0.54
WR169 Basin D Port	total PAH	5/3/2007	TRUE	composite	NA	0.314	ug/l	0.59	0.54
WR169 Basin D Port	total PAH	5/3/2007	FALSE	composite	NA	0.322	ug/l	0.59	0.54
WR169 Basin D Port	total PAH	11/16/2007	FALSE	composite	NA	0.397	ug/l	0.59	0.54
WR177 Basin M Port	total PAH	3/24/2007	FALSE	composite	NA	6.38	ug/l	2.80	2.20
WR177 Basin M Port	total PAH	4/7/2007	FALSE	composite	NA	2.09	ug/l	2.80	2.20

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR177 Basin M Port	total PAH	5/3/2007	FALSE	composite	NA	1.64	ug/l	2.80	2.20
WR177 Basin M Port	total PAH	9/28/2007	FALSE	composite	NA	1.07	ug/l	2.80	2.20
WR181 Basin Q Port	total PAH	3/24/2007	TRUE	composite	NA	5.59	ug/l	2.47	1.66
WR181 Basin Q Port	total PAH	3/24/2007	FALSE	composite	NA	5.5	ug/l	2.47	1.66
WR181 Basin Q Port	total PAH	4/7/2007	FALSE	composite	NA	1.17	ug/l	2.47	1.66
WR181 Basin Q Port	total PAH	9/28/2007	FALSE	composite	NA	0.706	ug/l	2.47	1.66
WR183 Basin R Port	total PAH	3/24/2007	FALSE	composite	NA	0.242	ug/l	1.68	0.73
WR183 Basin R Port	total PAH	4/7/2007	FALSE	composite	NA	0.536	ug/l	1.68	0.73
WR183 Basin R Port	total PAH	5/3/2007	FALSE	composite	NA	5.52	ug/l	1.68	0.73
WR183 Basin R Port	total PAH	11/16/2007	FALSE	composite	NA	0.545	ug/l	1.68	0.73
WR183 Basin R Port	total PAH	11/16/2007	TRUE	composite	NA	0.264	ug/l	1.68	0.73
WR20 Basin L Port	total PAH	3/24/2007	FALSE	composite	NA	24.5	ug/l	23.32	21.05
WR20 Basin L Port	total PAH	5/3/2007	FALSE	composite	NA	22	ug/l	23.32	21.05
WR20 Basin L Port	total PAH	5/20/2007	FALSE	composite	NA	36.9	ug/l	23.32	21.05
WR20 Basin L Port	total PAH	9/28/2007	FALSE	composite	NA	9.88	ug/l	23.32	21.05
Arkema LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.0202	ug/l	0.0124	0.0116
Arkema LW3	total PCB congeners	6/5/2007	FALSE	grab	NA	0.00821	ug/l	0.0124	0.0116
Arkema LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.00834	ug/l	0.0124	0.0116
Arkema LW3	total PCB congeners	11/27/2007	FALSE	composite	NA	0.0129	ug/l	0.0124	0.0116
Chevron LW3	total PCB congeners	3/26/2007	FALSE	composite	NA	0.00552	ug/l	0.0057	0.0038
Chevron LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.000971	ug/l	0.0057	0.0038
Chevron LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.0106	ug/l	0.0057	0.0038
Gasco LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.00051	ug/l	0.0025	0.0019
Gasco LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.00262	ug/l	0.0025	0.0019
Gasco LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.00442	ug/l	0.0025	0.0019
Gasco LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.00243	ug/l	0.0025	0.0019
GE MH 2	total PCB congeners	4/18/2007	FALSE	composite	NA	0.0927	ug/l	0.0924	0.0874
GE MH 2	total PCB congeners	10/19/2007	TRUE	composite	NA	0.126	ug/l	0.0924	0.0874
GE MH 2	total PCB congeners	10/19/2007	FALSE	composite	NA	0.131	ug/l	0.0924	0.0874
GE MH 2	total PCB congeners	11/13/2007	FALSE	composite	NA	0.0591	ug/l	0.0924	0.0874
GE MH 2	total PCB congeners	11/13/2007	TRUE	composite	NA	0.0531	ug/l	0.0924	0.0874
GE SV 1	total PCB congeners	6/10/2007	FALSE	composite	NA	0.000969	ug/l	0.0385	0.0147
GE SV 1	total PCB congeners	10/19/2007	FALSE	composite	NA	0.06	ug/l	0.0385	0.0147
GE SV 1	total PCB congeners	11/13/2007	FALSE	composite	NA	0.0546	ug/l	0.0385	0.0147
Gunderson WR142/145 LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.000852	ug/l	0.0042	0.0029
Gunderson WR142/145 LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.0016	ug/l	0.0042	0.0029
Gunderson WR142/145 LW3	total PCB congeners	11/16/2007	FALSE	composite	NA	0.0081	ug/l	0.0042	0.0029
Gunderson WR142/145 LW3	total PCB congeners	1/9/2008	FALSE	composite	NA	0.00637	ug/l	0.0042	0.0029
Gunderson WR147 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.428	ug/l	0.6583	0.5103
Gunderson WR147 LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	1.31	ug/l	0.6583	0.5103
Gunderson WR147 LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.237	ug/l	0.6583	0.5103
HWY30 NW Yeon-35th LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.0175	ug/l	0.0175	0.0175
HWY30A Reed St. LW3	total PCB congeners	11/16/2007	FALSE	composite	NA	0.0155	ug/l	0.0215	0.0195
HWY30A Reed St. LW3	total PCB congeners	1/28/2008	FALSE	composite	NA	0.0134	ug/l	0.0215	0.0195
HWY30A Reed St. LW3	total PCB congeners	1/30/2008	FALSE	composite	NA	0.0357	ug/l	0.0215	0.0195
HWY30B 35th St. LW3	total PCB congeners	1/11/2008	FALSE	composite	NA	0.0422	ug/l	0.0397	0.0383
HWY30B 35th St. LW3	total PCB congeners	1/15/2008	FALSE	composite	NA	0.0524	ug/l	0.0397	0.0383
HWY30B 35th St. LW3	total PCB congeners	1/28/2008	FALSE	composite	NA	0.0247	ug/l	0.0397	0.0383
HWY30B 35th St. LW3	total PCB congeners	1/30/2008	FALSE	composite	NA	0.0395	ug/l	0.0397	0.0383
OF16 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.117	ug/l	0.1458	0.1339
OF16 LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.232	ug/l	0.1458	0.1339
OF16 LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.0885	ug/l	0.1458	0.1339
OF18 LW3	total PCB congeners	3/26/2007	FALSE	composite	NA	0.503	ug/l	0.1068	0.0511
OF18 LW3	total PCB congeners	3/26/2007	TRUE	composite	NA	0.125	ug/l	0.1068	0.0511
OF18 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.117	ug/l	0.1068	0.0511
OF18 LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.0814	ug/l	0.1068	0.0511
OF18 LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.0123	ug/l	0.1068	0.0511
OF18 LW3	total PCB congeners	5/21/2007	TRUE	grab	NA	0.00949	ug/l	0.1068	0.0511
OF19_LW3+MS4	total PCB congeners	3/26/2007	TRUE	composite	NA	0.0212	ug/l	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	3/26/2007	FALSE	composite	NA	0.025	ug/l	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	4/18/2007	FALSE	composite	NA	0.0677	ug/l	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	4/23/2007	FALSE	composite	NA	0.0111	ug/l	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	4/23/2007	TRUE	composite	NA	0.0122	ug/l	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	11/26/2007	FALSE	composite	NA	0.0103	ug/L	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	3/7/2008	FALSE	composite	NA	0.0641	ug/L	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	3/25/2008	FALSE	composite	NA	0.0103	ug/L	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	11/20/2008	FALSE	composite	NA	0.0208	ug/L	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	2/23/2009	FALSE	composite	NA	0.116	ug/L	0.0399	0.0280
OF19_LW3+MS4	total PCB congeners	3/14/2009	FALSE	composite	NA	0.0351	ug/L	0.0399	0.0280
OF22 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.0132	ug/l	0.0243	0.0203
OF22 LW3	total PCB congeners	5/3/2007	TRUE	composite	NA	0.0328	ug/l	0.0243	0.0203
OF22 LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.033	ug/l	0.0243	0.0203

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22 LW3	total PCB congeners	6/5/2007	FALSE	grab	NA	0.0416	ug/l	0.0243	0.0203
OF22 LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.00938	ug/l	0.0243	0.0203
OF22B LW3	total PCB congeners	3/27/2007	FALSE	composite	NA	0.143	ug/l	0.1090	0.0829
OF22B LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.244	ug/l	0.1090	0.0829
OF22B LW3	total PCB congeners	6/5/2007	FALSE	grab	NA	0.0278	ug/l	0.1090	0.0829
OF22B LW3	total PCB congeners	11/16/2007	FALSE	composite	NA	0.0785	ug/l	0.1090	0.0829
OF22B LW3	total PCB congeners	11/27/2007	TRUE	composite	NA	0.0555	ug/l	0.1090	0.0829
OF22B LW3	total PCB congeners	11/27/2007	FALSE	composite	NA	0.0474	ug/l	0.1090	0.0829
OF22C City	total PCB congeners	2/29/2008	FALSE	grab	U	0.00256	ug/L	0.0025	0.0025
OF22C City	total PCB congeners	3/20/2008	FALSE	grab	U	0.00248	ug/L	0.0025	0.0025
OF22C City	total PCB congeners	4/4/2008	FALSE	grab	U	0.00252	ug/L	0.0025	0.0025
OF22C City	total PCB congeners	5/13/2008	FALSE	grab	U	0.00251	ug/L	0.0025	0.0025
OF22C Tualatin Hills LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	8.08E-05	ug/l	0.0003	0.0002
OF22C Tualatin Hills LW3	total PCB congeners	4/18/2007	TRUE	composite	NA	0.000208	ug/l	0.0003	0.0002
OF22C Tualatin Hills LW3	total PCB congeners	4/23/2007	TRUE	composite	U	5.42E-05	ug/l	0.0003	0.0002
OF22C Tualatin Hills LW3	total PCB congeners	4/23/2007	FALSE	composite	U	5.24E-05	ug/l	0.0003	0.0002
OF22C Tualatin Hills LW3	total PCB congeners	1/9/2008	FALSE	composite	NA	0.000641	ug/l	0.0003	0.0002
OF22D City	total PCB congeners	2/29/2008	FALSE	grab	U	0.0025	ug/L	0.0140	0.0037
OF22D City	total PCB congeners	2/29/2008	TRUE	grab	U	0.00245	ug/L	0.0140	0.0037
OF22D City	total PCB congeners	3/20/2008	FALSE	grab	NA	0.0504	ug/L	0.0140	0.0037
OF22D City	total PCB congeners	4/4/2008	FALSE	grab	NA	0.000591	ug/L	0.0140	0.0037
OF22D City	total PCB congeners	5/13/2008	FALSE	grab	U	0.00256	ug/L	0.0140	0.0037
OF45 City	total PCB congeners	2/5/2008	FALSE	grab	NA	0.148	ug/L	0.0519	0.0227
OF45 City	total PCB congeners	2/29/2008	FALSE	grab	NA	0.0176	ug/L	0.0519	0.0227
OF45 City	total PCB congeners	3/20/2008	FALSE	grab	U	0.0026	ug/L	0.0519	0.0227
OF45 City	total PCB congeners	4/4/2008	FALSE	grab	NA	0.0392	ug/L	0.0519	0.0227
OF46 City	total PCB congeners	2/5/2008	FALSE	grab	NA	0.0137	ug/L	0.0126	0.0112
OF46 City	total PCB congeners	2/29/2008	FALSE	grab	NA	0.00677	ug/L	0.0126	0.0112
OF46 City	total PCB congeners	3/20/2008	FALSE	grab	NA	0.00743	ug/L	0.0126	0.0112
OF46 City	total PCB congeners	4/4/2008	TRUE	grab	NA	0.0354	ug/L	0.0126	0.0112
OF46 City	total PCB congeners	4/4/2008	FALSE	grab	NA	0.0096	ug/L	0.0126	0.0112
OF47 City	total PCB congeners	2/5/2008	FALSE	grab	NA	0.0268	ug/L	0.0137	0.0097
OF47 City	total PCB congeners	2/29/2008	FALSE	grab	U	0.0026	ug/L	0.0137	0.0097
OF47 City	total PCB congeners	3/20/2008	FALSE	grab	NA	0.0184	ug/L	0.0137	0.0097
OF47 City	total PCB congeners	4/4/2008	FALSE	grab	NA	0.00697	ug/L	0.0137	0.0097
OF48 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.00461	ug/L	0.0109	0.0049
OF48 City	total PCB congeners	9/28/2007	TRUE	grab	NA	0.0673	ug/L	0.0109	0.0049
OF48 City	total PCB congeners	10/16/2007	FALSE	grab	U	0.00262	ug/L	0.0109	0.0049
OF48 City	total PCB congeners	11/16/2007	FALSE	grab	U	0.00256	ug/L	0.0109	0.0049
OF48 City	total PCB congeners	12/15/2007	FALSE	grab	U	0.00248	ug/L	0.0109	0.0049
OF49 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.00114	ug/l	0.0014	0.0014
OF49 LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.00122	ug/l	0.0014	0.0014
OF49 LW3	total PCB congeners	11/16/2007	FALSE	composite	NA	0.00192	ug/l	0.0014	0.0014
OF50 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.0189	ug/L	0.0074	0.0051
OF50 City	total PCB congeners	10/16/2007	FALSE	grab	U	0.00266	ug/L	0.0074	0.0051
OF50 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.00535	ug/L	0.0074	0.0051
OF50 City	total PCB congeners	12/14/2007	FALSE	grab	U	0.00254	ug/L	0.0074	0.0051
OF52 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.0711	ug/L	0.0732	0.0489
OF52 City	total PCB congeners	9/30/2007	FALSE	grab	NA	0.29	ug/L	0.0732	0.0489
OF52 City	total PCB congeners	9/30/2007	TRUE	grab	NA	0.0343	ug/L	0.0732	0.0489
OF52 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0461	ug/L	0.0732	0.0489
OF52 City	total PCB congeners	10/16/2007	TRUE	grab	NA	0.0531	ug/L	0.0732	0.0489
OF52 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.01	ug/L	0.0732	0.0489
OF52A City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.0174	ug/L	0.0125	0.0080
OF52A City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0264	ug/L	0.0125	0.0080
OF52A City	total PCB congeners	11/16/2007	FALSE	grab	U	0.00253	ug/L	0.0125	0.0080
OF52A City	total PCB congeners	12/14/2007	FALSE	grab	NA	0.00358	ug/L	0.0125	0.0080
OF52C Basin T Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.0816	ug/l	0.1107	0.0696
OF52C Basin T Port	total PCB congeners	4/7/2007	FALSE	composite	NA	0.0385	ug/l	0.1107	0.0696
OF52C Basin T Port	total PCB congeners	5/3/2007	FALSE	composite	NA	0.594	ug/l	0.1107	0.0696
OF52C Basin T Port	total PCB congeners	5/3/2007	TRUE	composite	NA	0.00136	ug/l	0.1107	0.0696
OF52C Basin T Port	total PCB congeners	11/16/2007	FALSE	composite	NA	0.0251	ug/l	0.1107	0.0696
OF53 City+Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.0657	ug/l	0.0500	0.0370
OF53 City+Port	total PCB congeners	4/7/2007	FALSE	composite	NA	0.0217	ug/l	0.0500	0.0370
OF53 City+Port	total PCB congeners	5/3/2007	FALSE	composite	NA	0.134	ug/l	0.0500	0.0370
OF53 City+Port	total PCB congeners	1/26/2008	FALSE	composite	NA	0.0204	ug/L	0.0500	0.0370
OF53 City+Port	total PCB congeners	2/6/2008	FALSE	composite	NA	0.0434	ug/L	0.0500	0.0370
OF53 City+Port	total PCB congeners	3/12/2008	TRUE	composite	NA	0.0148	ug/L	0.0500	0.0370
OF53 City+Port	total PCB congeners	3/12/2008	FALSE	composite	NA	0.0153	ug/L	0.0500	0.0370
OF53A City	total PCB congeners	2/29/2008	FALSE	grab	NA	0.0519	ug/L	0.0383	0.0373
OF53A City	total PCB congeners	3/20/2008	FALSE	grab	NA	0.0383	ug/L	0.0383	0.0373
OF53A City	total PCB congeners	4/4/2008	FALSE	grab	NA	0.0351	ug/L	0.0383	0.0373

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF53A City	total PCB congeners	5/13/2008	FALSE	grab	NA	0.0278	ug/L	0.0383	0.0373
OFM1 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.0174	ug/L	0.0309	0.0249
OFM1 City	total PCB congeners	9/30/2007	FALSE	grab	NA	0.026	ug/L	0.0309	0.0249
OFM1 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0126	ug/L	0.0309	0.0249
OFM1 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.0674	ug/L	0.0309	0.0249
OFM1 LW3	total PCB congeners	3/26/2007	FALSE	composite	NA	0.00349	ug/l	0.0692	0.0187
OFM1 LW3	total PCB congeners	4/9/2007	TRUE	composite	NA	0.371	ug/l	0.0692	0.0187
OFM1 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.0178	ug/l	0.0692	0.0187
OFM1 LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.00904	ug/l	0.0692	0.0187
OFM1 LW3	total PCB congeners	4/18/2007	TRUE	composite	NA	0.0101	ug/l	0.0692	0.0187
OFM2 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.0645	ug/L	0.0179	0.0051
OFM2 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.00296	ug/L	0.0179	0.0051
OFM2 City	total PCB congeners	11/16/2007	FALSE	grab	U	0.00269	ug/L	0.0179	0.0051
OFM2 City	total PCB congeners	12/15/2007	FALSE	grab	NA	0.00127	ug/L	0.0179	0.0051
OFM2 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.00916	ug/l	0.0088	0.0063
OFM2 LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.0017	ug/l	0.0088	0.0063
OFM2 LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.0191	ug/l	0.0088	0.0063
OFM2 LW3	total PCB congeners	5/3/2007	TRUE	composite	NA	0.00498	ug/l	0.0088	0.0063
OFM2 LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.00588	ug/l	0.0088	0.0063
OFM3 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.00493	ug/L	0.0033	0.0032
OFM3 City	total PCB congeners	9/30/2007	FALSE	grab	U	0.00253	ug/L	0.0033	0.0032
OFM3 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.00321	ug/L	0.0033	0.0032
OFM3 City	total PCB congeners	11/16/2007	FALSE	grab	U	0.00264	ug/L	0.0033	0.0032
OFS1 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.000694	ug/L	0.0128	0.0068
OFS1 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0144	ug/L	0.0128	0.0068
OFS1 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.0288	ug/L	0.0128	0.0068
OFS1 City	total PCB congeners	12/15/2007	FALSE	grab	NA	0.00729	ug/L	0.0128	0.0068
OFS2 City	total PCB congeners	9/28/2007	FALSE	grab	U	0.00251	ug/L	0.0176	0.0084
OFS2 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0497	ug/L	0.0176	0.0084
OFS2 City	total PCB congeners	11/16/2007	FALSE	grab	U	0.00246	ug/L	0.0176	0.0084
OFS2 City	total PCB congeners	12/15/2007	FALSE	grab	NA	0.0159	ug/L	0.0176	0.0084
OFS5 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.00473	ug/L	0.0054	0.0037
OFS5 City	total PCB congeners	10/16/2007	FALSE	grab	U	0.00255	ug/L	0.0054	0.0037
OFS5 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.0253	ug/L	0.0054	0.0037
OFS5 City	total PCB congeners	11/16/2007	TRUE	grab	NA	0.00116	ug/L	0.0054	0.0037
OFS5 City	total PCB congeners	12/15/2007	FALSE	grab	NA	0.00114	ug/L	0.0054	0.0037
OFS6 City	total PCB congeners	9/28/2007	FALSE	grab	NA	0.004	ug/L	0.0073	0.0050
OFS6 City	total PCB congeners	10/16/2007	FALSE	grab	NA	0.0166	ug/L	0.0073	0.0050
OFS6 City	total PCB congeners	11/16/2007	FALSE	grab	NA	0.00127	ug/L	0.0073	0.0050
OFS6 City	total PCB congeners	12/15/2007	FALSE	grab	NA	0.00718	ug/L	0.0073	0.0050
OSM LW3	total PCB congeners	3/26/2007	FALSE	composite	NA	0.277	ug/l	0.2778	0.2762
OSM LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.325	ug/l	0.2778	0.2762
OSM LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.243	ug/l	0.2778	0.2762
OSM LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.266	ug/l	0.2778	0.2762
Portland Shipyard LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.302	ug/l	0.1253	0.0452
Portland Shipyard LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.184	ug/l	0.1253	0.0452
Portland Shipyard LW3	total PCB congeners	5/22/2007	FALSE	grab	NA	0.0014	ug/l	0.1253	0.0452
Portland Shipyard LW3	total PCB congeners	6/5/2007	FALSE	grab	NA	0.0203	ug/l	0.1253	0.0452
Portland Shipyard LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.119	ug/l	0.1253	0.0452
Schnitzer Int. LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.539	ug/l	0.2767	0.1910
Schnitzer Int. LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.403	ug/l	0.2767	0.1910
Schnitzer Int. LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.108	ug/l	0.2767	0.1910
Schnitzer Int. LW3	total PCB congeners	6/11/2007	FALSE	composite	NA	0.0567	ug/l	0.2767	0.1910
Schnitzer Riverside LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.1	ug/l	5.1250	2.1031
Schnitzer Riverside LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	11.6	ug/l	5.1250	2.1031
Schnitzer Riverside LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	5.98	ug/l	5.1250	2.1031
Schnitzer Riverside LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	2.82	ug/l	5.1250	2.1031
Siltronic LW3	total PCB congeners	4/9/2007	FALSE	composite	NA	0.000913	ug/l	0.0021	0.0013
Siltronic LW3	total PCB congeners	4/9/2007	TRUE	composite	NA	0.00385	ug/l	0.0021	0.0013
Siltronic LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.00495	ug/l	0.0021	0.0013
Siltronic LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.00055	ug/l	0.0021	0.0013
Siltronic LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.000344	ug/l	0.0021	0.0013
SJB LW3	total PCB congeners	4/18/2007	FALSE	composite	NA	0.185	ug/l	0.0863	0.0546
SJB LW3	total PCB congeners	4/23/2007	FALSE	composite	NA	0.0085	ug/l	0.0863	0.0546
SJB LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.0857	ug/l	0.0863	0.0546
SJB LW3	total PCB congeners	5/21/2007	FALSE	grab	NA	0.066	ug/l	0.0863	0.0546
Sulzer LW3	total PCB congeners	1/11/2008	FALSE	composite	NA	0.0224	ug/l	0.0337	0.0317
Sulzer LW3	total PCB congeners	1/30/2008	FALSE	composite	NA	0.0449	ug/l	0.0337	0.0317
UPRR Albina LW3	total PCB congeners	5/3/2007	FALSE	composite	NA	0.0521	ug/l	0.0305	0.0271
UPRR Albina LW3	total PCB congeners	6/10/2007	FALSE	composite	NA	0.0176	ug/l	0.0305	0.0271
UPRR Albina LW3	total PCB congeners	11/29/2007	FALSE	composite	NA	0.0217	ug/l	0.0305	0.0271
WR169 Basin D Port	total PCB congeners	11/16/2007	TRUE	composite	NA	0.00859	ug/l	0.0119	0.0117

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR169 Basin D Port	total PCB congeners	11/16/2007	FALSE	composite	NA	0.00883	ug/l	0.0119	0.0117
WR169 Basin D Port	total PCB congeners	1/15/2008	FALSE	composite	NA	0.0149	ug/l	0.0119	0.0117
WR169 Basin D Port	total PCB congeners	1/26/2008	FALSE	composite	NA	0.0122	ug/l	0.0119	0.0117
WR177 Basin M Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.103	ug/l	0.2140	0.1471
WR177 Basin M Port	total PCB congeners	4/7/2007	FALSE	composite	NA	0.505	ug/l	0.2140	0.1471
WR177 Basin M Port	total PCB congeners	5/3/2007	FALSE	composite	NA	0.204	ug/l	0.2140	0.1471
WR177 Basin M Port	total PCB congeners	9/28/2007	FALSE	composite	NA	0.0441	ug/l	0.2140	0.1471
WR181 Basin Q Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.0956	ug/l	0.0544	0.0474
WR181 Basin Q Port	total PCB congeners	4/7/2007	FALSE	composite	NA	0.0386	ug/l	0.0544	0.0474
WR181 Basin Q Port	total PCB congeners	9/28/2007	FALSE	composite	NA	0.0289	ug/l	0.0544	0.0474
WR183 Basin R Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.0284	ug/l	0.4466	0.1010
WR183 Basin R Port	total PCB congeners	4/7/2007	FALSE	composite	NA	0.0632	ug/l	0.4466	0.1010
WR183 Basin R Port	total PCB congeners	5/3/2007	FALSE	composite	NA	1.66	ug/l	0.4466	0.1010
WR183 Basin R Port	total PCB congeners	11/16/2007	FALSE	composite	NA	0.0349	ug/l	0.4466	0.1010
WR20 Basin L Port	total PCB congeners	3/24/2007	FALSE	composite	NA	0.112	ug/l	0.1455	0.1381
WR20 Basin L Port	total PCB congeners	5/3/2007	FALSE	composite	NA	0.104	ug/l	0.1455	0.1381
WR20 Basin L Port	total PCB congeners	5/20/2007	FALSE	composite	NA	0.231	ug/l	0.1455	0.1381
WR20 Basin L Port	total PCB congeners	9/28/2007	FALSE	composite	NA	0.135	ug/l	0.1455	0.1381
Arkema LW3	toxaphene	3/26/2007	FALSE	composite	UJ	0.71	ug/l	0.3740	0.2921
Arkema LW3	toxaphene	4/23/2007	FALSE	composite	U	0.18	ug/l	0.3740	0.2921
Arkema LW3	toxaphene	5/3/2007	FALSE	composite	U	0.63	ug/l	0.3740	0.2921
Arkema LW3	toxaphene	6/5/2007	FALSE	grab	U	0.11	ug/l	0.3740	0.2921
Arkema LW3	toxaphene	11/27/2007	FALSE	composite	U	0.24	ug/l	0.3740	0.2921
OF19_LW3+MS4	toxaphene	2/23/2009	FALSE	composite	U	0.65	ug/L	0.6500	0.6500
OF22B LW3	toxaphene	3/27/2007	FALSE	composite	UJ	0.65	ug/l	0.4588	0.4076
OF22B LW3	toxaphene	3/27/2007	TRUE	composite	UJ	0.81	ug/l	0.4588	0.4076
OF22B LW3	toxaphene	5/3/2007	FALSE	composite	U	0.5	ug/l	0.4588	0.4076
OF22B LW3	toxaphene	5/3/2007	TRUE	composite	U	0.71	ug/l	0.4588	0.4076
OF22B LW3	toxaphene	6/5/2007	FALSE	grab	U	0.25	ug/l	0.4588	0.4076
OF22B LW3	toxaphene	11/16/2007	FALSE	composite	U	0.25	ug/l	0.4588	0.4076
OF52C Basin T Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.11	ug/l	0.1838	0.1329
OF52C Basin T Port	toxaphene	4/7/2007	FALSE	composite	UJ	0.057	ug/l	0.1838	0.1329
OF52C Basin T Port	toxaphene	4/7/2007	TRUE	composite	UJ	0.22	ug/l	0.1838	0.1329
OF52C Basin T Port	toxaphene	5/3/2007	FALSE	composite	UJ	0.44	ug/l	0.1838	0.1329
OF52C Basin T Port	toxaphene	11/16/2007	FALSE	composite	U	0.048	ug/l	0.1838	0.1329
OF52C Basin T Port	toxaphene	11/16/2007	TRUE	composite	U	0.045	ug/l	0.1838	0.1329
OF53 City+Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.071	ug/l	0.2150	0.1380
OF53 City+Port	toxaphene	4/7/2007	FALSE	composite	UJ	0.074	ug/l	0.2150	0.1380
OF53 City+Port	toxaphene	5/3/2007	FALSE	composite	UJ	0.5	ug/l	0.2150	0.1380
WR177 Basin M Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.15	ug/l	0.1403	0.1177
WR177 Basin M Port	toxaphene	4/7/2007	FALSE	composite	UJ	0.041	ug/l	0.1403	0.1177
WR177 Basin M Port	toxaphene	5/3/2007	TRUE	composite	UJ	0.24	ug/l	0.1403	0.1177
WR177 Basin M Port	toxaphene	5/3/2007	FALSE	composite	UJ	0.24	ug/l	0.1403	0.1177
WR177 Basin M Port	toxaphene	9/28/2007	FALSE	composite	U	0.13	ug/l	0.1403	0.1177
WR181 Basin Q Port	toxaphene	3/24/2007	TRUE	composite	UJ	0.12	ug/l	0.0927	0.0826
WR181 Basin Q Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.16	ug/l	0.0927	0.0826
WR181 Basin Q Port	toxaphene	4/7/2007	FALSE	composite	UJ	0.042	ug/l	0.0927	0.0826
WR181 Basin Q Port	toxaphene	9/28/2007	FALSE	composite	U	0.096	ug/l	0.0927	0.0826
WR183 Basin R Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.068	ug/l	0.0680	0.0680
WR20 Basin L Port	toxaphene	3/24/2007	FALSE	composite	UJ	0.17	ug/l	0.4200	0.3808
WR20 Basin L Port	toxaphene	5/3/2007	FALSE	composite	UJ	0.52	ug/l	0.4200	0.3808
WR20 Basin L Port	toxaphene	5/20/2007	FALSE	composite	UJ	0.58	ug/l	0.4200	0.3808
WR20 Basin L Port	toxaphene	9/28/2007	FALSE	composite	U	0.41	ug/l	0.4200	0.3808
Arkema LW3	zinc	3/26/2007	FALSE	composite		51.4	ug/l	101.8	90.0
Arkema LW3	zinc	4/23/2007	FALSE	composite	J	75.2	ug/l	101.8	90.0
Arkema LW3	zinc	5/3/2007	FALSE	composite		93	ug/l	101.8	90.0
Arkema LW3	zinc	6/10/2007	FALSE	composite		212	ug/l	101.8	90.0
Arkema LW3	zinc	11/27/2007	TRUE	composite		77.2	ug/l	101.8	90.0
Arkema LW3	zinc	11/27/2007	FALSE	composite		77.8	ug/l	101.8	90.0
Chevron LW3	zinc	3/26/2007	FALSE	composite		80.3	ug/l	99.8	94.3
Chevron LW3	zinc	4/9/2007	FALSE	composite	J	111	ug/l	99.8	94.3
Chevron LW3	zinc	4/23/2007	FALSE	composite	J	53.7	ug/l	99.8	94.3
Chevron LW3	zinc	5/3/2007	FALSE	composite		150	ug/l	99.8	94.3
Chevron LW3	zinc	6/10/2007	FALSE	composite		104	ug/l	99.8	94.3
Gasco LW3	zinc	3/26/2007	FALSE	composite		71.9	ug/l	114.0	110.5
Gasco LW3	zinc	4/9/2007	FALSE	composite	J	129	ug/l	114.0	110.5
Gasco LW3	zinc	4/18/2007	FALSE	composite		141	ug/l	114.0	110.5
Gasco LW3	zinc	5/3/2007	FALSE	composite		114	ug/l	114.0	110.5
GE MH 2	zinc	4/18/2007	FALSE	composite		252	ug/l	243.8	236.6
GE MH 2	zinc	10/19/2007	TRUE	composite		184	ug/l	243.8	236.6
GE MH 2	zinc	10/19/2007	FALSE	composite		155	ug/l	243.8	236.6
GE MH 2	zinc	11/13/2007	FALSE	composite		321	ug/l	243.8	236.6

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
GE MH 2	zinc	11/13/2007	TRUE	composite		299	ug/l	243.8	236.6
GE SV 1	zinc	6/10/2007	FALSE	composite		131	ug/l	143.3	128.4
GE SV 1	zinc	10/19/2007	FALSE	composite		70.8	ug/l	143.3	128.4
GE SV 1	zinc	11/13/2007	FALSE	composite		228	ug/l	143.3	128.4
Gunderson WR142/145 LW3	zinc	4/9/2007	FALSE	composite	J	2790	ug/l	2618.0	2610.4
Gunderson WR142/145 LW3	zinc	6/10/2007	FALSE	composite		2690	ug/l	2618.0	2610.4
Gunderson WR142/145 LW3	zinc	11/16/2007	FALSE	composite		2840	ug/l	2618.0	2610.4
Gunderson WR142/145 LW3	zinc	11/27/2007	FALSE	composite		2350	ug/l	2618.0	2610.4
Gunderson WR142/145 LW3	zinc	1/9/2008	FALSE	composite		2420	ug/l	2618.0	2610.4
Gunderson WR147 LW3	zinc	4/9/2007	FALSE	composite	J	237	ug/l	324.2	298.3
Gunderson WR147 LW3	zinc	4/18/2007	FALSE	composite	J	423	ug/l	324.2	298.3
Gunderson WR147 LW3	zinc	4/23/2007	FALSE	composite	J	196	ug/l	324.2	298.3
Gunderson WR147 LW3	zinc	5/3/2007	FALSE	composite		544	ug/l	324.2	298.3
Gunderson WR147 LW3	zinc	6/10/2007	TRUE	composite		223	ug/l	324.2	298.3
Gunderson WR147 LW3	zinc	6/10/2007	FALSE	composite		219	ug/l	324.2	298.3
HWY30 NW Yeon-35th LW3	zinc	4/9/2007	FALSE	composite	J	102	ug/l	115.2	110.9
HWY30 NW Yeon-35th LW3	zinc	5/3/2007	FALSE	composite		160	ug/l	115.2	110.9
HWY30 NW Yeon-35th LW3	zinc	6/10/2007	FALSE	composite		83.6	ug/l	115.2	110.9
HWY30A Reed St. LW3	zinc	11/16/2007	FALSE	composite		115	ug/l	147.1	140.5
HWY30A Reed St. LW3	zinc	11/27/2007	FALSE	composite		113	ug/l	147.1	140.5
HWY30A Reed St. LW3	zinc	1/28/2008	FALSE	composite		128	ug/l	147.1	140.5
HWY30A Reed St. LW3	zinc	1/28/2008	TRUE	composite		133	ug/l	147.1	140.5
HWY30A Reed St. LW3	zinc	1/30/2008	FALSE	composite		230	ug/l	147.1	140.5
HWY30B 35th St. LW3	zinc	11/27/2007	FALSE	composite		278	ug/l	269.4	263.9
HWY30B 35th St. LW3	zinc	1/11/2008	FALSE	composite		191	ug/l	269.4	263.9
HWY30B 35th St. LW3	zinc	1/15/2008	FALSE	composite		314	ug/l	269.4	263.9
HWY30B 35th St. LW3	zinc	1/28/2008	FALSE	composite		230	ug/l	269.4	263.9
HWY30B 35th St. LW3	zinc	1/30/2008	FALSE	composite		334	ug/l	269.4	263.9
OF16 LW3	zinc	4/9/2007	FALSE	composite	J	139	ug/l	200.5	182.9
OF16 LW3	zinc	4/18/2007	FALSE	composite		275	ug/l	200.5	182.9
OF16 LW3	zinc	4/23/2007	TRUE	composite	J	93.9	ug/l	200.5	182.9
OF16 LW3	zinc	4/23/2007	FALSE	composite	J	94.7	ug/l	200.5	182.9
OF16 LW3	zinc	5/3/2007	FALSE	composite		312	ug/l	200.5	182.9
OF16 LW3	zinc	6/10/2007	FALSE	composite		182	ug/l	200.5	182.9
OF18 LW3	zinc	3/26/2007	FALSE	composite		214	ug/l	248.9	245.2
OF18 LW3	zinc	3/26/2007	TRUE	composite		220	ug/l	248.9	245.2
OF18 LW3	zinc	4/9/2007	FALSE	composite	J	224	ug/l	248.9	245.2
OF18 LW3	zinc	4/18/2007	TRUE	composite	J	229	ug/l	248.9	245.2
OF18 LW3	zinc	4/18/2007	FALSE	composite	J	226	ug/l	248.9	245.2
OF18 LW3	zinc	5/3/2007	FALSE	composite		327	ug/l	248.9	245.2
OF19_LW3+MS4	zinc	3/8/2006	FALSE	composite		169	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	3/15/2006	FALSE	composite		153	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	5/23/2006	FALSE	composite		190	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	11/2/2006	FALSE	composite		237	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	11/19/2006	FALSE	composite		146	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	2/14/2007	FALSE	composite		199	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	3/26/2007	FALSE	composite		115	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	4/9/2007	FALSE	composite	J	169	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	4/9/2007	TRUE	composite	J	182	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	4/18/2007	FALSE	composite		220	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	5/3/2007	FALSE	composite		391	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	5/3/2007	TRUE	composite		385	ug/l	219.5	204.1
OF19_LW3+MS4	zinc	11/26/2007	FALSE	composite		206	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	3/7/2008	FALSE	composite		223	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	3/25/2008	FALSE	composite		125	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	11/20/2008	FALSE	composite		282	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	2/23/2009	FALSE	composite		486	ug/L	219.5	204.1
OF19_LW3+MS4	zinc	3/14/2009	FALSE	composite		197	ug/L	219.5	204.1
OF22 LW3	zinc	4/9/2007	FALSE	composite	J	195	ug/l	218.0	213.0
OF22 LW3	zinc	5/3/2007	FALSE	composite		285	ug/l	218.0	213.0
OF22 LW3	zinc	6/10/2007	FALSE	composite		174	ug/l	218.0	213.0
OF22B LW3	zinc	3/27/2007	FALSE	composite		316	ug/l	323.5	293.2
OF22B LW3	zinc	5/3/2007	FALSE	composite		560	ug/l	323.5	293.2
OF22B LW3	zinc	11/16/2007	FALSE	composite		253	ug/l	323.5	293.2
OF22B LW3	zinc	11/27/2007	FALSE	composite		165	ug/l	323.5	293.2
OF22C City	zinc	2/29/2008	FALSE	grab		3.47	ug/L	4.6	4.5
OF22C City	zinc	3/20/2008	FALSE	grab		6.28	ug/L	4.6	4.5
OF22C City	zinc	4/4/2008	FALSE	grab		5.01	ug/L	4.6	4.5
OF22C City	zinc	5/13/2008	FALSE	grab		3.83	ug/L	4.6	4.5
OF22C Tualatin Hills LW3	zinc	4/18/2007	FALSE	composite	J	3.69	ug/l	8.5	7.5
OF22C Tualatin Hills LW3	zinc	4/23/2007	FALSE	composite	J	13.1	ug/l	8.5	7.5
OF22C Tualatin Hills LW3	zinc	1/9/2008	FALSE	composite		8.59	ug/l	8.5	7.5

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OF22D City	zinc	2/29/2008	TRUE	grab		18.4	ug/L	71.6	35.4
OF22D City	zinc	2/29/2008	FALSE	grab		18.6	ug/L	71.6	35.4
OF22D City	zinc	3/20/2008	FALSE	grab		216	ug/L	71.6	35.4
OF22D City	zinc	4/4/2008	FALSE	grab		42.6	ug/L	71.6	35.4
OF22D City	zinc	5/13/2008	FALSE	grab		9.2	ug/L	71.6	35.4
OF45 City	zinc	2/5/2008	FALSE	grab		716	ug/L	429.9	327.2
OF45 City	zinc	2/29/2008	FALSE	grab		391	ug/L	429.9	327.2
OF45 City	zinc	3/20/2008	FALSE	grab		76.4	ug/L	429.9	327.2
OF45 City	zinc	4/4/2008	FALSE	grab		536	ug/L	429.9	327.2
OF46 City	zinc	2/5/2008	FALSE	grab		364	ug/L	360.4	352.0
OF46 City	zinc	2/29/2008	FALSE	grab		363	ug/L	360.4	352.0
OF46 City	zinc	3/20/2008	FALSE	grab		250	ug/L	360.4	352.0
OF46 City	zinc	4/4/2008	TRUE	grab		540	ug/L	360.4	352.0
OF46 City	zinc	4/4/2008	FALSE	grab		389	ug/L	360.4	352.0
OF47 City	zinc	2/5/2008	FALSE	grab		244	ug/L	191.6	178.2
OF47 City	zinc	2/29/2008	FALSE	grab		99.2	ug/L	191.6	178.2
OF47 City	zinc	3/20/2008	FALSE	grab		267	ug/L	191.6	178.2
OF47 City	zinc	4/4/2008	FALSE	grab		156	ug/L	191.6	178.2
OF48 City	zinc	9/28/2007	TRUE	grab		28.1	ug/L	26.4	26.1
OF48 City	zinc	9/28/2007	FALSE	grab		26.3	ug/L	26.4	26.1
OF48 City	zinc	10/16/2007	FALSE	grab		31.1	ug/L	26.4	26.1
OF48 City	zinc	11/16/2007	FALSE	grab		20.5	ug/L	26.4	26.1
OF48 City	zinc	12/15/2007	FALSE	grab		26.7	ug/L	26.4	26.1
OF49 LW3	zinc	4/9/2007	FALSE	composite	J	36.8	ug/l	40.8	39.2
OF49 LW3	zinc	4/23/2007	FALSE	composite	J	33.4	ug/l	40.8	39.2
OF49 LW3	zinc	6/10/2007	FALSE	composite		62.3	ug/l	40.8	39.2
OF49 LW3	zinc	11/16/2007	FALSE	composite		30.7	ug/l	40.8	39.2
OF50 City	zinc	9/28/2007	FALSE	grab		138	ug/L	104.4	99.8
OF50 City	zinc	10/16/2007	FALSE	grab		66.2	ug/L	104.4	99.8
OF50 City	zinc	11/16/2007	FALSE	grab		84.3	ug/L	104.4	99.8
OF50 City	zinc	12/14/2007	FALSE	grab		129	ug/L	104.4	99.8
OF52 City	zinc	9/28/2007	FALSE	grab		226	ug/L	153.2	146.8
OF52 City	zinc	9/30/2007	TRUE	grab		125	ug/L	153.2	146.8
OF52 City	zinc	9/30/2007	FALSE	grab		128	ug/L	153.2	146.8
OF52 City	zinc	10/16/2007	TRUE	grab		248	ug/L	153.2	146.8
OF52 City	zinc	10/16/2007	FALSE	grab		64.5	ug/L	153.2	146.8
OF52 City	zinc	11/16/2007	FALSE	grab		104	ug/L	153.2	146.8
OF52A City	zinc	9/28/2007	FALSE	grab		127	ug/L	122.6	117.9
OF52A City	zinc	10/16/2007	FALSE	grab		109	ug/L	122.6	117.9
OF52A City	zinc	11/16/2007	FALSE	grab		80.3	ug/L	122.6	117.9
OF52A City	zinc	12/14/2007	FALSE	grab		174	ug/L	122.6	117.9
OF52C Basin T Port	zinc	3/24/2007	FALSE	composite		62.5	ug/l	64.8	58.9
OF52C Basin T Port	zinc	5/3/2007	FALSE	composite		114	ug/l	64.8	58.9
OF52C Basin T Port	zinc	5/20/2007	FALSE	composite		38.4	ug/l	64.8	58.9
OF52C Basin T Port	zinc	11/16/2007	FALSE	composite		44.1	ug/l	64.8	58.9
OF53 City+Port	zinc	3/24/2007	FALSE	composite		81.1	ug/l	178.9	108.9
OF53 City+Port	zinc	5/3/2007	FALSE	composite		609	ug/l	178.9	108.9
OF53 City+Port	zinc	1/26/2008	FALSE	composite		59.7	ug/L	178.9	108.9
OF53 City+Port	zinc	2/6/2008	FALSE	composite		78.3	ug/L	178.9	108.9
OF53 City+Port	zinc	3/12/2008	FALSE	composite		65.9	ug/L	178.9	108.9
OF53 City+Port	zinc	3/12/2008	TRUE	composite		66.5	ug/L	178.9	108.9
OF53A City	zinc	2/29/2008	FALSE	grab		516	ug/L	478.3	458.6
OF53A City	zinc	3/20/2008	FALSE	grab		453	ug/L	478.3	458.6
OF53A City	zinc	4/4/2008	FALSE	grab		655	ug/L	478.3	458.6
OF53A City	zinc	5/13/2008	FALSE	grab		289	ug/L	478.3	458.6
OFM1 City	zinc	9/28/2007	FALSE	grab		211	ug/L	194.8	185.6
OFM1 City	zinc	9/30/2007	FALSE	grab		119	ug/L	194.8	185.6
OFM1 City	zinc	10/16/2007	FALSE	grab		281	ug/L	194.8	185.6
OFM1 City	zinc	11/16/2007	FALSE	grab		168	ug/L	194.8	185.6
OFM1 LW3	zinc	3/26/2007	FALSE	composite		140	ug/l	179.4	177.0
OFM1 LW3	zinc	4/9/2007	FALSE	composite	J	186	ug/l	179.4	177.0
OFM1 LW3	zinc	4/18/2007	TRUE	composite		216	ug/l	179.4	177.0
OFM1 LW3	zinc	4/18/2007	FALSE	composite		227	ug/l	179.4	177.0
OFM1 LW3	zinc	6/10/2007	FALSE	composite		170	ug/l	179.4	177.0
OFM2 City	zinc	9/28/2007	FALSE	grab		145	ug/L	137.0	129.4
OFM2 City	zinc	10/16/2007	FALSE	grab		210	ug/L	137.0	129.4
OFM2 City	zinc	11/16/2007	FALSE	grab		86	ug/L	137.0	129.4
OFM2 City	zinc	12/15/2007	FALSE	grab		107	ug/L	137.0	129.4
OFM2 LW3	zinc	4/9/2007	FALSE	composite	J	94.5	ug/l	114.7	110.3
OFM2 LW3	zinc	4/9/2007	FALSE	composite	J	102	ug/l	114.7	110.3
OFM2 LW3	zinc	4/23/2007	TRUE	composite	J	87.4	ug/l	114.7	110.3
OFM2 LW3	zinc	4/23/2007	FALSE	composite	J	89.2	ug/l	114.7	110.3

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
OFM2 LW3	zinc	5/3/2007	FALSE	composite		174	ug/l	114.7	110.3
OFM3 City	zinc	9/28/2007	FALSE	grab		874	ug/L	297.6	175.1
OFM3 City	zinc	9/30/2007	FALSE	grab		78.1	ug/L	297.6	175.1
OFM3 City	zinc	10/16/2007	FALSE	grab		139	ug/L	297.6	175.1
OFM3 City	zinc	11/16/2007	FALSE	grab		99.1	ug/L	297.6	175.1
OFS1 City	zinc	9/28/2007	FALSE	grab		468	ug/L	345.0	336.5
OFS1 City	zinc	10/16/2007	FALSE	grab		359	ug/L	345.0	336.5
OFS1 City	zinc	11/16/2007	FALSE	grab		266	ug/L	345.0	336.5
OFS1 City	zinc	12/15/2007	FALSE	grab		287	ug/L	345.0	336.5
OFS2 City	zinc	9/28/2007	FALSE	grab		231	ug/L	276.0	247.6
OFS2 City	zinc	10/16/2007	FALSE	grab		209	ug/L	276.0	247.6
OFS2 City	zinc	11/16/2007	FALSE	grab		152	ug/L	276.0	247.6
OFS2 City	zinc	12/15/2007	FALSE	grab		512	ug/L	276.0	247.6
OFS5 City	zinc	9/28/2007	FALSE	grab		288	ug/L	288.1	284.1
OFS5 City	zinc	10/16/2007	FALSE	grab		216	ug/L	288.1	284.1
OFS5 City	zinc	11/16/2007	TRUE	grab		344	ug/L	288.1	284.1
OFS5 City	zinc	11/16/2007	FALSE	grab		345	ug/L	288.1	284.1
OFS5 City	zinc	12/15/2007	FALSE	grab		304	ug/L	288.1	284.1
OFS6 City	zinc	9/28/2007	FALSE	grab		551	ug/L	396.3	384.6
OFS6 City	zinc	10/16/2007	FALSE	grab		415	ug/L	396.3	384.6
OFS6 City	zinc	11/16/2007	FALSE	grab		299	ug/L	396.3	384.6
OFS6 City	zinc	12/15/2007	FALSE	grab		320	ug/L	396.3	384.6
OSM LW3	zinc	3/26/2007	FALSE	composite		271	ug/l	258.3	255.6
OSM LW3	zinc	4/9/2007	FALSE	composite	J	243	ug/l	258.3	255.6
OSM LW3	zinc	4/18/2007	FALSE	composite		209	ug/l	258.3	255.6
OSM LW3	zinc	5/3/2007	FALSE	composite		310	ug/l	258.3	255.6
Portland Shipyard LW3	zinc	3/26/2007	FALSE	composite		567	ug/l	887.3	835.9
Portland Shipyard LW3	zinc	4/9/2007	FALSE	composite	J	767	ug/l	887.3	835.9
Portland Shipyard LW3	zinc	5/3/2007	FALSE	composite		1430	ug/l	887.3	835.9
Portland Shipyard LW3	zinc	6/10/2007	FALSE	composite		785	ug/l	887.3	835.9
Schnitzer Int. LW3	zinc	4/9/2007	FALSE	composite	J	312	ug/l	357.0	351.5
Schnitzer Int. LW3	zinc	4/18/2007	FALSE	composite		414	ug/l	357.0	351.5
Schnitzer Int. LW3	zinc	4/23/2007	FALSE	composite	J	280	ug/l	357.0	351.5
Schnitzer Int. LW3	zinc	5/3/2007	FALSE	composite		422	ug/l	357.0	351.5
Schnitzer Riverside LW3	zinc	4/9/2007	FALSE	composite	J	50.3	ug/l	1149.3	619.7
Schnitzer Riverside LW3	zinc	4/18/2007	FALSE	composite		1770	ug/l	1149.3	619.7
Schnitzer Riverside LW3	zinc	4/23/2007	FALSE	composite	J	1910	ug/l	1149.3	619.7
Schnitzer Riverside LW3	zinc	5/3/2007	FALSE	composite		867	ug/l	1149.3	619.7
Siltronic LW3	zinc	4/9/2007	FALSE	composite	J	255	ug/l	248.0	236.7
Siltronic LW3	zinc	4/9/2007	FALSE	composite	J	129	ug/l	248.0	236.7
Siltronic LW3	zinc	4/18/2007	FALSE	composite		233	ug/l	248.0	236.7
Siltronic LW3	zinc	5/3/2007	FALSE	composite		311	ug/l	248.0	236.7
Siltronic LW3	zinc	6/10/2007	FALSE	composite		312	ug/l	248.0	236.7
SJB LW3	zinc	3/26/2007	FALSE	composite		486	ug/l	756.3	721.3
SJB LW3	zinc	4/9/2007	FALSE	composite	J	726	ug/l	756.3	721.3
SJB LW3	zinc	4/18/2007	FALSE	composite		1140	ug/l	756.3	721.3
SJB LW3	zinc	5/3/2007	FALSE	composite		673	ug/l	756.3	721.3
Sulzer LW3	zinc	1/11/2008	FALSE	composite		43.6	ug/l	54.1	53.0
Sulzer LW3	zinc	1/30/2008	FALSE	composite		64.5	ug/l	54.1	53.0
UPRR Albina LW3	zinc	5/3/2007	FALSE	composite		167	ug/l	155.8	149.9
UPRR Albina LW3	zinc	6/10/2007	FALSE	composite		91.7	ug/l	155.8	149.9
UPRR Albina LW3	zinc	11/27/2007	FALSE	composite		199	ug/l	155.8	149.9
UPRR Albina LW3	zinc	11/29/2007	FALSE	composite		164	ug/l	155.8	149.9
UPRR Albina LW3	zinc	11/29/2007	TRUE	composite		167	ug/l	155.8	149.9
WR169 Basin D Port	zinc	3/24/2007	FALSE	composite		28.9	ug/l	42.1	40.9
WR169 Basin D Port	zinc	5/3/2007	FALSE	composite		57.4	ug/l	42.1	40.9
WR169 Basin D Port	zinc	5/3/2007	TRUE	composite		51.8	ug/l	42.1	40.9
WR169 Basin D Port	zinc	5/20/2007	FALSE	composite		46.3	ug/l	42.1	40.9
WR169 Basin D Port	zinc	11/16/2007	FALSE	composite		38.4	ug/l	42.1	40.9
WR177 Basin M Port	zinc	3/24/2007	FALSE	composite		172	ug/l	105.3	99.4
WR177 Basin M Port	zinc	5/3/2007	FALSE	composite		90.5	ug/l	105.3	99.4
WR177 Basin M Port	zinc	5/20/2007	FALSE	composite		79.9	ug/l	105.3	99.4
WR177 Basin M Port	zinc	9/28/2007	FALSE	composite		78.6	ug/l	105.3	99.4
WR181 Basin Q Port	zinc	3/24/2007	TRUE	composite		120	ug/l	182.8	174.5
WR181 Basin Q Port	zinc	3/24/2007	FALSE	composite		137	ug/l	182.8	174.5
WR181 Basin Q Port	zinc	9/28/2007	FALSE	composite		237	ug/l	182.8	174.5
WR183 Basin R Port	zinc	3/24/2007	FALSE	composite		604	ug/l	4321.1	1705.6
WR183 Basin R Port	zinc	5/3/2007	FALSE	composite		11900	ug/l	4321.1	1705.6
WR183 Basin R Port	zinc	5/20/2007	FALSE	composite		4520	ug/l	4321.1	1705.6
WR183 Basin R Port	zinc	11/16/2007	FALSE	composite		285	ug/l	4321.1	1705.6
WR183 Basin R Port	zinc	11/16/2007	TRUE	composite		236	ug/l	4321.1	1705.6
WR20 Basin L Port	zinc	3/24/2007	FALSE	composite		237	ug/l	427.3	402.3

Outfall Basin / Sampling Location [1, 2]	Analyte	Sample Date	Duplicate Sample [3]	Sample Type	Qualifier [4]	Result	Units	Basin Arithmetric Mean Concentration ug/l [5, 6, 7]	Basin Geometric Mean Concentration ug/l [5, 6, 7]
WR20 Basin L Port	zinc	5/3/2007	FALSE	composite		457	ug/l	427.3	402.3
WR20 Basin L Port	zinc	5/20/2007	FALSE	composite		633	ug/l	427.3	402.3
WR20 Basin L Port	zinc	9/28/2007	FALSE	composite		382	ug/l	427.3	402.3

Notes:

ug/L = micrograms per liter

(1) Section 3 and Table 3-1 of the *Stormwater Evaluation Repor*t (BES, 2010) present the sources of data used in this table. Appendix C presents the assumptions and data used in calculating the mean concentrations for outfall basins included in this table. Appendix D presents the individual analyte data used in calculating the mean concentrations for City outfall basins. This table includes analytes that were identified to exceed the JSCS SLV at a concentration detected above the method reporting limit (MRL) in at least one sampling event in at least one City outfall basin.

(2) Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area. Outfall basin locations utilized by the City and the LWG in three basins (i.e. OF M-1, OF M-2, and OF 22C) represent different basins; in all three basins, the City sampling location represents a larger drainage area that includes the drainage area evaluated by LWG. City sampling locations were selected to represent stormwater discharges from the entire basin, to the extent feasible. Flow-weighted composite and grab sample results from City and LWG sampling activities are not combined in these figures. Basins with multiple sample locations include: OF M-1; OF M-2; and OF 22C.

(3) Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

(4) Qualified data are flagged with the following data qualifiers, as applicable: B = the analyte was detected in the laboratory method blank at a concentration that is significant relative to the sample result; J and Est = estimated value (method dection limit < concentration < method reporting limit); NJ = presumtive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

(5) For the purposes of calculating the mean and geomean concentrations, non-detect results are set to the value of the MRL.

(6) Basin mean and geometric mean concentrations are typically reported to 4 decimal places. Standard rules for defining significant figures have not been applied in this table.

(7) Basin mean and geometric mean concentrations are not flagged with data qualifiers. These means often include estimated (e.g., "J" flagged) or nondected (e.g., "U" flagged) concentrations and should be flagged with the applicable data qualifier(s) if used for other purposes.

Attachment C3

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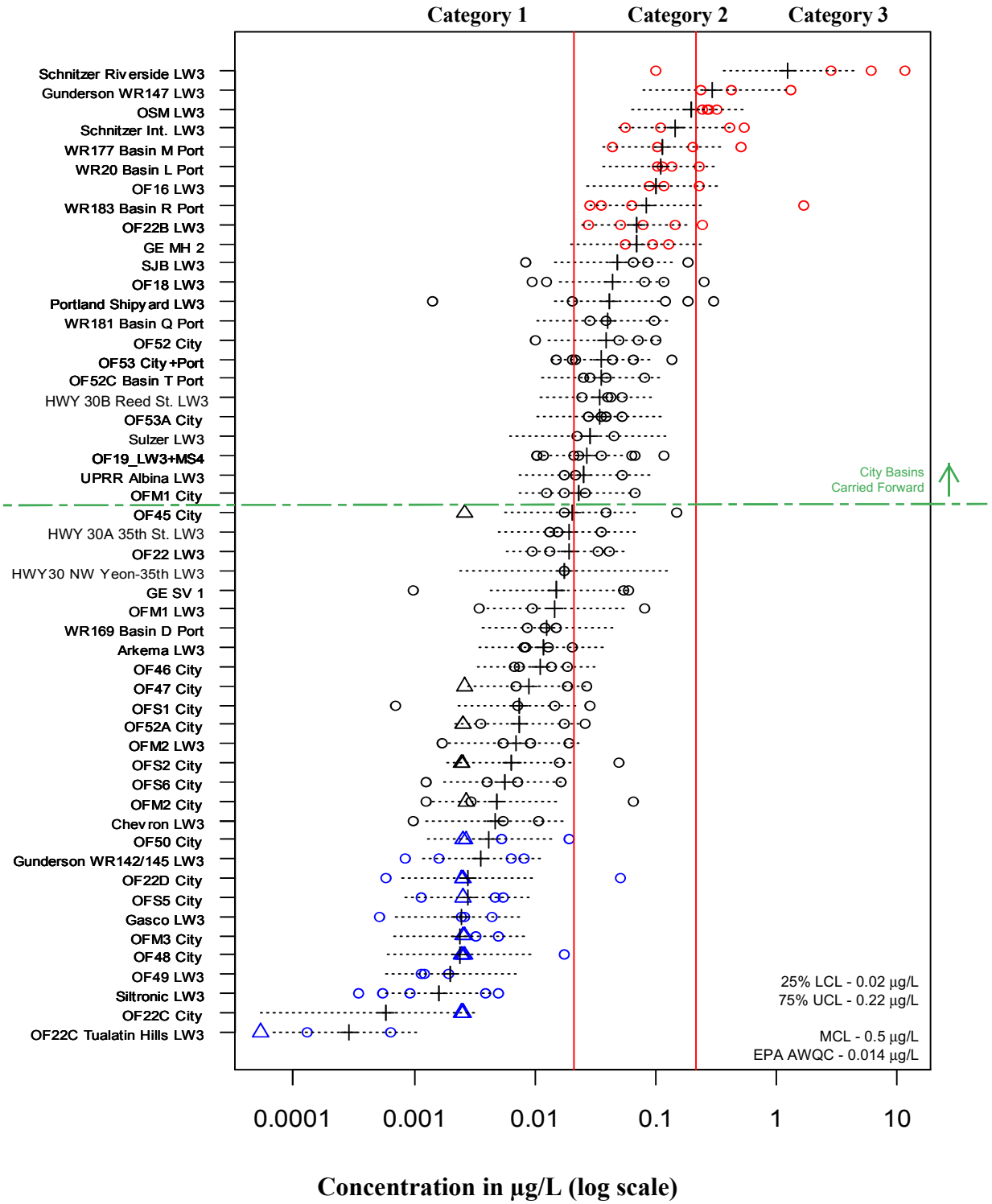
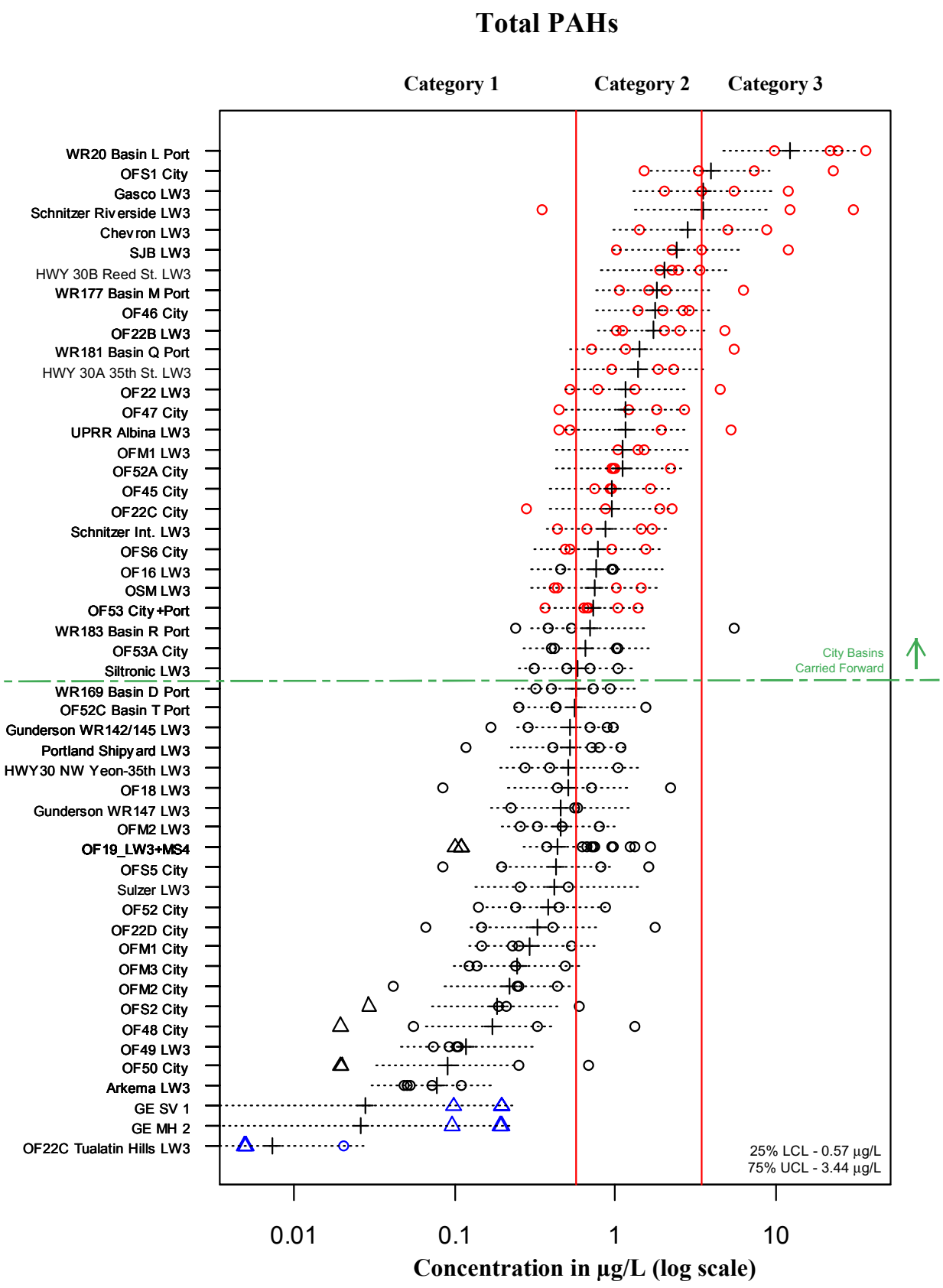
Attachment C3

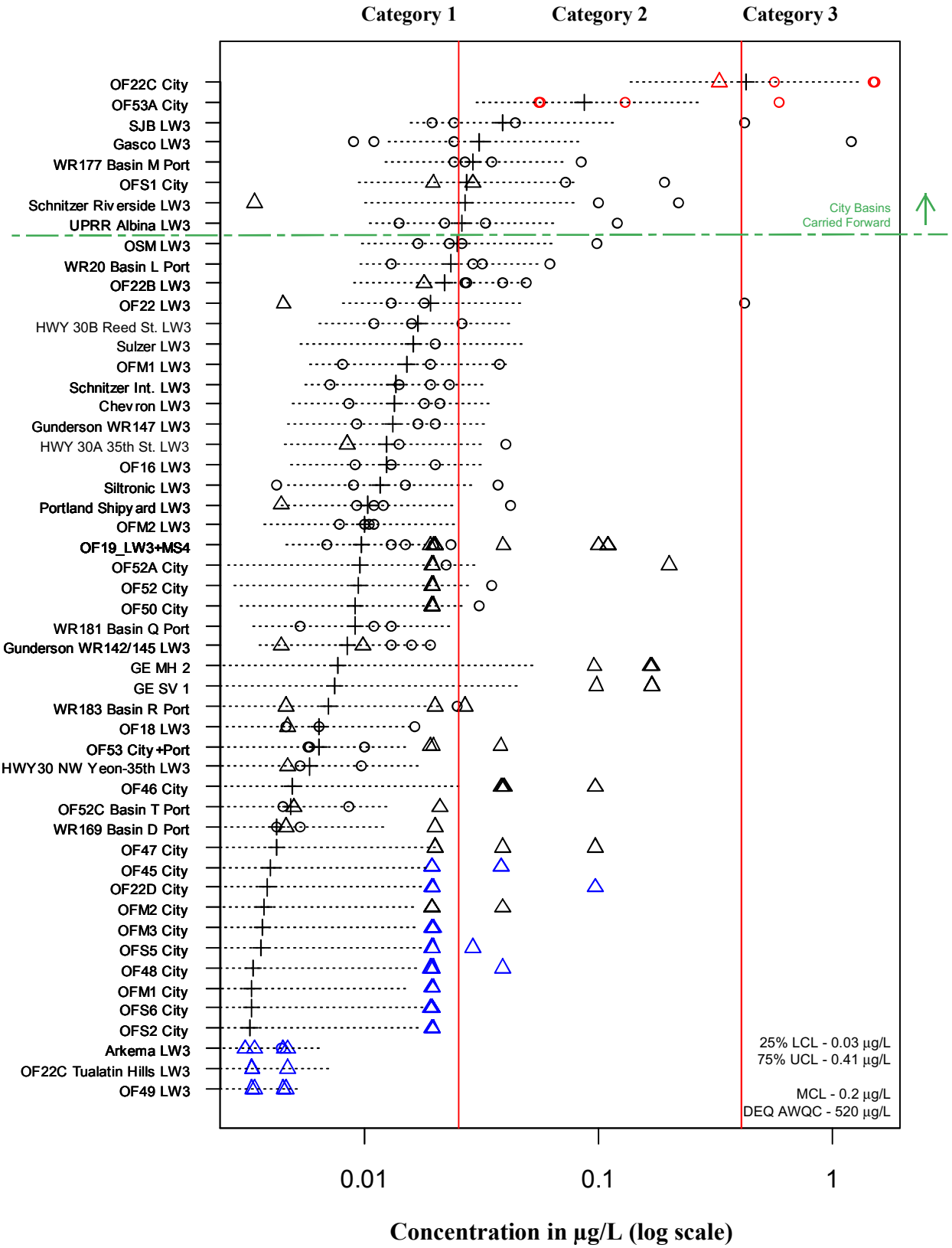
Finite Mixture Model Plots
(Graphical Presentation of Harborwide Statistical Analysis Results)

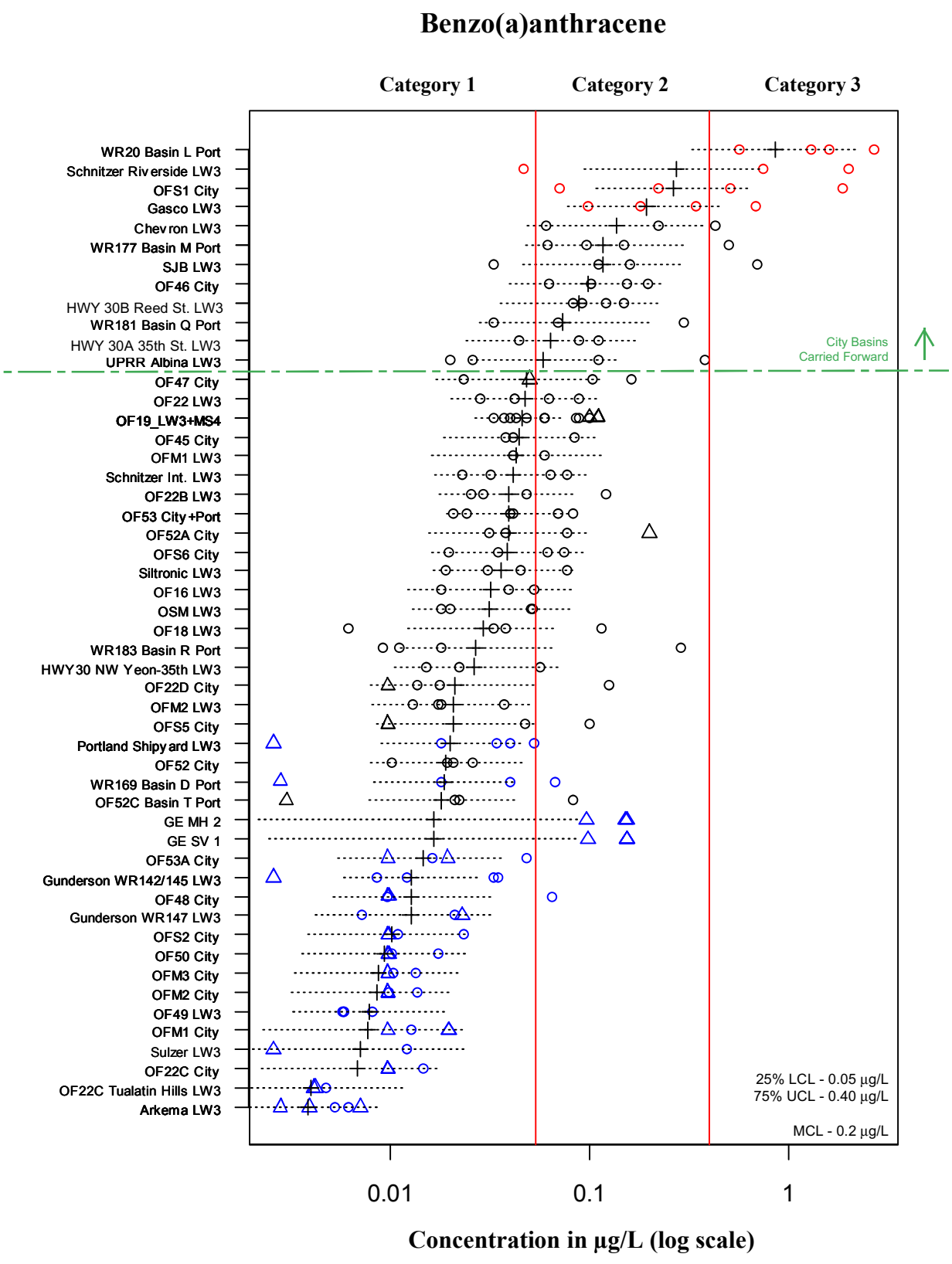
Total PCBs

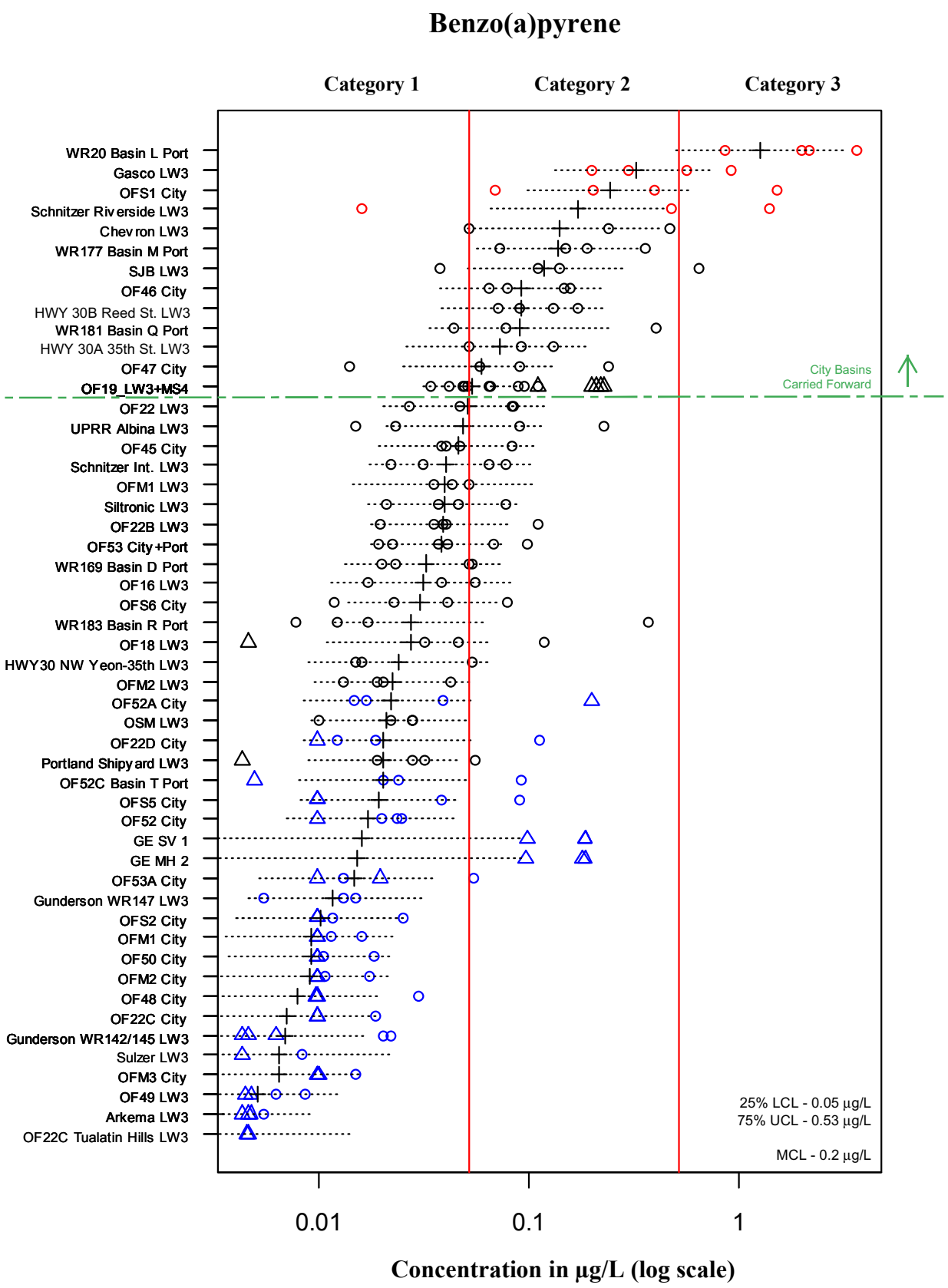

Category 1
Category 2
Category 3
Schnitzer Riverside LW3
Gunderson WR147 LW3
OSM LW3
Schnitzer Int. LW3
WR177 Basin M Port
WR20 Basin L Port
OF16 LW3
WR183 Basin R Port
OF22B LW3
GE MH 2
SJB LW3
OF18 LW3
Portland Shipyard LW3
WR181 Basin Q Port
OF52 City
OF53 City+Port
OF52C Basin T Port
HWY 30B Reed St. LW3
OF53A City
Sulzer LW3
OF19_LW3+MS4
UPRR Albina LW3
OFM1 City
OF45 City
HWY 30A 35th St. LW3
OF22 LW3
HWY30 NW Yeon-35th LW3
GE SV 1
OFM1 LW3
WR169 Basin D Port
Arkema LW3
OF46 City
OF47 City
OFS1 City
OF52A City
OFM2 LW3
OFS2 City
OFS6 City
OFM2 City
Chevron LW3
OF50 City
Gunderson WR142/145 LW3
OF22D City
OFS5 City
Gasco LW3
OFM3 City
OF48 City
OF49 LW3
Siltronic LW3
OF22C City
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.02 µg/L
75% UCL - 0.22 µg/L
MCL - 0.5 µg/L
EPA AWQC - 0.014 µg/L
0.0001
0.001
0.01
0.1
1
10
Concentration in µg/L (log scale)


Total PAHs
Category 1
Category 2
Category 3
WR20 Basin L Port
OFS1 City
Gasco LW3
Schnitzer Riverside LW3
Chevron LW3
SJB LW3
HWY 30B Reed St. LW3
WR177 Basin M Port
OF46 City
OF22B LW3
WR181 Basin Q Port
HWY 30A 35th St. LW3
OF22 LW3
OF47 City
UPRR Albina LW3
OFM1 LW3
OF52A City
OF45 City
OF22C City
Schnitzer Int. LW3
OFS6 City
OF16 LW3
OSM LW3
OF53 City+Port
WR183 Basin R Port
OF53A City
Siltronic LW3
City Basins
Carried Forward
WR169 Basin D Port
OF52C Basin T Port
Gunderson WR142/145 LW3
Portland Shipyard LW3
HWY30 NW Yeon-35th LW3
OF18 LW3
Gunderson WR147 LW3
OFM2 LW3
OF19_LW3+MS4
OFS5 City
Sulzer LW3
OF52 City
OF22D City
OFM1 City
OFM3 City
OFM2 City
OFS2 City
OF48 City
OF49 LW3
OF50 City
Arkema LW3
GE SV 1
GE MH 2
OF22C Tualatin Hills LW3
25% LCL - 0.57 µg/L
75% UCL - 3.44 µg/L
0.01
0.1
1
10
Concentration in µg/L (log scale)

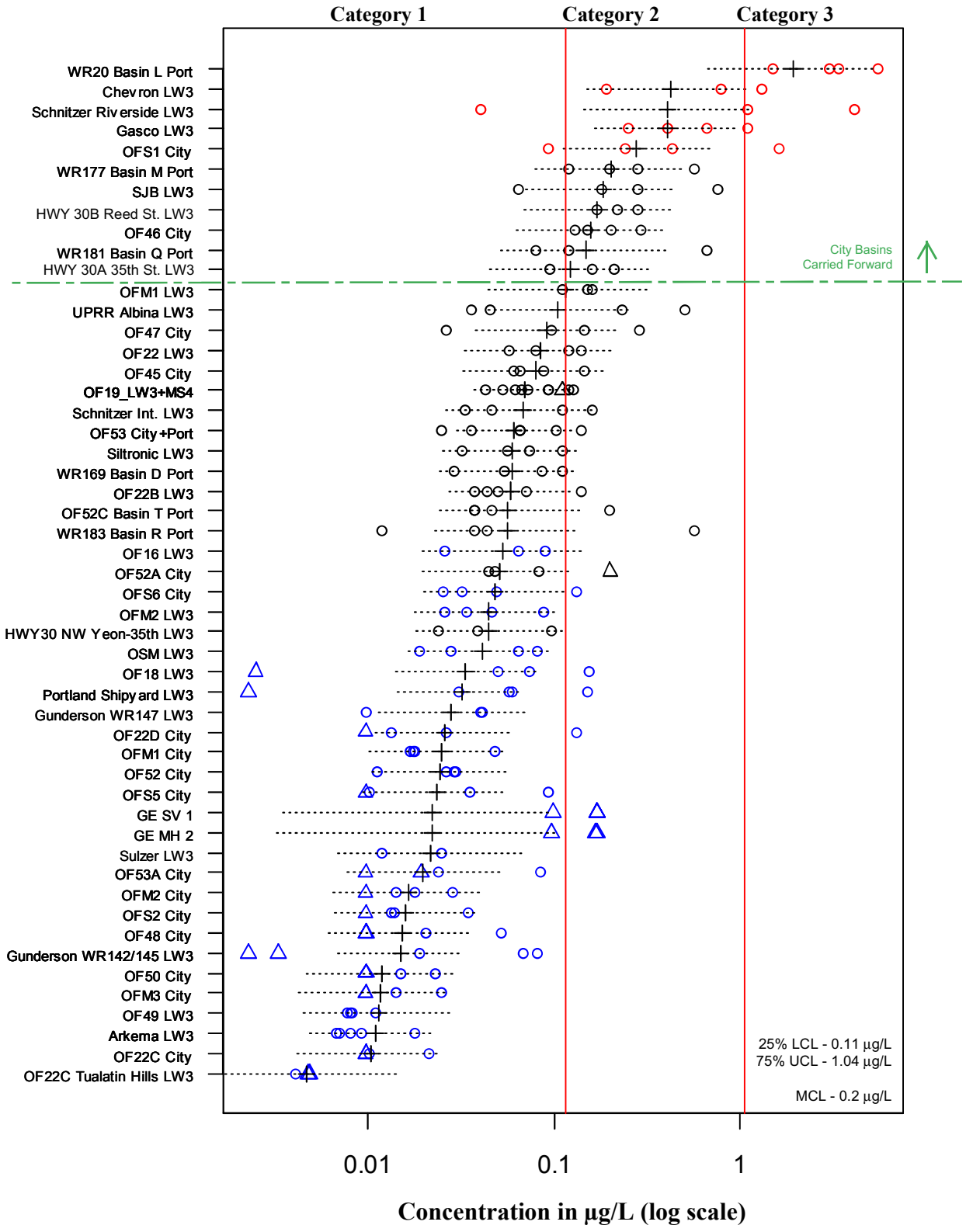
Acenaphthene

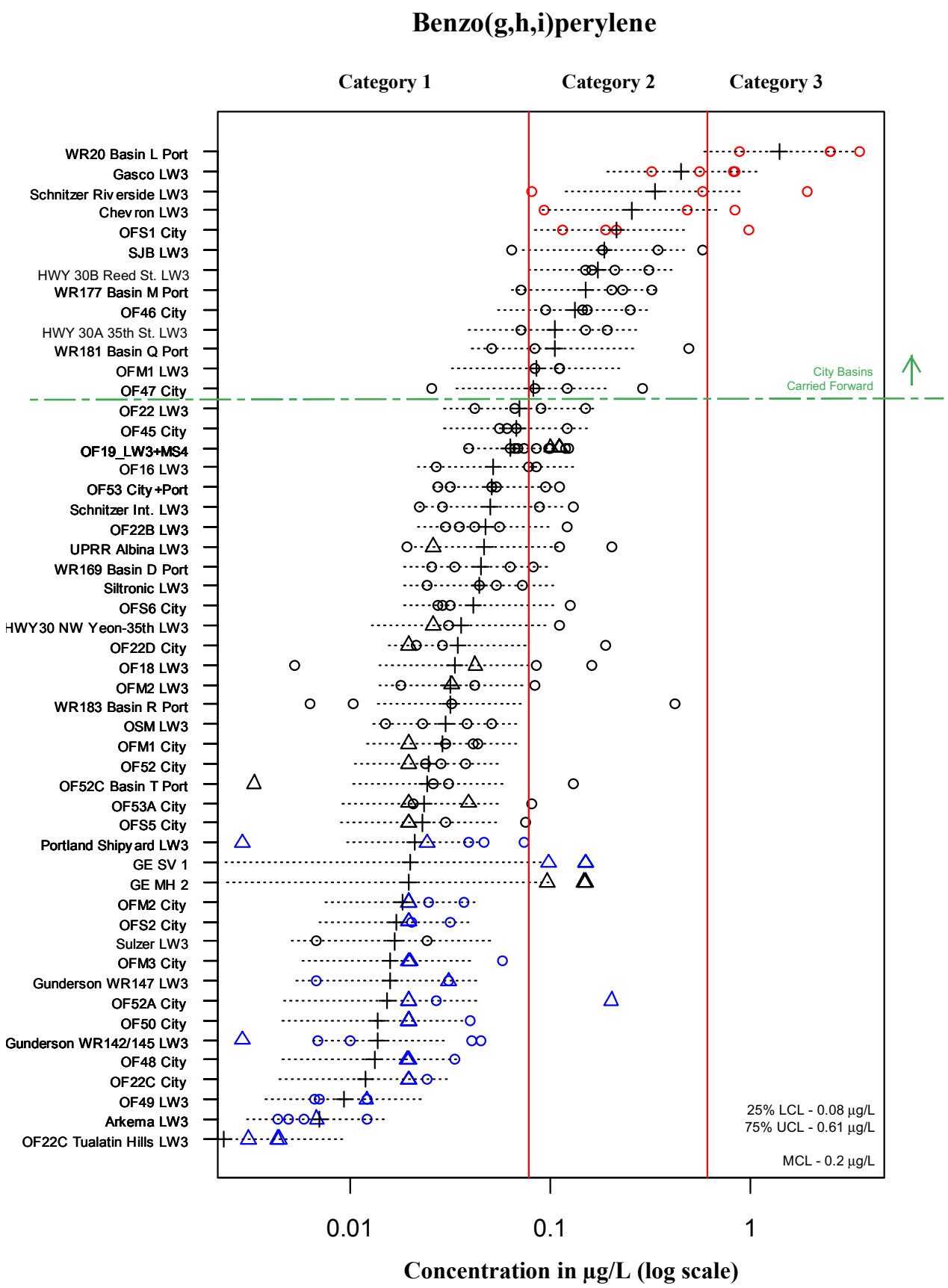


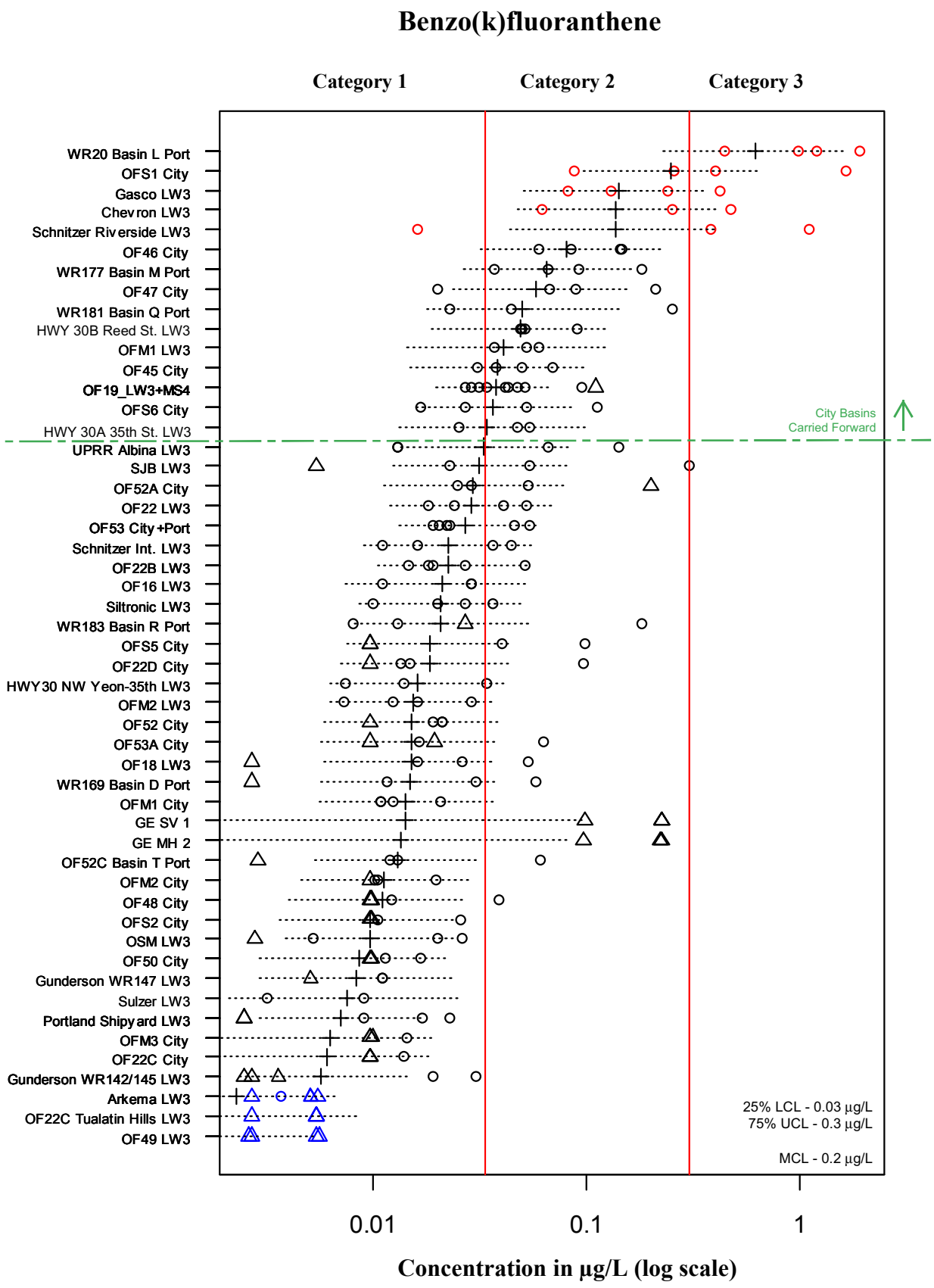

Benzo(a)anthracene
Category 1
Category 2
Category 3
WR20 Basin L Port
Schnitzer Riverside LW3
OFS1 City
Gasco LW3
Chevron LW3
WR177 Basin M Port
SJB LW3
OF46 City
HWY 30B Reed St. LW3
WR181 Basin Q Port
HWY 30A 35th St. LW3
UPRR Albina LW3
OF47 City
OF22 LW3
OF19_LW3+MS4
OF45 City
OFM1 LW3
Schnitzer Int. LW3
OF22B LW3
OF53 City+Port
OF52A City
OFS6 City
Siltronic LW3
OF16 LW3
OSM LW3
OF18 LW3
WR183 Basin R Port
HWY30 NW Yeon-35th LW3
OF22D City
OFM2 LW3
OFS5 City
Portland Shipyard LW3
OF52 City
WR169 Basin D Port
OF52C Basin T Port
GE MH 2
GE SV 1
OF53A City
Gunderson WR142/145 LW3
OF48 City
Gunderson WR147 LW3
OFS2 City
OF50 City
OFM3 City
OFM2 City
OF49 LW3
OFM1 City
Sulzer LW3
OF22C City
OF22C Tualatin Hills LW3
Arkema LW3
City Basins
Carried Forward
25% LCL - 0.05 µg/L
75% UCL - 0.40 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

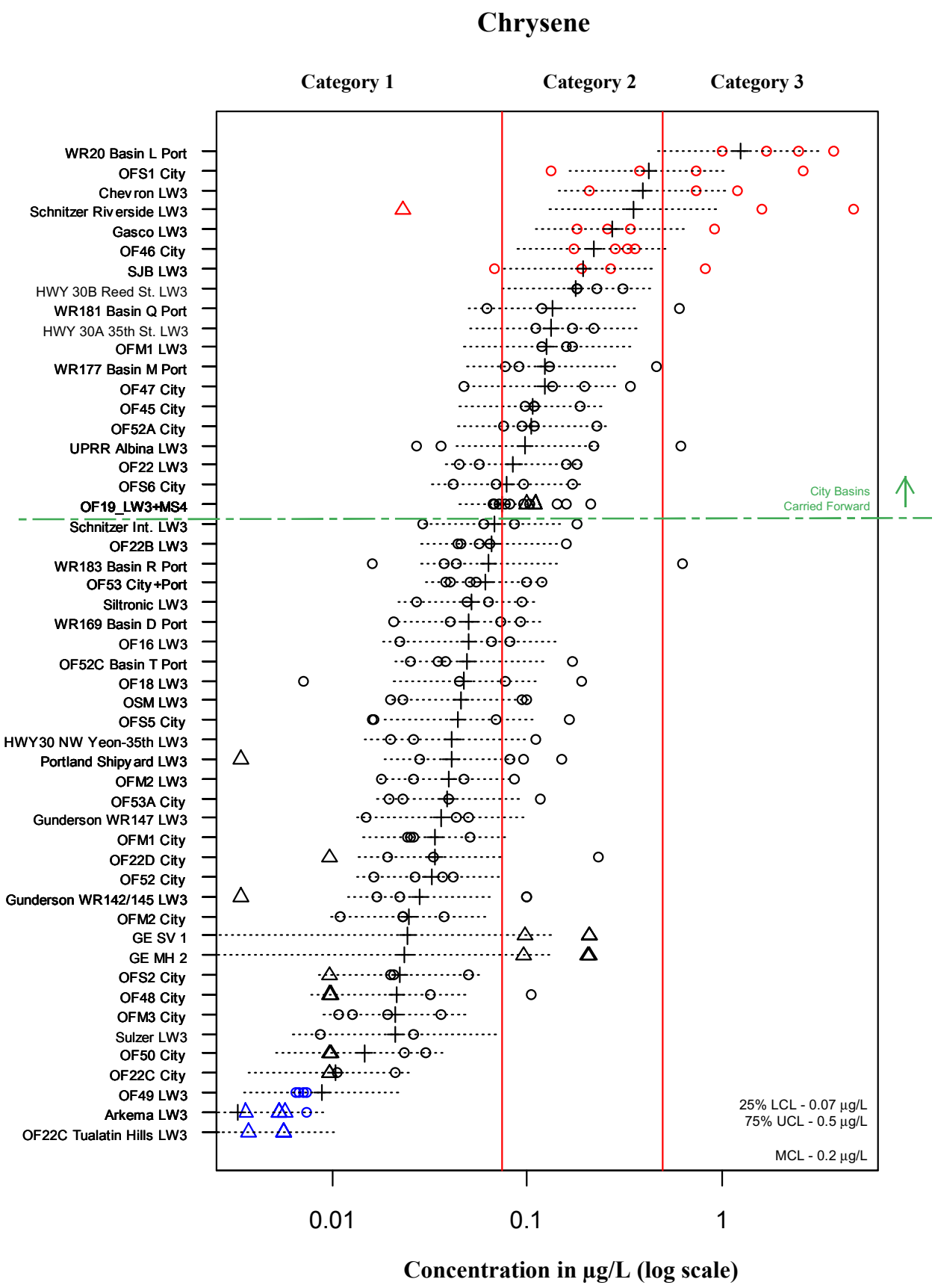

Benzo(a)pyrene
Category 1
Category 2
Category 3
WR20 Basin L Port
Gasco LW3
OFS1 City
Schnitzer Riverside LW3
Chevron LW3
WR177 Basin M Port
SJB LW3
OF46 City
HWY 30B Reed St. LW3
WR181 Basin Q Port
HWY 30A 35th St. LW3
OF47 City
OF19_LW3+MS4
OF22 LW3
UPRR Albina LW3
OF45 City
Schnitzer Int. LW3
OFM1 LW3
Siltronic LW3
OF22B LW3
OF53 City+Port
WR169 Basin D Port
OF16 LW3
OFS6 City
WR183 Basin R Port
OF18 LW3
HWY30 NW Yeon-35th LW3
OFM2 LW3
OF52A City
OSM LW3
OF22D City
Portland Shipyard LW3
OF52C Basin T Port
OFS5 City
OF52 City
GE SV 1
GE MH 2
OF53A City
Gunderson WR147 LW3
OFS2 City
OFM1 City
OF50 City
OFM2 City
OF48 City
OF22C City
Gunderson WR142/145 LW3
Sulzer LW3
OFM3 City
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.05 µg/L
75% UCL - 0.53 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

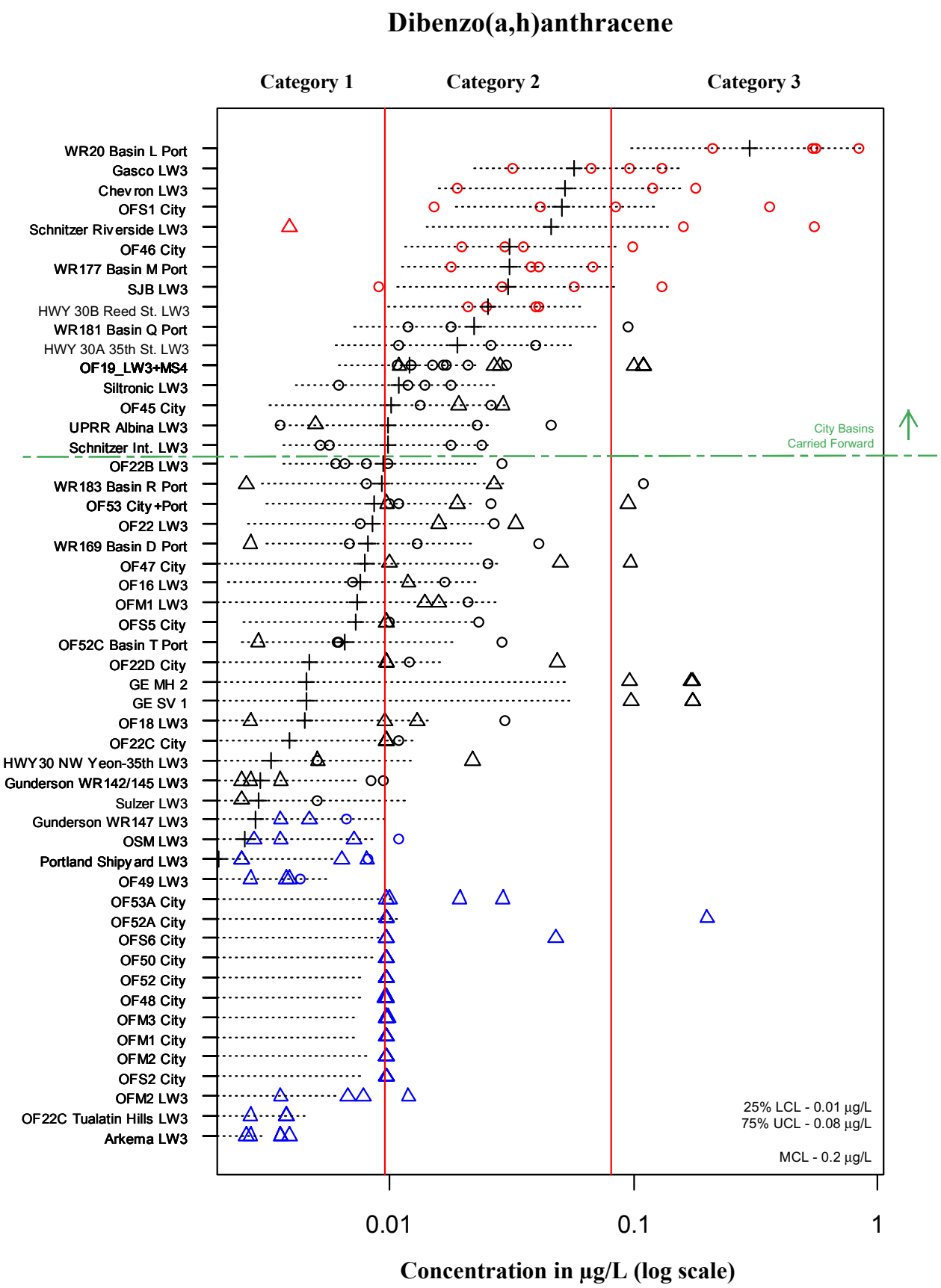
Benzo(b)fluoranthene

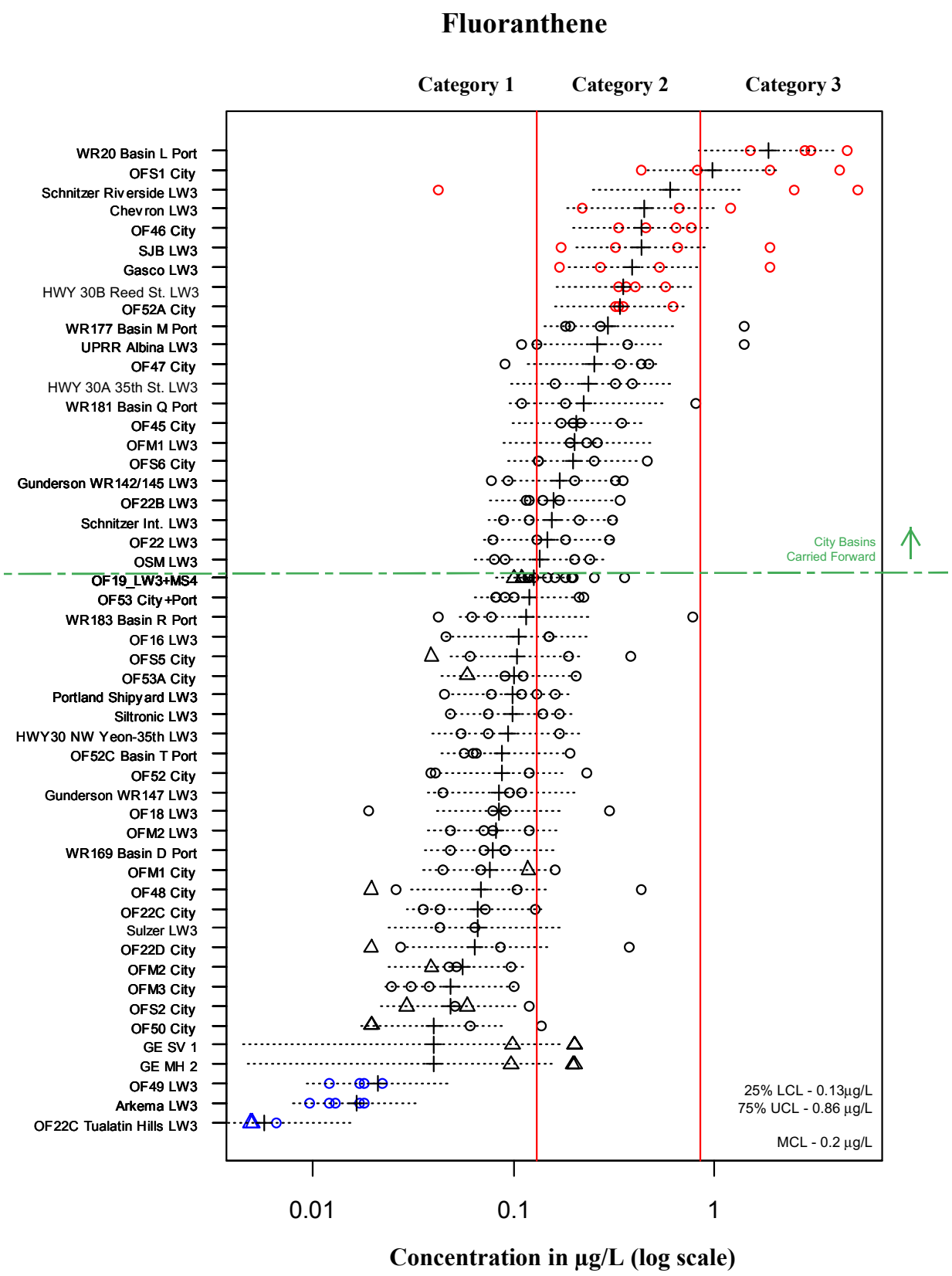


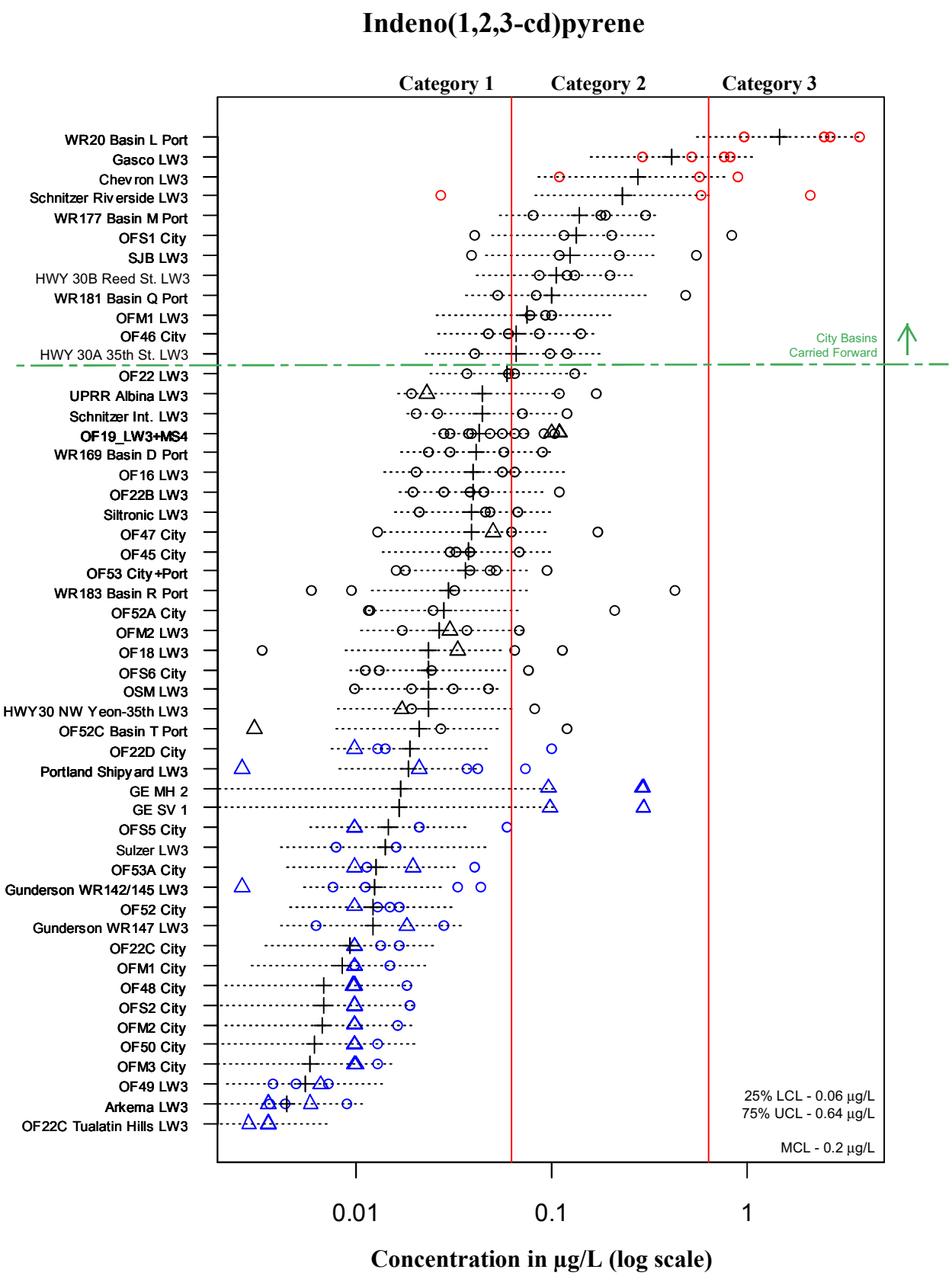

Benzo(g,h,i)perylene
Category 1
Category 2
Category 3
WR20 Basin L Port
Gasco LW3
Schnitzer Riverside LW3
Chevron LW3
OFS1 City
SJB LW3
HWY 30B Reed St. LW3
WR177 Basin M Port
OF46 City
HWY 30A 35th St. LW3
WR181 Basin Q Port
OFM1 LW3
OF47 City
OF22 LW3
OF45 City
OF19_LW3+MS4
OF16 LW3
OF53 City+Port
Schnitzer Int. LW3
OF22B LW3
UPRR Albina LW3
WR169 Basin D Port
Siltronic LW3
OFS6 City
HWY30 NW Yeon-35th LW3
OF22D City
OF18 LW3
OFM2 LW3
WR183 Basin R Port
OSM LW3
OFM1 City
OF52 City
OF52C Basin T Port
OF53A City
OFS5 City
Portland Shipyard LW3
GE SV 1
GE MH 2
OFM2 City
OFS2 City
Sulzer LW3
OFM3 City
Gunderson WR147 LW3
OF52A City
OF50 City
Gunderson WR142/145 LW3
OF48 City
OF22C City
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.08 µg/L
75% UCL - 0.61 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

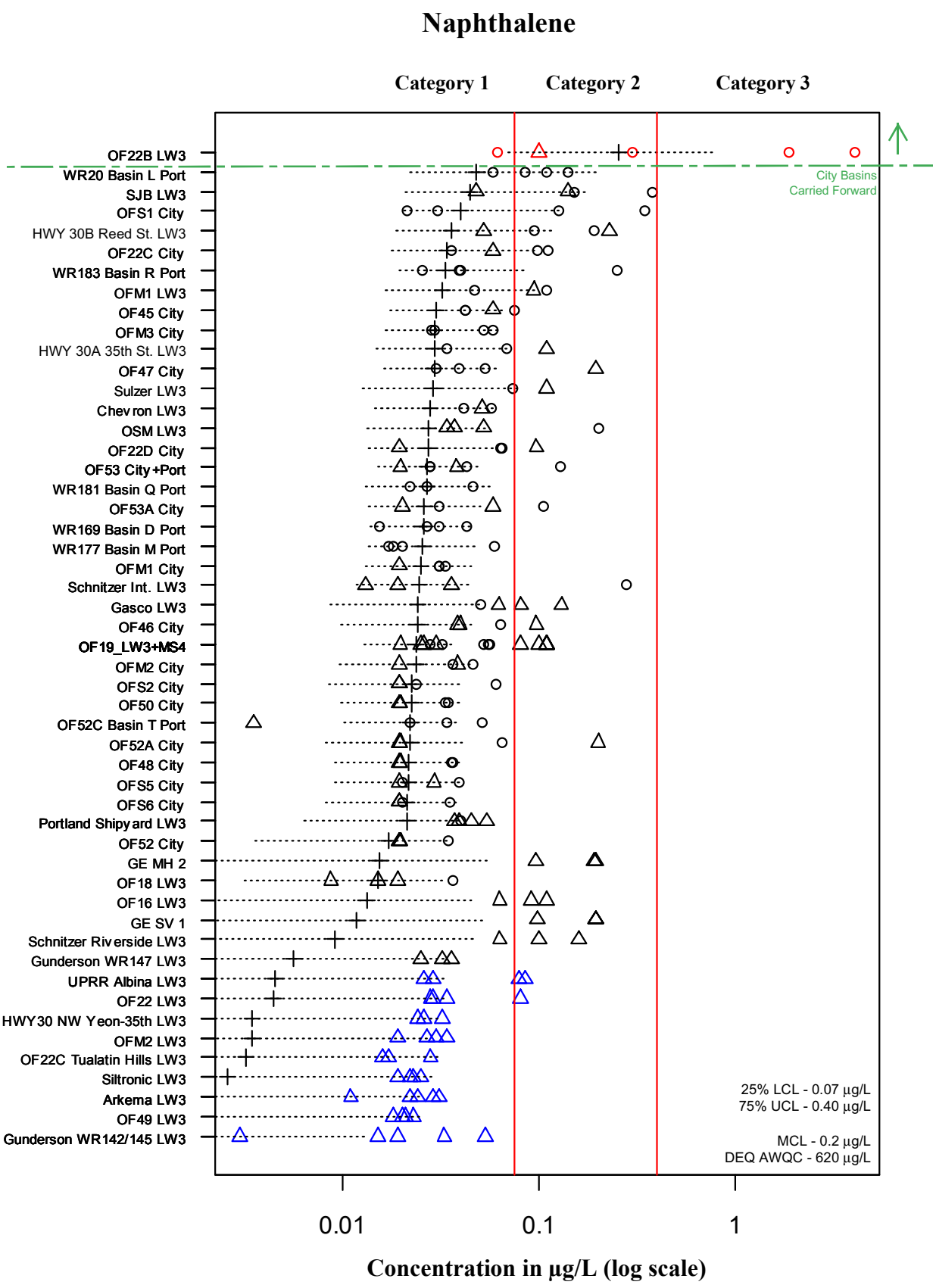

Benzo(k)fluoranthene
Category 1
Category 2
Category 3
WR20 Basin L Port
OFS1 City
Gasco LW3
Chevron LW3
Schnitzer Riverside LW3
OF46 City
WR177 Basin M Port
OF47 City
WR181 Basin Q Port
HWY 30B Reed St. LW3
OFM1 LW3
OF45 City
OF19_LW3+MS4
OFS6 City
HWY 30A 35th St. LW3
UPRR Albina LW3
SJB LW3
OF52A City
OF22 LW3
OF53 City+Port
Schnitzer Int. LW3
OF22B LW3
OF16 LW3
Siltronic LW3
WR183 Basin R Port
OFS5 City
OF22D City
HWY30 NW Yeon-35th LW3
OFM2 LW3
OF52 City
OF53A City
OF18 LW3
WR169 Basin D Port
OFM1 City
GE SV 1
GE MH 2
OF52C Basin T Port
OFM2 City
OF48 City
OFS2 City
OSM LW3
OF50 City
Gunderson WR147 LW3
Sulzer LW3
Portland Shipyard LW3
OFM3 City
OF22C City
Gunderson WR142/145 LW3
Arkema LW3
OF22C Tualatin Hills LW3
OF49 LW3
City Basins
Carried Forward
25% LCL - 0.03 µg/L
75% UCL - 0.3 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

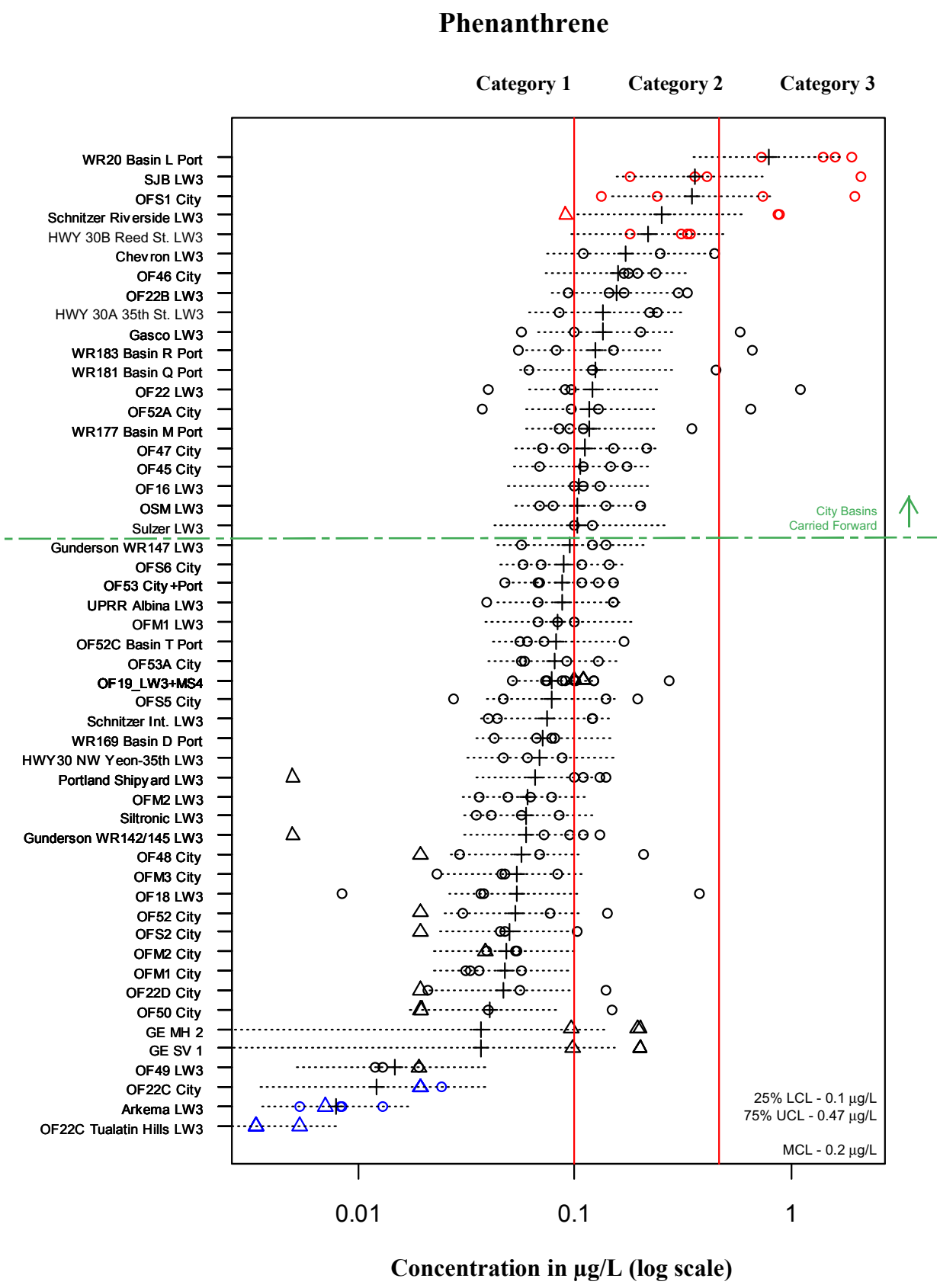

Chrysene
Category 1
Category 2
Category 3
WR20 Basin L Port
OFS1 City
Chevron LW3
Schnitzer Riverside LW3
Gasco LW3
OF46 City
SJB LW3
HWY 30B Reed St. LW3
WR181 Basin Q Port
HWY 30A 35th St. LW3
OFM1 LW3
WR177 Basin M Port
OF47 City
OF45 City
OF52A City
UPRR Albina LW3
OF22 LW3
OFS6 City
OF19_LW3+MS4
City Basins Carried Forward
Schnitzer Int. LW3
OF22B LW3
WR183 Basin R Port
OF53 City+Port
Siltronic LW3
WR169 Basin D Port
OF16 LW3
OF52C Basin T Port
OF18 LW3
OSM LW3
OFS5 City
HWY30 NW Yeon-35th LW3
Portland Shipyard LW3
OFM2 LW3
OF53A City
Gunderson WR147 LW3
OFM1 City
OF22D City
OF52 City
Gunderson WR142/145 LW3
OFM2 City
GE SV 1
GE MH 2
OFS2 City
OF48 City
OFM3 City
Sulzer LW3
OF50 City
OF22C City
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
25% LCL - 0.07 µg/L
75% UCL - 0.5 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)


Dibenzo(a,h)anthracene
Category 1
Category 2
Category 3
WR20 Basin L Port
Gasco LW3
Chevron LW3
OFS1 City
Schnitzer Riverside LW3
OF46 City
WR177 Basin M Port
SJB LW3
HWY 30B Reed St. LW3
WR181 Basin Q Port
HWY 30A 35th St. LW3
OF19_LW3+MS4
Siltronic LW3
OF45 City
UPRR Albina LW3
Schnitzer Int. LW3
City Basins Carried Forward
OF22B LW3
WR183 Basin R Port
OF53 City+Port
OF22 LW3
WR169 Basin D Port
OF47 City
OF16 LW3
OFM1 LW3
OFS5 City
OF52C Basin T Port
OF22D City
GE MH 2
GE SV 1
OF18 LW3
OF22C City
HWY30 NW Yeon-35th LW3
Gunderson WR142/145 LW3
Sulzer LW3
Gunderson WR147 LW3
OSM LW3
Portland Shipyard LW3
OF49 LW3
OF53A City
OF52A City
OFS6 City
OF50 City
OF52 City
OF48 City
OFM3 City
OFM1 City
OFM2 City
OFS2 City
OFM2 LW3
OF22C Tualatin Hills LW3
Arkema LW3
25% LCL - 0.01 µg/L
75% UCL - 0.08 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

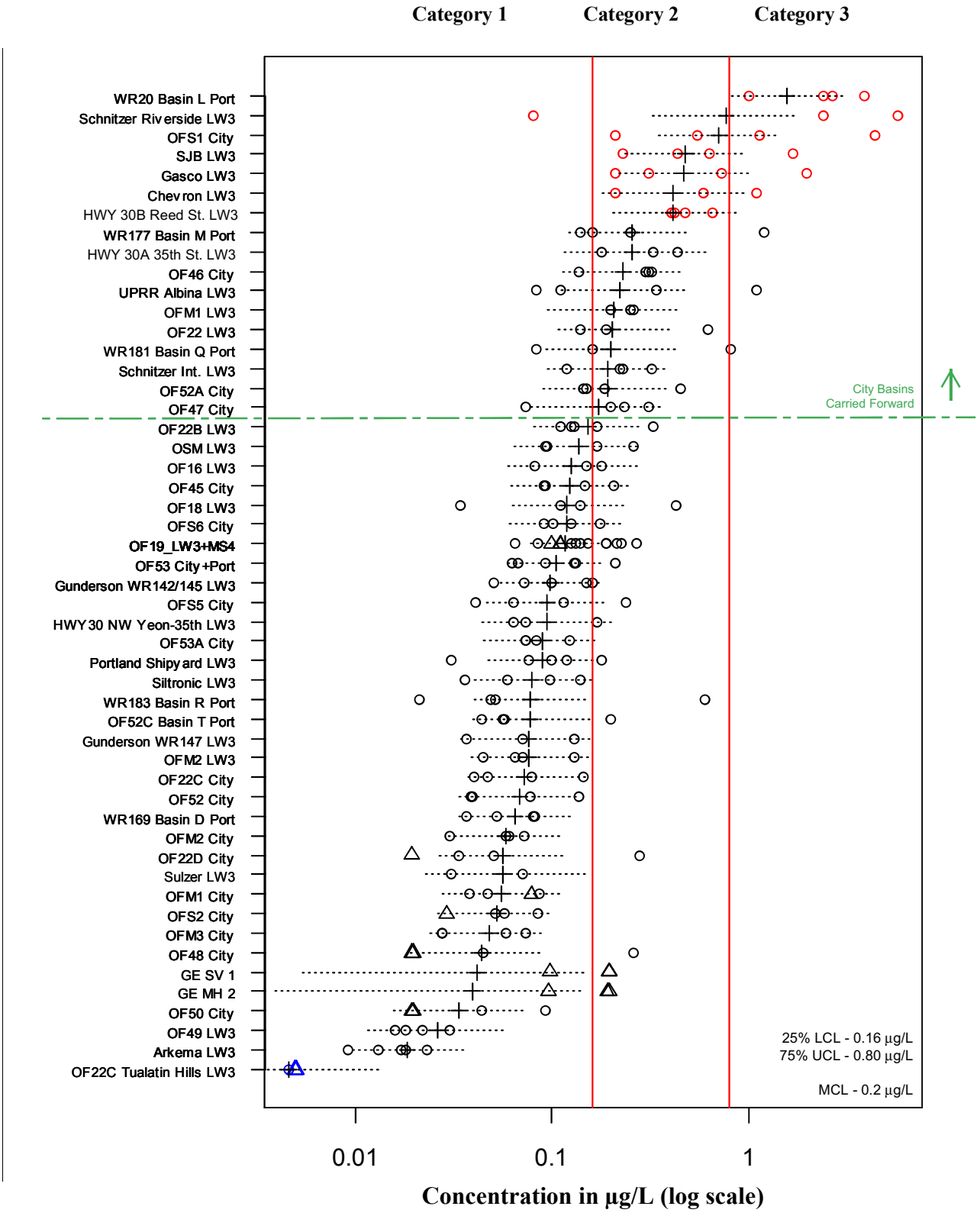

Fluoranthene
Category 1
Category 2
Category 3
WR20 Basin L Port
OFS1 City
Schnitzer Riverside LW3
Chevron LW3
OF46 City
SJB LW3
Gasco LW3
HWY 30B Reed St. LW3
OF52A City
WR177 Basin M Port
UPRR Albina LW3
OF47 City
HWY 30A 35th St. LW3
WR181 Basin Q Port
OF45 City
OFM1 LW3
OFS6 City
Gunderson WR142/145 LW3
OF22B LW3
Schnitzer Int. LW3
OF22 LW3
OSM LW3
OF19_LW3+MS4
OF53 City+Port
WR183 Basin R Port
OF16 LW3
OFS5 City
OF53A City
Portland Shipyard LW3
Siltronic LW3
HWY30 NW Yeon-35th LW3
OF52C Basin T Port
OF52 City
Gunderson WR147 LW3
OF18 LW3
OFM2 LW3
WR169 Basin D Port
OFM1 City
OF48 City
OF22C City
Sulzer LW3
OF22D City
OFM2 City
OFM3 City
OFS2 City
OF50 City
GE SV 1
GE MH 2
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.13µg/L
75% UCL - 0.86 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

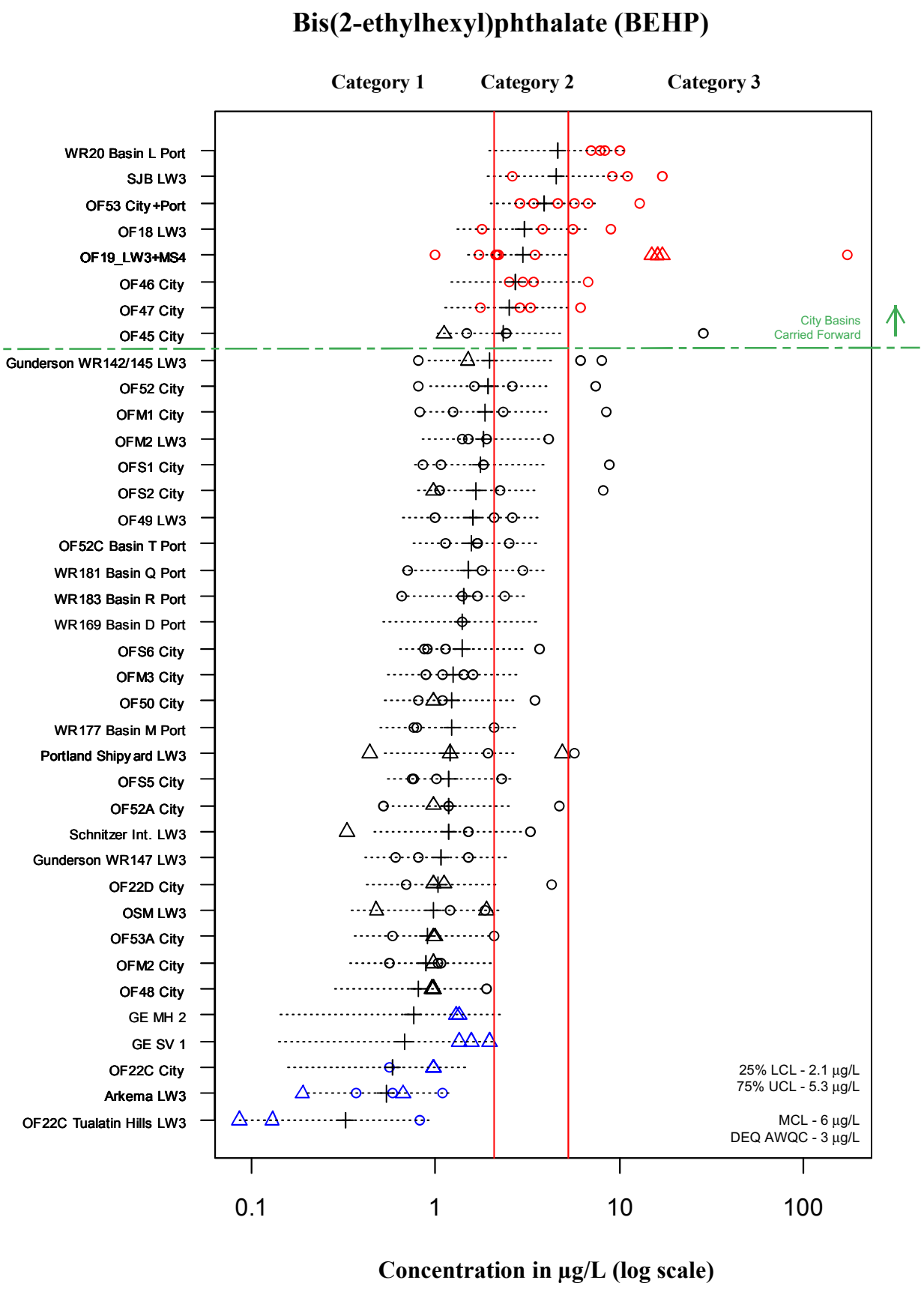

Indeno(1,2,3-cd)pyrene
Category 1
Category 2
Category 3
WR20 Basin L Port
Gasco LW3
Chevron LW3
Schnitzer Riverside LW3
WR177 Basin M Port
OFS1 City
SJB LW3
HWY 30B Reed St. LW3
WR181 Basin Q Port
OFM1 LW3
OF46 City
HWY 30A 35th St. LW3
City Basins
Carried Forward
OF22 LW3
UPRR Albina LW3
Schnitzer Int. LW3
OF19_LW3+MS4
WR169 Basin D Port
OF16 LW3
OF22B LW3
Siltronic LW3
OF47 City
OF45 City
OF53 City+Port
WR183 Basin R Port
OF52A City
OFM2 LW3
OF18 LW3
OFS6 City
OSM LW3
HWY30 NW Yeon-35th LW3
OF52C Basin T Port
OF22D City
Portland Shipyard LW3
GE MH 2
GE SV 1
OFS5 City
Sulzer LW3
OF53A City
Gunderson WR142/145 LW3
OF52 City
Gunderson WR147 LW3
OF22C City
OFM1 City
OF48 City
OFS2 City
OFM2 City
OF50 City
OFM3 City
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
25% LCL - 0.06 µg/L
75% UCL - 0.64 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)


Naphthalene
Category 1
Category 2
Category 3
OF22B LW3
WR20 Basin L Port
SJB LW3
OFS1 City
HWY 30B Reed St. LW3
OF22C City
WR183 Basin R Port
OFM1 LW3
OF45 City
OFM3 City
HWY 30A 35th St. LW3
OF47 City
Sulzer LW3
Chevron LW3
OSM LW3
OF22D City
OF53 City+Port
WR181 Basin Q Port
OF53A City
WR169 Basin D Port
WR177 Basin M Port
OFM1 City
Schnitzer Int. LW3
Gasco LW3
OF46 City
OF19_LW3+MS4
OFM2 City
OFS2 City
OF50 City
OF52C Basin T Port
OF52A City
OF48 City
OFS5 City
OFS6 City
Portland Shipyard LW3
OF52 City
GE MH 2
OF18 LW3
OF16 LW3
GE SV 1
Schnitzer Riverside LW3
Gunderson WR147 LW3
UPRR Albina LW3
OF22 LW3
HWY30 NW Yeon-35th LW3
OFM2 LW3
OF22C Tualatin Hills LW3
Siltronic LW3
Arkema LW3
OF49 LW3
Gunderson WR142/145 LW3
City Basins
Carried Forward
25% LCL - 0.07 µg/L
75% UCL - 0.40 µg/L
MCL - 0.2 µg/L
DEQ AWQC - 620 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

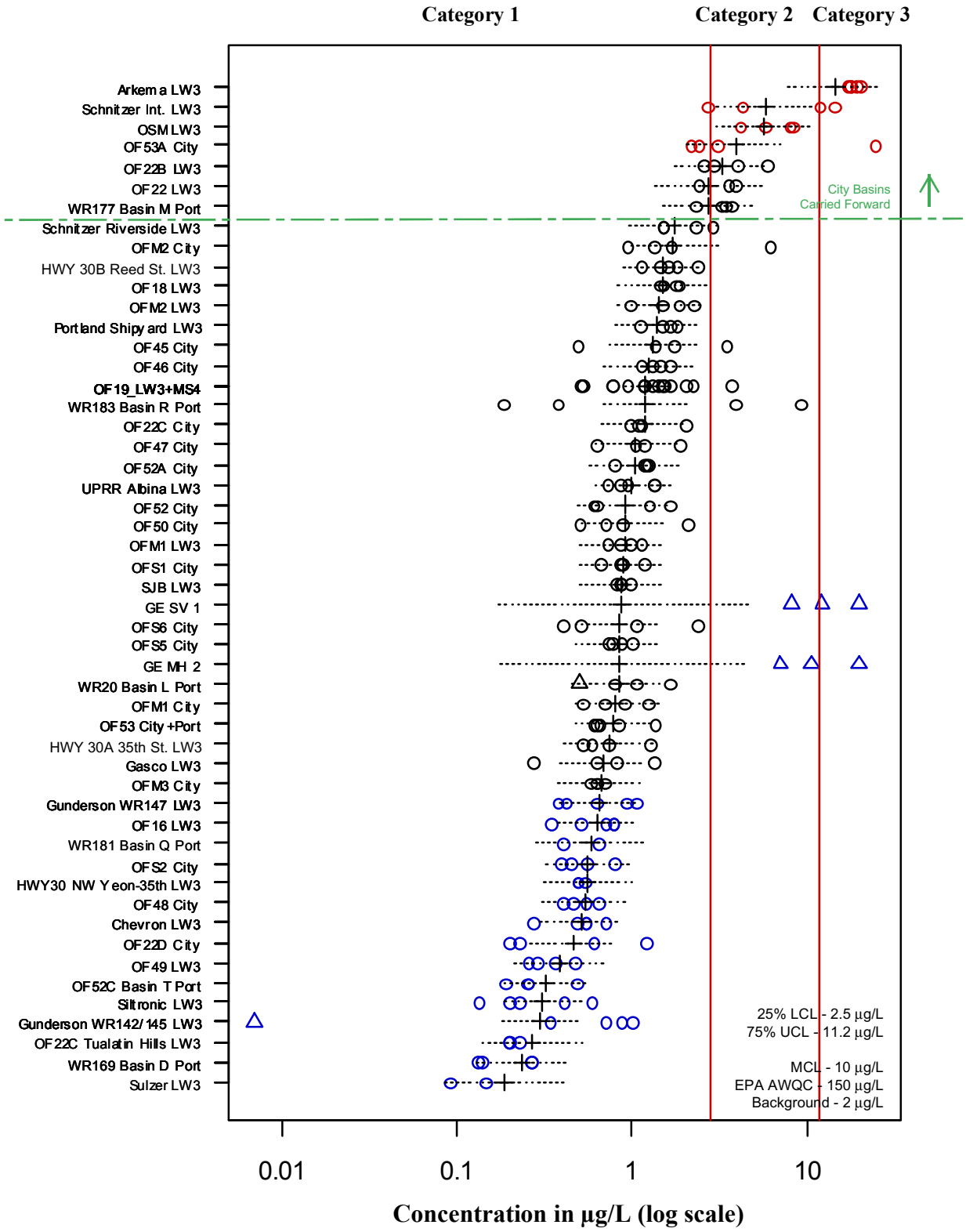

Phenanthrene
Category 1
Category 2
Category 3
WR20 Basin L Port
SJB LW3
OFS1 City
Schnitzer Riverside LW3
HWY 30B Reed St. LW3
Chevron LW3
OF46 City
OF22B LW3
HWY 30A 35th St. LW3
Gasco LW3
WR183 Basin R Port
WR181 Basin Q Port
OF22 LW3
OF52A City
WR177 Basin M Port
OF47 City
OF45 City
OF16 LW3
OSM LW3
Sulzer LW3
City Basins
Carried Forward
Gunderson WR147 LW3
OFS6 City
OF53 City+Port
UPRR Albina LW3
OFM1 LW3
OF52C Basin T Port
OF53A City
OF19_LW3+MS4
OFS5 City
Schnitzer Int. LW3
WR169 Basin D Port
HWY30 NW Yeon-35th LW3
Portland Shipyard LW3
OFM2 LW3
Siltronic LW3
Gunderson WR142/145 LW3
OF48 City
OFM3 City
OF18 LW3
OF52 City
OFS2 City
OFM2 City
OFM1 City
OF22D City
OF50 City
GE MH 2
GE SV 1
OF49 LW3
OF22C City
Arkema LW3
OF22C Tualatin Hills LW3
25% LCL - 0.1 µg/L
75% UCL - 0.47 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

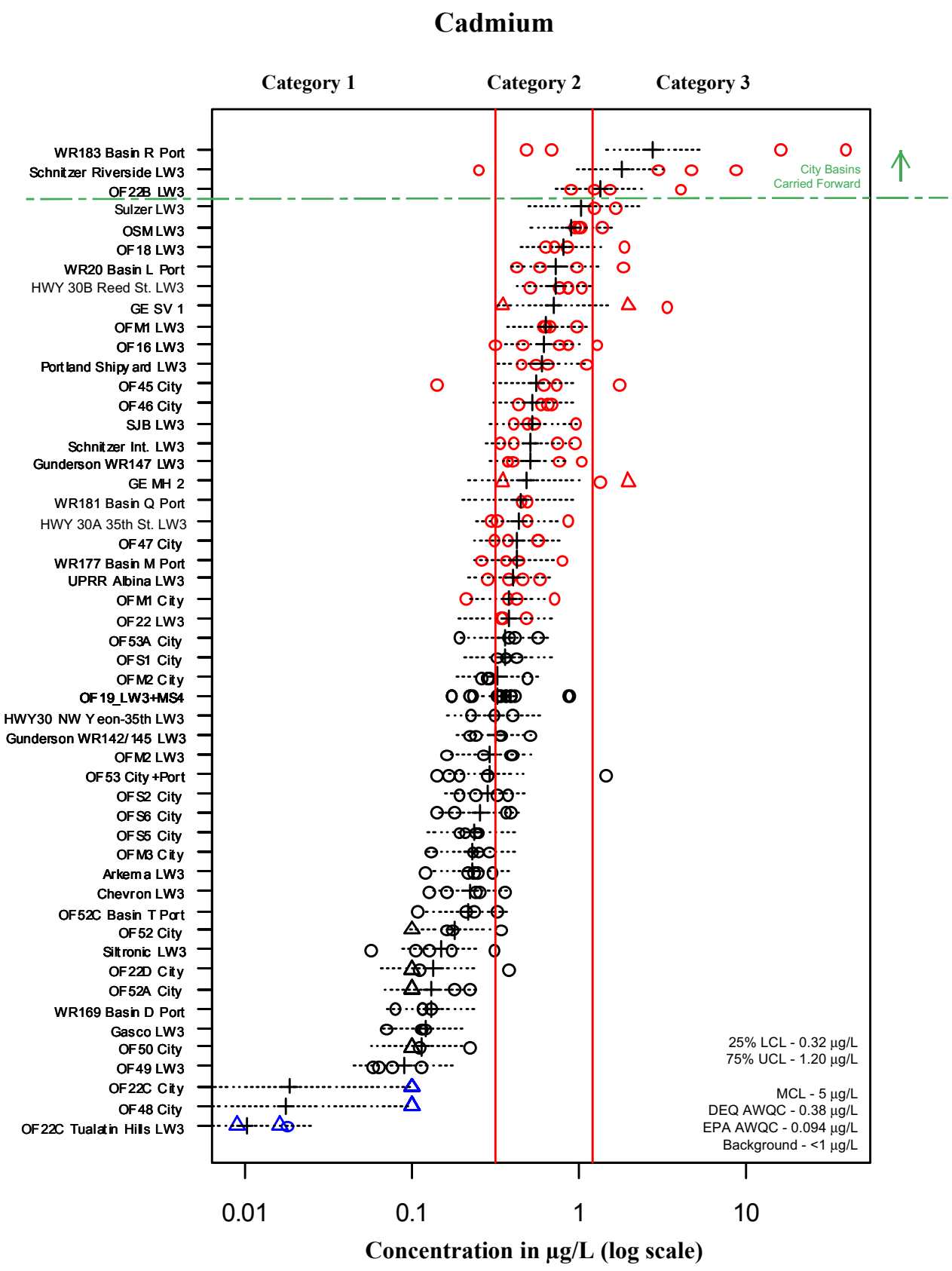
Pyrene

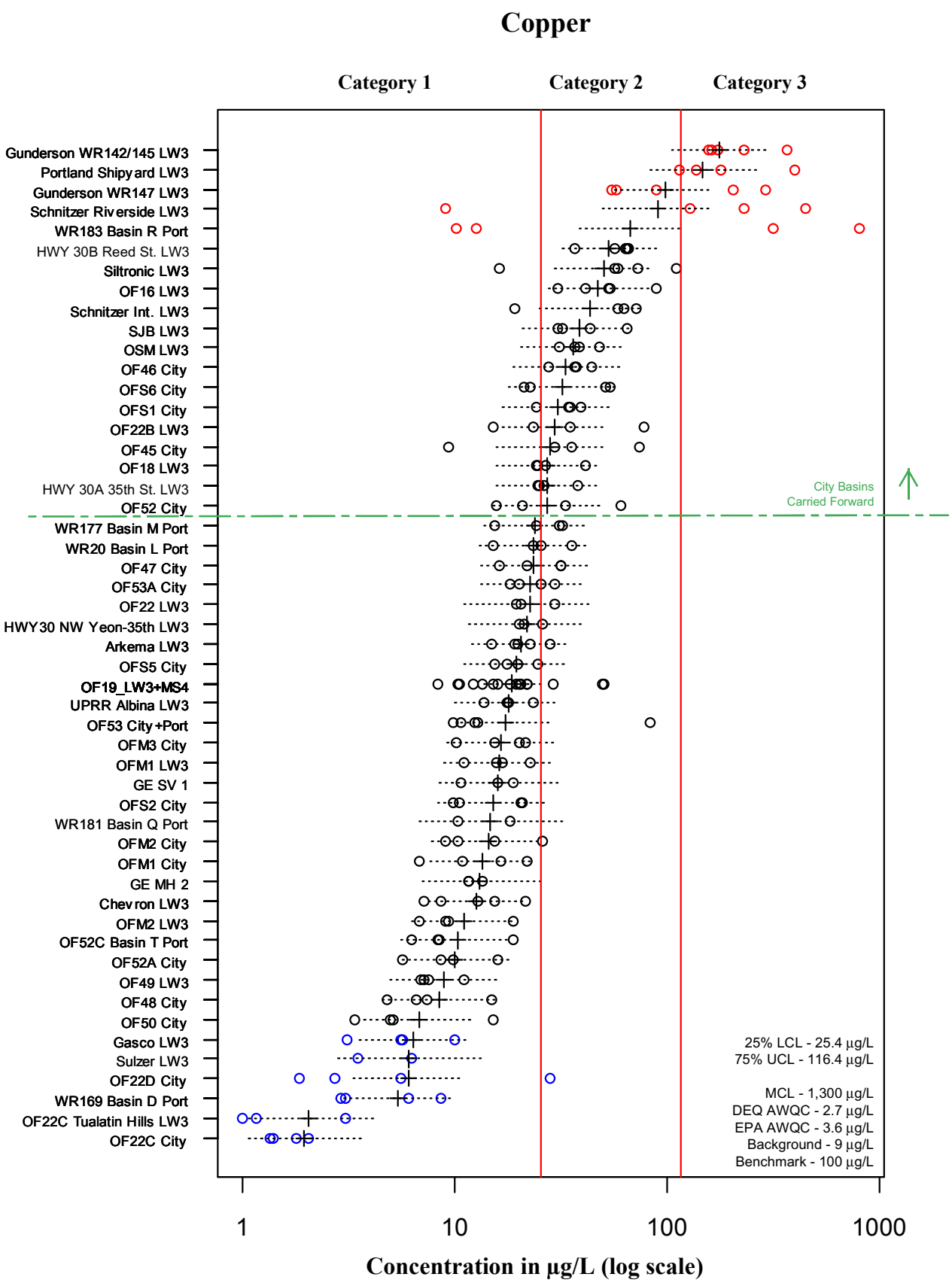

Category 1
Category 2
Category 3
WR20 Basin L Port
Schnitzer Riverside LW3
OFS1 City
SJB LW3
Gasco LW3
Chevron LW3
HWY 30B Reed St. LW3
WR177 Basin M Port
HWY 30A 35th St. LW3
OF46 City
UPRR Albina LW3
OFM1 LW3
OF22 LW3
WR181 Basin Q Port
Schnitzer Int. LW3
OF52A City
OF47 City
OF22B LW3
OSM LW3
OF16 LW3
OF45 City
OF18 LW3
OFS6 City
OF19_LW3+MS4
OF53 City+Port
Gunderson WR142/145 LW3
OFS5 City
HWY30 NW Yeon-35th LW3
OF53A City
Portland Shipyard LW3
Siltronic LW3
WR183 Basin R Port
OF52C Basin T Port
Gunderson WR147 LW3
OFM2 LW3
OF22C City
OF52 City
WR169 Basin D Port
OFM2 City
OF22D City
Sulzer LW3
OFM1 City
OFS2 City
OFM3 City
OF48 City
GE SV 1
GE MH 2
OF50 City
OF49 LW3
Arkema LW3
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.16 µg/L
75% UCL - 0.80 µg/L
MCL - 0.2 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

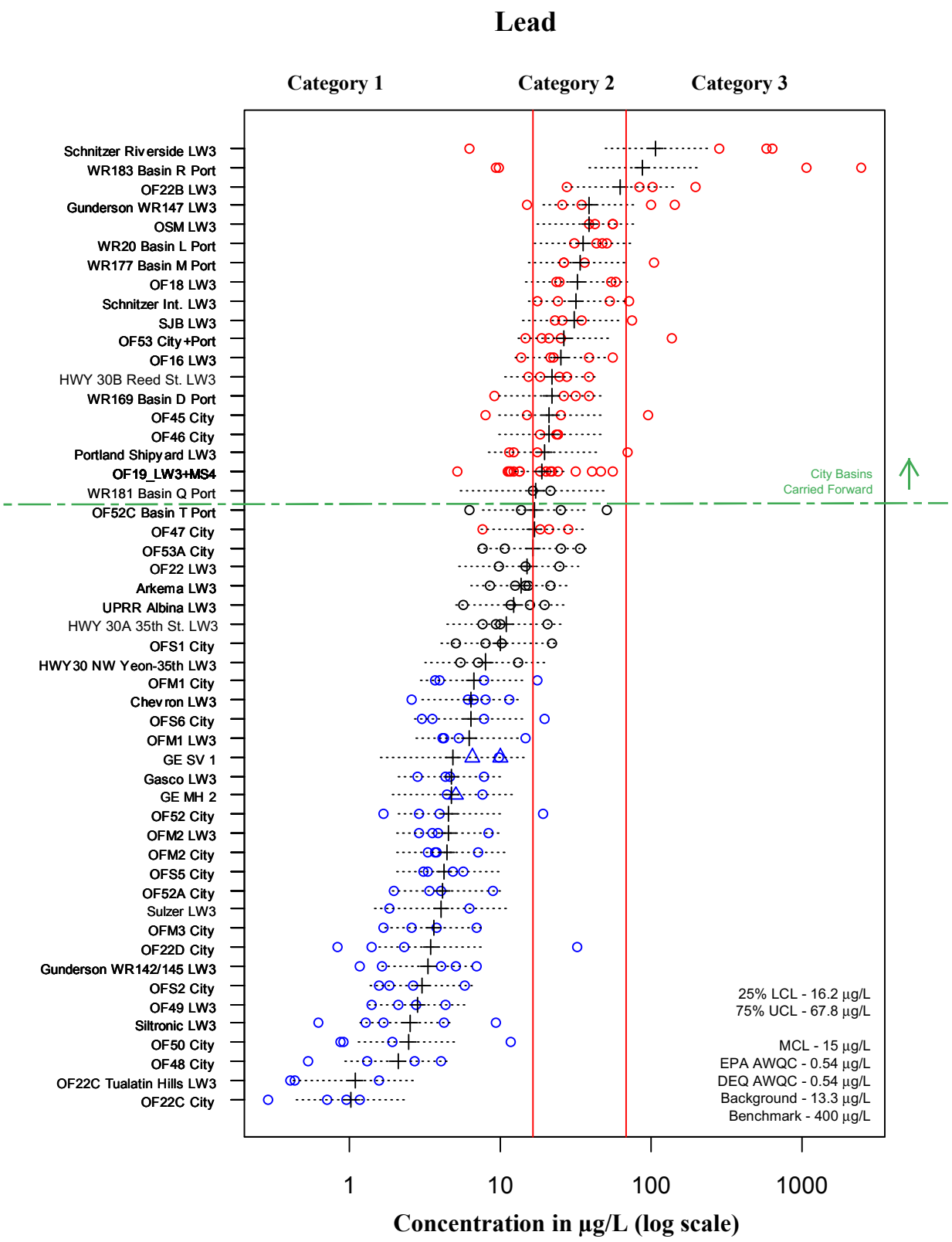

Bis(2-ethylhexyl)phthalate (BEHP)
Category 1
Category 2
Category 3
WR20 Basin L Port
SJB LW3
OF53 City+Port
OF18 LW3
OF19_LW3+MS4
OF46 City
OF47 City
OF45 City
City Basins Carried Forward
Gunderson WR142/145 LW3
OF52 City
OFM1 City
OFM2 LW3
OFS1 City
OFS2 City
OF49 LW3
OF52C Basin T Port
WR181 Basin Q Port
WR183 Basin R Port
WR169 Basin D Port
OFS6 City
OFM3 City
OF50 City
WR177 Basin M Port
Portland Shipyard LW3
OFS5 City
OF52A City
Schnitzer Int. LW3
Gunderson WR147 LW3
OF22D City
OSM LW3
OF53A City
OFM2 City
OF48 City
GE MH 2
GE SV 1
OF22C City
Arkema LW3
OF22C Tualatin Hills LW3
25% LCL - 2.1 µg/L
75% UCL - 5.3 µg/L
MCL - 6 µg/L
DEQ AWQC - 3 µg/L
0.1
1
10
100
Concentration in µg/L (log scale)

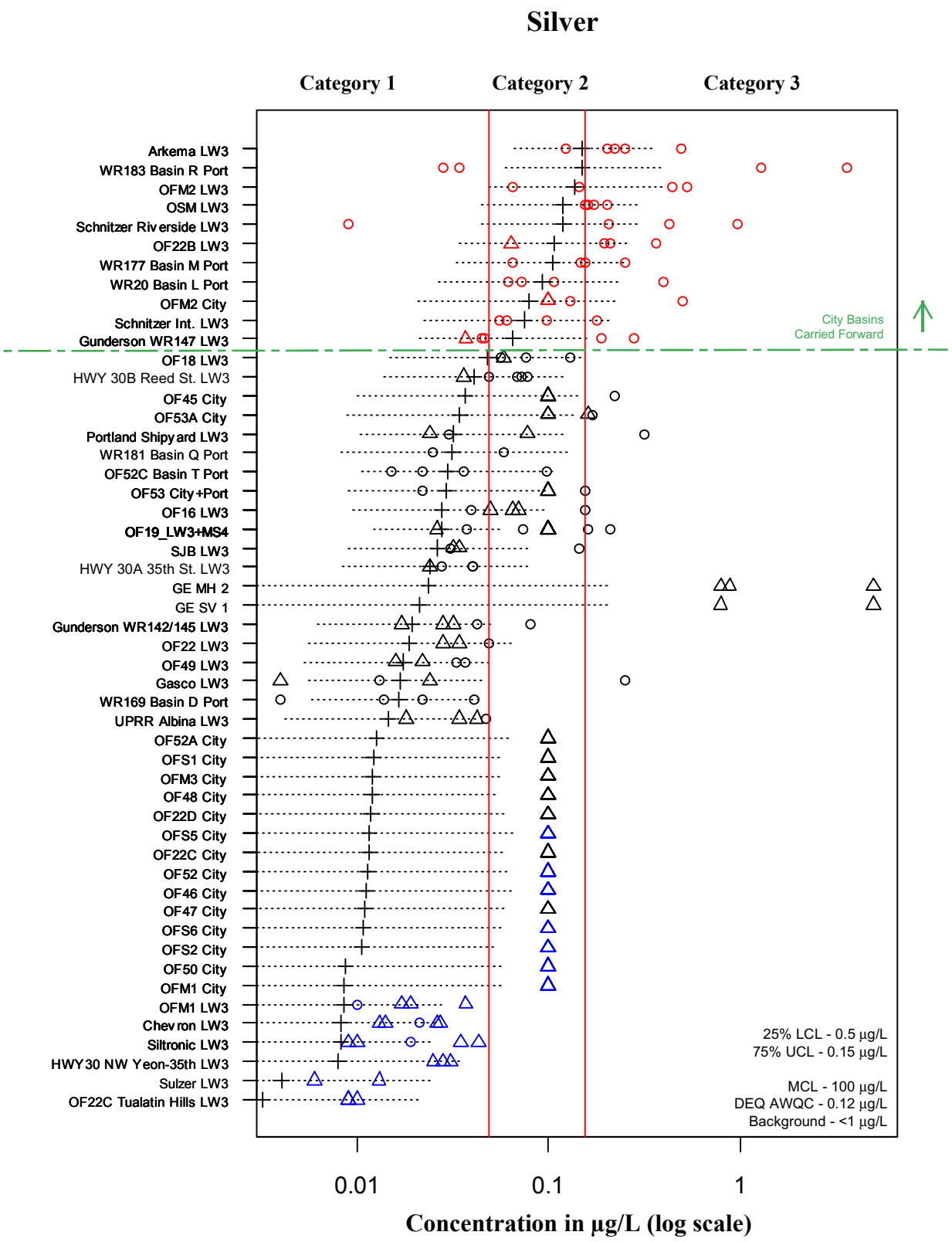
Arsenic


Category 1
Category 2
Category 3
Arkema LW3
Schnitzer Int. LW3
OSM LW3
OF53A City
OF22B LW3
OF22 LW3
WR177 Basin M Port
Schnitzer Riverside LW3
OFM2 City
HWY 30B Reed St. LW3
OF18 LW3
OFM2 LW3
Portland Shipyard LW3
OF45 City
OF46 City
OF19_LW3+MS4
WR183 Basin R Port
OF22C City
OF47 City
OF52A City
UPRR Albina LW3
OF52 City
OF50 City
OFM1 LW3
OFS1 City
SJB LW3
GE SV 1
OFS6 City
OFS5 City
GE MH 2
WR20 Basin L Port
OFM1 City
OF53 City+Port
HWY 30A 35th St. LW3
Gasco LW3
OFM3 City
Gunderson WR147 LW3
OF16 LW3
WR181 Basin Q Port
OFS2 City
HWY30 NW Yeon-35th LW3
OF48 City
Chevron LW3
OF22D City
OF49 LW3
OF52C Basin T Port
Siltronic LW3
Gunderson WR142/145 LW3
OF22C Tualatin Hills LW3
WR169 Basin D Port
Sulzer LW3
City Basins Carried Forward
25% LCL - 2.5 µg/L
75% UCL - 11.2 µg/L
MCL - 10 µg/L
EPA AWQC - 150 µg/L
Background - 2 µg/L
0.01
0.1
1
10
Concentration in µg/L (log scale)


Cadmium
Category 1
Category 2
Category 3
WR183 Basin R Port
Schnitzer Riverside LW3
OF22B LW3
Sulzer LW3
OSM LW3
OF18 LW3
WR20 Basin L Port
HWY 30B Reed St. LW3
GE SV 1
OFM1 LW3
OF16 LW3
Portland Shipyard LW3
OF45 City
OF46 City
SJB LW3
Schnitzer Int. LW3
Gunderson WR147 LW3
GE MH 2
WR181 Basin Q Port
HWY 30A 35th St. LW3
OF47 City
WR177 Basin M Port
UPRR Albina LW3
OFM1 City
OF22 LW3
OF53A City
OFS1 City
OFM2 City
OF19_LW3+MS4
HWY30 NW Yeon-35th LW3
Gunderson WR142/145 LW3
OFM2 LW3
OF53 City+Port
OFS2 City
OFS6 City
OFS5 City
OFM3 City
Arkema LW3
Chevron LW3
OF52C Basin T Port
OF52 City
Siltronic LW3
OF22D City
OF52A City
WR169 Basin D Port
Gasco LW3
OF50 City
OF49 LW3
OF22C City
OF48 City
OF22C Tualatin Hills LW3
City Basins Carried Forward
25% LCL - 0.32 µg/L
75% UCL - 1.20 µg/L
MCL - 5 µg/L
DEQ AWQC - 0.38 µg/L
EPA AWQC - 0.094 µg/L
Background - <1 µg/L
0.01
0.1
1
10
Concentration in µg/L (log scale)


Copper
Category 1
Category 2
Category 3
Gunderson WR142/145 LW3
Portland Shipyard LW3
Gunderson WR147 LW3
Schnitzer Riverside LW3
WR183 Basin R Port
HWY 30B Reed St. LW3
Siltronic LW3
OF16 LW3
Schnitzer Int. LW3
SJB LW3
OSM LW3
OF46 City
OFS6 City
OFS1 City
OF22B LW3
OF45 City
OF18 LW3
HWY 30A 35th St. LW3
OF52 City
WR177 Basin M Port
WR20 Basin L Port
OF47 City
OF53A City
OF22 LW3
HWY30 NW Yeon-35th LW3
Arkema LW3
OFS5 City
OF19_LW3+MS4
UPRR Albina LW3
OF53 City+Port
OFM3 City
OFM1 LW3
GE SV 1
OFS2 City
WR181 Basin Q Port
OFM2 City
OFM1 City
GE MH 2
Chevron LW3
OFM2 LW3
OF52C Basin T Port
OF52A City
OF49 LW3
OF48 City
OF50 City
Gasco LW3
Sulzer LW3
OF22D City
WR169 Basin D Port
OF22C Tualatin Hills LW3
OF22C City
City Basins
Carried Forward
25% LCL - 25.4 µg/L
75% UCL - 116.4 µg/L
MCL - 1,300 µg/L
DEQ AWQC - 2.7 µg/L
EPA AWQC - 3.6 µg/L
Background - 9 µg/L
Benchmark - 100 µg/L
1
10
100
1000
Concentration in µg/L (log scale)


Lead
Category 1
Category 2
Category 3
Schnitzer Riverside LW3
WR183 Basin R Port
OF22B LW3
Gunderson WR147 LW3
OSM LW3
WR20 Basin L Port
WR177 Basin M Port
OF18 LW3
Schnitzer Int. LW3
SJB LW3
OF53 City+Port
OF16 LW3
HWY 30B Reed St. LW3
WR169 Basin D Port
OF45 City
OF46 City
Portland Shipyard LW3
OF19_LW3+MS4
WR181 Basin Q Port
OF52C Basin T Port
OF47 City
OF53A City
OF22 LW3
Arkema LW3
UPRR Albina LW3
HWY 30A 35th St. LW3
OFS1 City
HWY30 NW Yeon-35th LW3
OFM1 City
Chevron LW3
OFS6 City
OFM1 LW3
GE SV 1
Gasco LW3
GE MH 2
OF52 City
OFM2 LW3
OFM2 City
OFS5 City
OF52A City
Sulzer LW3
OFM3 City
OF22D City
Gunderson WR142/145 LW3
OFS2 City
OF49 LW3
Siltronic LW3
OF50 City
OF48 City
OF22C Tualatin Hills LW3
OF22C City
City Basins
Carried Forward
25% LCL - 16.2 µg/L
75% UCL - 67.8 µg/L
MCL - 15 µg/L
EPA AWQC - 0.54 µg/L
DEQ AWQC - 0.54 µg/L
Background - 13.3 µg/L
Benchmark - 400 µg/L
1
10
100
1000
Concentration in µg/L (log scale)


Silver
Category 1
Category 2
Category 3
Arkema LW3
WR183 Basin R Port
OFM2 LW3
OSM LW3
Schnitzer Riverside LW3
OF22B LW3
WR177 Basin M Port
WR20 Basin L Port
OFM2 City
Schnitzer Int. LW3
Gunderson WR147 LW3
OF18 LW3
HWY 30B Reed St. LW3
OF45 City
OF53A City
Portland Shipyard LW3
WR181 Basin Q Port
OF52C Basin T Port
OF53 City+Port
OF16 LW3
OF19_LW3+MS4
SJB LW3
HWY 30A 35th St. LW3
GE MH 2
GE SV 1
Gunderson WR142/145 LW3
OF22 LW3
OF49 LW3
Gasco LW3
WR169 Basin D Port
UPRR Albina LW3
OF52A City
OFS1 City
OFM3 City
OF48 City
OF22D City
OFS5 City
OF22C City
OF52 City
OF46 City
OF47 City
OFS6 City
OFS2 City
OF50 City
OFM1 City
OFM1 LW3
Chevron LW3
Siltronic LW3
HWY30 NW Yeon-35th LW3
Sulzer LW3
OF22C Tualatin Hills LW3
City Basins
Carried Forward
25% LCL - 0.5 µg/L
75% UCL - 0.15 µg/L
MCL - 100 µg/L
DEQ AWQC - 0.12 µg/L
Background - <1 µg/L
0.01
0.1
1
Concentration in µg/L (log scale)

Zinc
Category 1
Category 2
Category 3
Gunderson WR142/145 LW3
WR183 Basin R Port
Portland Shipyard LW3
SJB LW3
Schnitzer Riverside LW3
OF53A City
WR20 Basin L Port
OFS6 City
OF46 City
Schnitzer Int. LW3
OFS1 City
OF45 City
Gunderson WR147 LW3
OF22B LW3
OFS5 City
HWY 30B Reed St. LW3
OSM LW3
OFS2 City
OF18 LW3
Siltronic LW3
GE MH 2
OF22 LW3
OF19_LW3+MS4
OFM1 City
OF16 LW3
OF47 City
OFM1 LW3
WR181 Basin Q Port
OFM3 City
UPRR Albina LW3
OF52 City
HWY 30A 35th St. LW3
GE SV 1
OFM2 City
OF52A City
HWY30 NW Yeon-35th LW3
Gasco LW3
OFM2 LW3
OF53 City+Port
OF50 City
WR177 Basin M Port
Chevron LW3
Arkema LW3
OF52C Basin T Port
Sulzer LW3
WR169 Basin D Port
OF49 LW3
OF22D City
OF48 City
OF22C Tualatin Hills LW3
OF22C City
City Basins
Carried Forward
25% LCL - 186 µg/L
75% UCL - 1,000 µg/L
MCL - 5,000 µg/L
EPA AWQC - 36 µg/L
DEQ AWQC - 33 µg/L
Background - 38 µg/L
Benchmark - 600 µg/L
10
100
1000
1e+04
Concentration in µg/L (log scale)

Appendix D

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Appendix D

Stormwater Analytical Results by City Outfall Basin

Appendix D – Notes

General notes regarding Appendix D stormwater analytical results tables:

- The purpose of the tables of stormwater analytical results presented in this appendix is to:
    - Summarize individual sample results for City outfall basins for those analytes detected at concentrations greater than the corresponding Joint Source Control Strategy (DEQ/EPA 2005) screening level values (SLVs) in one or more stormwater samples from any City outfall basin;
    - Summarize the arithmetic mean and geometric mean by analyte for each City outfall basin for those analytes; and
    - Identify basin geometric means that exceed the corresponding JSCS SLVs for the purpose of selecting stormwater analytes to be evaluated in the Harborwide Statistical Analysis.
- The tables in this appendix do not include data (and corresponding mean concentrations) for private outfalls that were incorporated into the Harborwide Statistical Analysis. For the complete set of data used in the Harborwide Statistical Analysis, see Appendix C, Attachment C-3.
- Assumptions and conventions applied in the calculation of the arithmetic and geometric mean concentrations are described in Appendix C.
- Except for denoting mean concentrations that are based entirely on non-detect results (i.e., the Method Reporting Limits; see Appendix C), basin mean and geometric mean concentrations are not flagged. The mean concentrations are often based on qualified data (e.g., estimated ["J"-flagged] or non-detect ["U" or "UJ"] results) and should be flagged as appropriate if these mean values are used for other purposes.

Stormwater Analytical Results by City Outfall Basin:

Polychlorinated Biphenyls (PCBs) (Total PCB Congeners)

Stormwater Analytical Results by City Outfall Basin -- Total PCB Congeners

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total PCB Congeners Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.117	ug/l		
	4/18/2007	composite		0.232	ug/l	**0.1458**	**0.1339**
	4/23/2007	composite		0.0885	ug/l		
OF 18 LW3	3/26/2007	composite		0.503	ug/l		
	3/26/2007 (duplicate)	composite		0.125	ug/l		
	4/9/2007	composite		0.117	ug/l	**0.1068**	**0.0511**
	4/18/2007	composite		0.0814	ug/l		
	5/21/2007 (duplicate)	grab		0.00949	ug/l		
	5/21/2007	grab		0.0123	ug/l		
OF 19 LW3+MS4	3/26/2007 (duplicate)	composite		0.0212	ug/l		
	3/26/2007	composite		0.025	ug/l		
	4/18/2007	composite		0.0677	ug/l		
	4/23/2007	composite		0.0111	ug/l		
	4/23/2007 (duplicate)	composite		0.0122	ug/l		
	11/26/2007	composite		0.0103	ug/L	**0.0399**	**0.0280**
	3/7/2008	composite		0.0641	ug/L		
	3/25/2008	composite		0.0103	ug/L		
	11/20/2008	composite		0.0208	ug/L		
	2/23/2009	composite		0.116	ug/L		
	3/14/2009	composite		0.0351	ug/L		
OF 22 LW3	4/9/2007	composite		0.0132	ug/l		
	5/3/2007	composite		0.033	ug/l		
	5/3/2007 (duplicate)	composite		0.0328	ug/l	**0.0243**	**0.0203**
	6/5/2007	grab		0.0416	ug/l		
	6/10/2007	composite		0.00938	ug/l		
OF 22B LW3	3/27/2007	composite		0.143	ug/l		
	5/3/2007	composite		0.244	ug/l		
	6/5/2007	grab		0.0278	ug/l	**0.1090**	**0.0829**
	11/16/2007	composite		0.0785	ug/l		
	11/27/2007 (duplicate)	composite		0.0555	ug/l		
	11/27/2007	composite		0.0474	ug/l		

Stormwater Analytical Results by City Outfall Basin -- Total PCB Congeners

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total PCB Congeners Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22C City	2/29/2008	grab	U	0.00256	ug/L	0.0025 U	0.0025 U
	3/20/2008	grab	U	0.00248	ug/L		
	4/4/2008	grab	U	0.00252	ug/L		
	5/13/2008	grab	U	0.00251	ug/L		
OF 22D City	2/29/2008	grab	U	0.0025	ug/L	**0.0140**	**0.0037**
	2/29/2008 (duplicate)	grab	U	0.00245	ug/L		
	3/20/2008	grab		0.0504	ug/L		
	4/4/2008	grab		0.000591	ug/L		
	5/13/2008	grab	U	0.00256	ug/L		
OF 45 City	2/5/2008	grab		0.148	ug/L	**0.0519**	**0.0227**
	2/29/2008	grab		0.0176	ug/L		
	3/20/2008	grab	U	0.0026	ug/L		
	4/4/2008	grab		0.0392	ug/L		
OF 46 City	2/5/2008	grab		0.0137	ug/L	**0.0126**	**0.0112**
	2/29/2008	grab		0.00677	ug/L		
	3/20/2008	grab		0.00743	ug/L		
	4/4/2008 (duplicate)	grab		0.0354	ug/L		
	4/4/2008	grab		0.0096	ug/L		
OF 47 City	2/5/2008	grab		0.0268	ug/L	**0.0137**	**0.0097**
	2/29/2008	grab	U	0.0026	ug/L		
	3/20/2008	grab		0.0184	ug/L		
	4/4/2008	grab		0.00697	ug/L		
OF 48 City	9/28/2007	grab		0.00461	ug/L	**0.0109**	**0.0049**
	9/28/2007 (duplicate)	grab		0.0673	ug/L		
	10/16/2007	grab	U	0.00262	ug/L		
	11/16/2007	grab	U	0.00256	ug/L		
	12/15/2007	grab	U	0.00248	ug/L		
OF 49 LW3	4/9/2007	composite		0.00114	ug/l	**0.0014**	**0.0014**
	4/23/2007	composite		0.00122	ug/l		
	11/16/2007	composite		0.00192	ug/l		

Stormwater Analytical Results by City Outfall Basin -- Total PCB Congeners

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total PCB Congeners Concentration		Basin Mean [4]	Basin Geomean [4]
OF 50 City	9/28/2007	grab		0.0189	ug/L	**0.0074**	**0.0051**
	10/16/2007	grab	U	0.00266	ug/L		
	11/16/2007	grab		0.00535	ug/L		
	12/14/2007	grab	U	0.00254	ug/L		
OF 52 City	9/28/2007	grab		0.0711	ug/L	**0.0732**	**0.0489**
	9/30/2007 (duplicate)	grab		0.0343	ug/L		
	9/30/2007	grab		0.29	ug/L		
	10/16/2007 (duplicate)	grab		0.0531	ug/L		
	10/16/2007	grab		0.0461	ug/L		
	11/16/2007	grab		0.01	ug/L		
OF 52A City	9/28/2007	grab		0.0174	ug/L	**0.0125**	**0.0080**
	10/16/2007	grab		0.0264	ug/L		
	11/16/2007	grab	U	0.00253	ug/L		
	12/14/2007	grab		0.00358	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.0816	ug/l	**0.1107**	**0.0696**
	4/7/2007	composite		0.0385	ug/l		
	5/3/2007	composite		0.594	ug/l		
	5/3/2007 (duplicate)	composite		0.00136	ug/l		
	11/16/2007	composite		0.0251	ug/l		
OF 53 City+Port	3/24/2007	composite		0.0657	ug/l	**0.0500**	**0.0370**
	4/7/2007	composite		0.0217	ug/l		
	5/3/2007	composite		0.134	ug/l		
	1/26/2008	composite		0.0204	ug/L		
	2/6/2008	composite		0.0434	ug/L		
	3/12/2008 (duplicate)	composite		0.0148	ug/L		
	3/12/2008	composite		0.0153	ug/L		
OF 53A City	2/29/2008	grab		0.0519	ug/L	**0.0383**	**0.0373**
	3/20/2008	grab		0.0383	ug/L		
	4/4/2008	grab		0.0351	ug/L		
	5/13/2008	grab		0.0278	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Total PCB Congeners

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total PCB Congeners Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-1 City [5]	9/28/2007	grab		0.0174	ug/L	**0.0309**	**0.0249**
	9/30/2007	grab		0.026	ug/L		
	10/16/2007	grab		0.0126	ug/L		
	11/16/2007	grab		0.0674	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.00349	ug/l	**0.0692**	**0.0187**
	4/9/2007	composite		0.0178	ug/l		
	4/9/2007 (duplicate)	composite		0.371	ug/l		
	4/18/2007	composite		0.00904	ug/l		
	4/18/2007 (duplicate)	composite		0.0101	ug/l		
OF M-2 City [5]	9/28/2007	grab		0.0645	ug/L	**0.0179**	**0.0051**
	10/16/2007	grab		0.00296	ug/L		
	11/16/2007	grab	U	0.00269	ug/L		
	12/15/2007	grab		0.00127	ug/L		
OF M-2LW3 [5]	4/9/2007	composite		0.00916	ug/L	**0.0082**	**0.0061**
	4/9/2007	composite		0.0017	ug/L		
	4/23/2007	composite		0.0191	ug/L		
	5/3/2007	composite		0.00588	ug/L		
	5/3/2007 (duplicate)	composite		0.00498	ug/L		
OF M-3 City	9/28/2007	grab		0.00493	ug/L	**0.0033**	**0.0032**
	9/30/2007	grab	U	0.00253	ug/L		
	10/16/2007	grab		0.00321	ug/L		
	11/16/2007	grab	U	0.00264	ug/L		
OF S-1 City	9/28/2007	grab		0.000694	ug/L	**0.0128**	**0.0068**
	10/16/2007	grab		0.0144	ug/L		
	11/16/2007	grab		0.0288	ug/L		
	12/15/2007	grab		0.00729	ug/L		
OF S-2 City	9/28/2007	grab	U	0.00251	ug/L	**0.0176**	**0.0084**
	10/16/2007	grab		0.0497	ug/L		
	11/16/2007	grab	U	0.00246	ug/L		
	12/15/2007	grab		0.0159	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Total PCB Congeners

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total PCB Congeners Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-5 City	9/28/2007	grab		0.00473	ug/L		
	10/16/2007	grab	U	0.00255	ug/L		
	11/16/2007	grab		0.0253	ug/L	**0.0054**	**0.0037**
	11/16/2007 (duplicate)	grab		0.00116	ug/L		
	12/15/2007	grab		0.00114	ug/L		
OF S-6 City	9/28/2007	grab		0.004	ug/L		
	10/16/2007	grab		0.0166	ug/L	**0.0073**	**0.0050**
	11/16/2007	grab		0.00127	ug/L		
	12/15/2007	grab		0.00718	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for total PCB congeners = 0.000064 ug/L.
If PCBs were undetected ("U" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin:

Polycyclic Aromatic Hydrocarbons (PAHs)

Stormwater Analytical Results by City Outfall Basin -- Acenaphthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite	J	0.0091	ug/L		
	4/18/2007	composite	J	0.013	ug/L	0.0140	0.0133
	4/23/2007	composite		0.02	ug/L		
OF 18 LW3	3/26/2007	composite	J	0.015	ug/L		
	3/26/2007 (duplicate)	composite	J	0.018	ug/L		
	4/9/2007	composite	J	0.0046	ug/L	0.0081	0.0069
	4/18/2007	composite	J	0.0064	ug/L		
	5/21/2007	grab	U	0.0047	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.015	ug/L		
	3/26/2007	composite	J	0.0069	ug/L		
	4/9/2007	composite		0.027	ug/L	0.0475	0.0320
	4/9/2007 (duplicate)	composite	J	0.02	ug/L		
	4/18/2007	composite	J	0.013	ug/L		
	11/26/2007	composite	U	0.02	ug/L		
	3/7/2008	composite	U	0.02	ug/L		
	3/25/2008	composite	U	0.019	ug/L		
	11/20/2008	composite		0.0197	ug/L		
	2/23/2009	composite	U	0.0392	ug/L		
	3/14/2009	composite	U	0.0196	ug/L		
OF 22 LW3	4/9/2007	composite	J	0.018	ug/L		
	5/3/2007	composite	J	0.013	ug/L	0.1139	0.0258
	6/5/2007	grab		0.42	ug/L		
	6/10/2007	composite	U	0.0045	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.027	ug/L	0.0321	0.0303
	5/3/2007	composite		0.039	ug/L		
	6/5/2007	grab		0.049	ug/L		
	11/16/2007	composite	U	0.018	ug/L		
	11/27/2007 (duplicate)	composite		0.026	ug/L		
	11/27/2007	composite		0.029	ug/L		
OF 22C City	2/29/2008	grab		1.5	ug/L	**0.9823**	**0.8102**
	3/20/2008	grab	U	0.33	ug/L		
	4/4/2008	grab		0.569	ug/L		
	5/13/2008	grab		1.53	ug/L		
OF 22D City	2/29/2008	grab	U	0.0194	ug/L	0.0389 U	0.0291 U
	2/29/2008 (duplicate)	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.0196	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab	U	0.0385	ug/L	0.0290 U	0.0273 U
	2/29/2008	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab	U	0.0385	ug/L		
OF 46 City	2/5/2008	grab	U	0.0396	ug/L	0.0535 U	0.0490 U
	2/29/2008	grab	U	0.0385	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008 (duplicate)	grab	U	0.0388	ug/L		
	4/4/2008	grab	U	0.0388	ug/L		
OF 47 City	2/5/2008	grab	U	0.0388	ug/L	0.0440 U	0.0350 U
	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.02	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007 (duplicate)	grab	U	0.0194	ug/L	0.0218 U	0.0215 U
	9/28/2007	grab	U	0.0388	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0192	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0034	ug/L	0.00395 U	0.00390 U
	4/23/2007	composite	U	0.0033	ug/L		
	6/10/2007	composite	U	0.0045	ug/L		
	11/16/2007	composite	U	0.0046	ug/L		
OF 50 City	9/28/2007	grab		0.0307	ug/L	0.0223	0.0218
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0194	ug/L		
OF 52 City	9/28/2007	grab		0.0349	ug/L	0.0233	0.0225
	9/30/2007	grab	U	0.0194	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	10/16/2007 (duplicate)	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L	0.0653	0.0360
	10/16/2007	grab		0.0222	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0196	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.0085	ug/L	0.0098	0.0080
	4/7/2007	composite	J	0.0045	ug/L		
	5/3/2007	composite	U	0.021	ug/L		
	11/16/2007	composite	U	0.005	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.0057	ug/L		
	4/7/2007	composite	J	0.0058	ug/L		
	5/3/2007	composite	J	0.01	ug/L		
	1/26/2008	composite	U	0.019	ug/L	0.0164	0.0129
	2/6/2008	composite	U	0.0381	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0196	ug/L		
	3/12/2008	composite	U	0.0196	ug/L		
OF 53A City	2/29/2008	grab		0.0565	ug/L		
	3/20/2008	grab		0.056	ug/L	**0.2084**	0.1249
	4/4/2008	grab		0.591	ug/L		
	5/13/2008	grab		0.13	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0196	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0195 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite	J	0.008	ug/L		
	4/9/2007	composite		0.038	ug/L	0.0217	0.0179
	4/18/2007	composite	J	0.019	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0194	ug/L	0.0243 U	0.0231 U
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.01	ug/L		
	4/9/2007	composite	J	0.011	ug/L		
	4/23/2007	composite	J	0.0078	ug/L	0.0098	0.0098
	5/3/2007	composite	J	0.012	ug/L		
	5/3/2007 (duplicate)	composite	J	0.0091	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0198	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0196 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab	U	0.0291	ug/L	0.0783	0.0531
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab		0.192	ug/L		
	12/15/2007	grab		0.0724	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0196	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0194	ug/L	0.0207 U	0.0206 U
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab	U	0.0291	ug/L		
	12/15/2007	grab	U	0.0196	ug/L		
OF S-6 City	9/28/2007	grab	U	0.0194	ug/L	0.0194 U	0.0193 U
	10/16/2007	grab	U	0.0192	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for acenaphthene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Acenaphthylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.099	ug/L		
	4/18/2007	composite	J	0.014	ug/L	0.0406	0.0231
	4/23/2007	composite	U	0.0089	ug/L		
OF 18 LW3	3/26/2007	composite	J	0.017	ug/L		
	3/26/2007 (duplicate)	composite	J	0.016	ug/L		
	4/9/2007	composite	J	0.021	ug/L	0.0114	0.0087
	4/18/2007	composite	J	0.0045	ug/L		
	5/21/2007	grab	U	0.0036	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite	U	0.0097	ug/L		
	3/26/2007	composite	J	0.0065	ug/L		
	4/9/2007	composite	J	0.014	ug/L	0.0482	0.0308
	4/9/2007 (duplicate)	composite	J	0.014	ug/L		
	4/18/2007	composite	J	0.013	ug/L		
	11/26/2007	composite		0.0226	ug/L		
	3/7/2008	composite	U	0.02	ug/L		
	3/25/2008	composite	U	0.019	ug/L		
	11/20/2008	composite	U	0.0194	ug/L		
	2/23/2009	composite	U	0.0392	ug/L		
	3/14/2009	composite	U	0.0196	ug/L		
OF 22 LW3	4/9/2007	composite		0.026	ug/L		
	5/3/2007	composite	U	0.0025	ug/L	0.0258	0.0113
	6/5/2007	grab	U	0.071	ug/L		
	6/10/2007	composite	U	0.0035	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite	J	0.0097	ug/L	0.0113	0.0098
	5/3/2007	composite	J	0.016	ug/L		
	6/5/2007	grab	U	0.0034	ug/L		
	11/16/2007	composite	J	0.0099	ug/L		
	11/27/2007 (duplicate)	composite	J	0.019	ug/L		
	11/27/2007	composite	J	0.016	ug/L		
OF 22C City	2/29/2008	grab	U	0.0194	ug/L	0.0194 U	0.0194 U
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 22D City	2/29/2008	grab	U	0.0194	ug/L	0.0389 U	0.0291 U
	2/29/2008 (duplicate)	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.0196	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab	U	0.0385	ug/L	0.0314 U	0.0302 U
	2/29/2008	grab	U	0.0291	ug/L		
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab	U	0.0385	ug/L		
OF 46 City	2/5/2008	grab		0.0597	ug/L	0.0585	0.0542
	2/29/2008	grab	U	0.0385	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008 (duplicate)	grab	U	0.0388	ug/L		
	4/4/2008	grab	U	0.0388	ug/L		
OF 47 City	2/5/2008	grab	U	0.0388	ug/L	0.0342	0.0308
	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab		0.0581	ug/L		
	4/4/2008	grab	U	0.02	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007 (duplicate)	grab	U	0.0194	ug/L	0.0218 U	0.0215 U
	9/28/2007	grab	U	0.0388	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0192	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0075	ug/L	0.0062	0.0060
	4/23/2007	composite	U	0.0047	ug/L		
	6/10/2007	composite	J	0.0085	ug/L		
	11/16/2007	composite	J	0.0042	ug/L		
OF 50 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0194 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0194	ug/L		
OF 52 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0194 U
	9/30/2007	grab	U	0.0194	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	10/16/2007 (duplicate)	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L	0.0661	0.0372
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0253	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.016	ug/L	0.0104	0.0092
	4/7/2007	composite	J	0.012	ug/L		
	5/3/2007	composite	J	0.0097	ug/L		
	11/16/2007	composite	U	0.0039	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.0071	ug/L		
	4/7/2007	composite	J	0.009	ug/L		
	5/3/2007	composite	J	0.023	ug/L		
	1/26/2008	composite		0.0382	ug/L	0.0225	0.0186
	2/6/2008	composite	U	0.0381	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0196	ug/L		
	3/12/2008	composite	U	0.0196	ug/L		
OF 53A City	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab	U	0.0194	ug/L	0.0196 U	0.0195 U
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0294	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0220 U	0.0216 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite	J	0.0057	ug/L		
	4/9/2007	composite		0.069	ug/L	0.0266	0.0127
	4/18/2007	composite	J	0.0052	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0291	ug/L	0.0267 U	0.0255 U
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.011	ug/L		
	4/9/2007	composite	U	0.014	ug/L		
	4/23/2007	composite	U	0.0023	ug/L	0.0082	0.0066
	5/3/2007	composite	J	0.006	ug/L		
	5/3/2007 (duplicate)	composite	J	0.0048	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0198	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0196 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Acenaphthylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Acenaphthylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab	U	0.0194	ug/L	0.0241	0.0234
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab		0.0348	ug/L		
	12/15/2007	grab		0.0227	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0202	0.0201
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0223	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0243	ug/L	0.0209	0.0208
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab	U	0.0194	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0205	ug/L		
OF S-6 City	9/28/2007	grab	U	0.0194	ug/L	0.0194 U	0.0193 U
	10/16/2007	grab	U	0.0192	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for acenaphthylene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.024	ug/L		
	4/18/2007	composite	J	0.018	ug/L	0.0153	0.0119
	4/23/2007	composite	UJ	0.0039	ug/L		
OF 18 LW3	3/26/2007	composite		0.041	ug/L		
	3/26/2007 (duplicate)	composite		0.045	ug/L		
	4/9/2007	composite	J	0.013	ug/L	0.0175	0.0121
	4/18/2007	composite	J	0.01	ug/L		
	5/21/2007	grab	U	0.0038	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.018	ug/L		
	3/26/2007	composite	J	0.013	ug/L		
	4/9/2007	composite		0.025	ug/L	0.0569	0.0425
	4/9/2007 (duplicate)	composite		0.04	ug/L		
	4/18/2007	composite	J	0.019	ug/L		
	11/26/2007	composite	U	0.08	ug/L		
	3/7/2008	composite		0.0513	ug/L		
	3/25/2008	composite	U	0.019	ug/L		
	11/20/2008	composite		0.0205	ug/L		
	2/23/2009	composite		0.0408	ug/L		
	3/14/2009	composite	U	0.0196	ug/L		
OF 22 LW3	4/9/2007	composite	J	0.019	ug/L		
	5/3/2007	composite	J	0.014	ug/L	0.0367	0.0181
	6/5/2007	grab	U	0.11	ug/L		
	6/10/2007	composite	U	0.0037	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.04	ug/L	0.0326	0.0254
	5/3/2007	composite		0.078	ug/L		
	6/5/2007	grab	J	0.014	ug/L		
	11/16/2007	composite	J	0.016	ug/L		
	11/27/2007 (duplicate)	composite	J	0.017	ug/L		
	11/27/2007	composite	J	0.013	ug/L		
OF 22C City	2/29/2008	grab	U	0.0194	ug/L	0.0210	0.0208
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab		0.0256	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab	U	0.0194	ug/L	0.0389	0.0291
	2/29/2008	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.0196	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.0676	ug/L	0.0406	0.0377
	2/29/2008	grab		0.0322	ug/L		
	3/20/2008	grab		0.024	ug/L		
	4/4/2008	grab	U	0.0385	ug/L		
OF 46 City	2/5/2008	grab		0.141	ug/L	0.0676	0.0600
	2/29/2008	grab		0.0427	ug/L		
	3/20/2008	grab		0.0588	ug/L		
	4/4/2008	grab		0.0568	ug/L		
	4/4/2008 (duplicate)	grab	U	0.0388	ug/L		
OF 47 City	2/5/2008	grab		0.0405	ug/L	0.0435	0.0351
	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab		0.0931	ug/L		
	4/4/2008	grab		0.0202	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.0363	ug/L		
	9/28/2007 (duplicate)	grab		0.0332	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0232	0.0224
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0192	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0043	ug/L		
	4/23/2007	composite	UJ	0.0042	ug/L	0.0040 U	0.0040 U
	6/10/2007	composite	U	0.0037	ug/L		
	11/16/2007	composite	U	0.0038	ug/L		
OF 50 City	9/28/2007	grab		0.0388	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0243	0.0231
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0194	ug/L		
OF 52 City	9/28/2007	grab		0.0571	ug/L		
	9/30/2007	grab	U	0.0194	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L	0.0289	0.0255
	10/16/2007	grab	U	0.0196	ug/L		
	10/16/2007 (duplicate)	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab		0.0774	ug/L	0.0975	0.0837
	11/16/2007	grab		0.054	ug/L		
	12/14/2007	grab		0.0587	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.033	ug/L		
	4/7/2007	composite	J	0.01	ug/L	0.0150	0.0115
	5/3/2007	composite	J	0.013	ug/L		
	11/16/2007	composite	U	0.0041	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.013	ug/L		
	4/7/2007	composite	J	0.012	ug/L		
	5/3/2007	composite		0.028	ug/L		
	1/26/2008	composite		0.0227	ug/L	0.0222	0.0205
	2/6/2008	composite	U	0.0381	ug/L		
	3/12/2008	composite	U	0.0196	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0196	ug/L		
OF 53A City	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab		0.0577	ug/L	0.0291	0.0257
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0294	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0220 U	0.0216 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite	U	0.0042	ug/L		
	4/9/2007	composite	U	0.0039	ug/L	0.0067	0.0058
	4/18/2007	composite	J	0.012	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0194	ug/L	0.0243 U	0.0231 U
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.0094	ug/L		
	4/9/2007	composite	U	0.0042	ug/L		
	4/23/2007	composite	J	0.004	ug/L	0.0062	0.0058
	5/3/2007	composite	J	0.0073	ug/L		
	5/3/2007 (duplicate)	composite	J	0.0068	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0198	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0196 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0546	ug/L	0.1727	0.1135
	10/16/2007	grab		0.042	ug/L		
	11/16/2007	grab		0.423	ug/L		
	12/15/2007	grab		0.171	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0196	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0194	ug/L	0.0437	0.0349
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab		0.167	ug/L		
	11/16/2007	grab		0.0219	ug/L		
	12/15/2007	grab		0.0417	ug/L		
OF S-6 City	9/28/2007	grab	U	0.0194	ug/L	0.0261	0.0249
	10/16/2007	grab		0.0255	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0402	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for anthracene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.039	ug/L		
	4/18/2007	composite		0.053	ug/L	**0.0367**	**0.0334**
	4/23/2007	composite	J	0.018	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.087	ug/L		
	3/26/2007	composite		0.15	ug/L		
	4/9/2007	composite		0.038	ug/L	**0.0489**	**0.0309**
	4/18/2007	composite		0.033	ug/L		
	5/21/2007	grab	J	0.0061	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.1	ug/L		
	3/26/2007	composite		0.048	ug/L		
	4/9/2007	composite		0.066	ug/L	**0.0758**	**0.0693**
	4/9/2007 (duplicate)	composite		0.11	ug/L		
	4/18/2007	composite		0.059	ug/L		
	11/26/2007	composite		0.0375	ug/L		
	3/7/2008	composite		0.0594	ug/L		
	3/25/2008	composite		0.0396	ug/L		
	11/20/2008	composite		0.0332	ug/L		
	2/23/2009	composite		0.0891	ug/L		
	3/14/2009	composite		0.043	ug/L		
OF 22 LW3	4/9/2007	composite		0.063	ug/L		
	5/3/2007	composite		0.042	ug/L	**0.0555**	**0.0507**
	6/5/2007	grab		0.089	ug/L		
	6/10/2007	composite		0.028	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.048	ug/L		
	5/3/2007	composite		0.12	ug/L		
	6/5/2007	grab		0.029	ug/L	**0.0503**	**0.0415**
	11/16/2007	composite		0.029	ug/L		
	11/27/2007	composite		0.026	ug/L		
	11/27/2007 (duplicate)	composite		0.025	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.0147	ug/L	0.0110	0.0108
	4/4/2008	grab	U	0.00971	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 22D City	2/29/2008	grab	U	0.00971	ug/L		
	2/29/2008 (duplicate)	grab		0.0193	ug/L		
	3/20/2008	grab		0.125	ug/L	**0.0363**	**0.0209**
	4/4/2008	grab		0.0176	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.0842	ug/L		
	2/29/2008	grab		0.0382	ug/L	**0.0505**	**0.0474**
	3/20/2008	grab		0.0379	ug/L		
	4/4/2008	grab		0.0415	ug/L		
OF 46 City	2/5/2008	grab		0.195	ug/L		
	2/29/2008	grab		0.102	ug/L		
	3/20/2008	grab		0.154	ug/L	**0.1294**	**0.1194**
	4/4/2008 (duplicate)	grab		0.0443	ug/L		
	4/4/2008	grab		0.0885	ug/L		
OF 47 City	2/5/2008	grab		0.103	ug/L		
	2/29/2008	grab		0.0235	ug/L	**0.0846**	**0.0665**
	3/20/2008	grab		0.162	ug/L		
	4/4/2008	grab	U	0.05	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.0912	ug/L		
	9/28/2007 (duplicate)	grab		0.0467	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	**0.0245**	0.0159
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.00966	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.0058	ug/L		
	4/23/2007	composite	J	0.0081	ug/L	0.0064	0.0063
	6/10/2007	composite	J	0.0058	ug/L		
	11/16/2007	composite	J	0.0057	ug/L		
OF 50 City	9/28/2007	grab		0.0174	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0118	0.0114
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab		0.0102	ug/L		
OF 52 City	9/28/2007	grab		0.026	ug/L		
	9/30/2007 (duplicate)	grab	U	0.00971	ug/L		
	9/30/2007	grab		0.0107	ug/L	0.0174	0.0162
	10/16/2007	grab		0.0274	ug/L		
	10/16/2007 (duplicate)	grab		0.0154	ug/L		
	11/16/2007	grab		0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab		0.0378	ug/L	**0.0866**	**0.0655**
	11/16/2007	grab		0.0772	ug/L		
	12/14/2007	grab		0.0315	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.082	ug/L		
	4/7/2007	composite	J	0.021	ug/L	**0.0320**	**0.0184**
	5/3/2007	composite	J	0.022	ug/L		
	11/16/2007	composite	U	0.003	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.04	ug/L		
	4/7/2007	composite		0.041	ug/L		
	5/3/2007	composite		0.083	ug/L		
	1/26/2008	composite		0.024	ug/L	**0.0464**	**0.0409**
	2/6/2008	composite		0.0697	ug/L		
	3/12/2008	composite		0.0191	ug/L		
	3/12/2008 (duplicate)	composite		0.0221	ug/L		
OF 53A City	2/29/2008	grab		0.0162	ug/L		
	3/20/2008	grab		0.0482	ug/L	**0.0234**	**0.0196**
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0196	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0154	0.0148
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab		0.0128	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.041	ug/L		
	4/9/2007	composite		0.041	ug/L	**0.0470**	**0.0463**
	4/18/2007	composite		0.059	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.00973	ug/L		
	10/16/2007	grab		0.0136	ug/L	0.0107	0.0106
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00971	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.037	ug/L		
	4/9/2007	composite	J	0.018	ug/L		
	4/23/2007	composite	J	0.013	ug/L	**0.0214**	**0.0197**
	5/3/2007 (duplicate)	composite	J	0.017	ug/L		
	5/3/2007	composite	J	0.018	ug/L		
OF M-3 City	9/28/2007	grab		0.0104	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0108	0.0107
	10/16/2007	grab		0.0134	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0712	ug/L	**0.6698**	**0.3497**
	10/16/2007	grab		0.22	ug/L		
	11/16/2007	grab		1.88	ug/L		
	12/15/2007	grab		0.508	ug/L		
OF S-2 City	9/28/2007	grab		0.0108	ug/L	0.0135	0.0125
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0235	ug/L		
OF S-5 City	9/28/2007	grab	U	0.00971	ug/L	**0.0417**	**0.0259**
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007	grab		0.0432	ug/L		
	11/16/2007 (duplicate)	grab		0.0518	ug/L		
	12/15/2007	grab		0.1	ug/L		
OF S-6 City	9/28/2007	grab		0.0195	ug/L	**0.0476**	**0.0419**
	10/16/2007	grab		0.0749	ug/L		
	11/16/2007	grab		0.0347	ug/L		
	12/15/2007	grab		0.0611	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for benzo(a)anthracene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.038	ug/L		
	4/18/2007	composite		0.055	ug/L	**0.0367**	**0.0329**
	4/23/2007	composite	J	0.017	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.1	ug/L		
	3/26/2007	composite		0.14	ug/L		
	4/9/2007	composite		0.046	ug/L	**0.0507**	**0.0300**
	4/18/2007	composite		0.032	ug/L		
	5/21/2007	grab	U	0.0046	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.23	ug/L		
	5/23/2006	composite	U	0.2	ug/L		
	11/2/2006	composite	U	0.22	ug/L		
	11/19/2006	composite	U	0.21	ug/L		
	2/14/2007	composite		0.11	ug/L		
	3/26/2007	composite		0.049	ug/L		
	4/9/2007	composite		0.079	ug/L	**0.1079**	**0.0884**
	4/9/2007 (duplicate)	composite		0.1	ug/L		
	4/18/2007	composite		0.066	ug/L		
	11/26/2007	composite		0.0414	ug/L		
	3/7/2008	composite		0.0645	ug/L		
	3/25/2008	composite		0.0507	ug/L		
	11/20/2008	composite		0.0339	ug/L		
	2/23/2009	composite		0.095	ug/L		
	3/14/2009	composite		0.0488	ug/L		
OF 22 LW3	4/9/2007	composite		0.085	ug/L		
	5/3/2007	composite		0.047	ug/L	**0.0605**	**0.0547**
	6/5/2007	grab		0.083	ug/L		
	6/10/2007	composite		0.027	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite	J	0.035	ug/L		
	5/3/2007	composite		0.11	ug/L		
	6/5/2007	grab		0.04	ug/L	**0.0487**	**0.0411**
	11/16/2007	composite		0.039	ug/L		
	11/27/2007	composite	J	0.019	ug/L		
	11/27/2007 (duplicate)	composite	J	0.02	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.0186	ug/L	0.0119	0.0114
	4/4/2008	grab	U	0.00971	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.0152	ug/L		
	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.113	ug/L	**0.0332**	**0.0198**
	4/4/2008	grab		0.0186	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.0834	ug/L		
	2/29/2008	grab		0.0383	ug/L	**0.0521**	**0.0495**
	3/20/2008	grab		0.0401	ug/L		
	4/4/2008	grab		0.0467	ug/L		
OF 46 City	2/5/2008	grab		0.157	ug/L		
	2/29/2008	grab		0.0784	ug/L		
	3/20/2008	grab		0.147	ug/L	**0.1123**	**0.1049**
	4/4/2008 (duplicate)	grab		0.0506	ug/L		
	4/4/2008	grab		0.083	ug/L		
OF 47 City	2/5/2008	grab		0.0909	ug/L		
	2/29/2008	grab		0.014	ug/L	**0.1013**	**0.0651**
	3/20/2008	grab		0.242	ug/L		
	4/4/2008	grab		0.0584	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.0334	ug/L		
	9/28/2007 (duplicate)	grab		0.026	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0147	0.0128
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00962	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0047	ug/L		
	4/23/2007	composite	J	0.0062	ug/L	0.0060	0.0057
	6/10/2007	composite	U	0.0044	ug/L		
	11/16/2007	composite	J	0.0085	ug/L		
OF 50 City	9/28/2007	grab		0.0182	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0120	0.0116
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab		0.0104	ug/L		
OF 52 City	9/28/2007	grab		0.0234	ug/L		
	9/30/2007 (duplicate)	grab	U	0.00971	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	**0.0196**	**0.0184**
	10/16/2007	grab		0.0259	ug/L		
	10/16/2007 (duplicate)	grab		0.015	ug/L		
	11/16/2007	grab		0.0248	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab		0.0147	ug/L	**0.0676**	**0.0372**
	11/16/2007	grab		0.0388	ug/L		
	12/14/2007	grab		0.0168	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.092	ug/L		
	4/7/2007	composite	J	0.02	ug/L	**0.0352**	**0.0216**
	5/3/2007	composite	J	0.024	ug/L		
	11/16/2007	composite	U	0.0049	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.037	ug/L		
	4/7/2007	composite		0.041	ug/L		
	5/3/2007	composite	J	0.099	ug/L		
	1/26/2008	composite		0.0224	ug/L	**0.0478**	**0.0405**
	2/6/2008	composite		0.0683	ug/L		
	3/12/2008	composite		0.0182	ug/L		
	3/12/2008 (duplicate)	composite		0.02	ug/L		
OF 53A City	2/29/2008	grab		0.0131	ug/L		
	3/20/2008	grab		0.0543	ug/L	**0.0241**	**0.0191**
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0098	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0117	0.0115
	10/16/2007	grab		0.016	ug/L		
	11/16/2007	grab		0.0114	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.035	ug/L		
	4/9/2007	composite		0.043	ug/L	**0.0433**	**0.0428**
	4/18/2007	composite		0.052	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.0106	ug/L		
	10/16/2007	grab		0.0173	ug/L	0.0118	0.0115
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00971	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.02	ug/L		
	4/9/2007	composite		0.042	ug/L		
	4/23/2007	composite	J	0.013	ug/L	**0.0235**	**0.0213**
	5/3/2007 (duplicate)	composite	J	0.019	ug/L		
	5/3/2007	composite	J	0.019	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0099	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0110	0.0108
	10/16/2007	grab		0.0148	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(a)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(a)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0689	ug/L	**0.5520**	**0.3039**
	10/16/2007	grab		0.203	ug/L		
	11/16/2007	grab		1.54	ug/L		
	12/15/2007	grab		0.396	ug/L		
OF S-2 City	9/28/2007	grab	U	0.00971	ug/L	0.0140	0.0129
	10/16/2007	grab		0.0116	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.025	ug/L		
OF S-5 City	9/28/2007	grab	U	0.00971	ug/L	**0.0371**	**0.0240**
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007	grab		0.0349	ug/L		
	11/16/2007 (duplicate)	grab		0.0426	ug/L		
	12/15/2007	grab		0.0901	ug/L		
OF S-6 City	9/28/2007	grab		0.0117	ug/L	**0.0386**	**0.0305**
	10/16/2007	grab		0.0791	ug/L		
	11/16/2007	grab		0.0227	ug/L		
	12/15/2007	grab		0.041	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for benzo(a)pyrene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Benzo(b)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(b)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.064	ug/L		
	4/18/2007	composite		0.09	ug/L	**0.0600**	**0.0531**
	4/23/2007	composite		0.026	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.12	ug/L		
	3/26/2007	composite		0.2	ug/L		
	4/9/2007	composite		0.074	ug/L	**0.0716**	**0.0349**
	4/18/2007	composite		0.05	ug/L		
	5/21/2007	grab	U	0.0025	ug/L		
OF 19 LW3+MS4	11/19/2006	composite	U	0.11	ug/L		
	3/26/2007	composite		0.072	ug/L		
	4/9/2007 (duplicate)	composite		0.16	ug/L		
	4/9/2007	composite		0.1	ug/L		
	4/18/2007	composite		0.093	ug/L		
	11/26/2007	composite		0.0529	ug/L	**0.0840**	**0.0792**
	3/7/2008	composite		0.0931	ug/L		
	3/25/2008	composite		0.0664	ug/L		
	11/20/2008	composite		0.0424	ug/L		
	2/23/2009	composite		0.119	ug/L		
	3/14/2009	composite		0.0613	ug/L		
OF 22 LW3	4/9/2007	composite		0.14	ug/L		
	5/3/2007	composite		0.079	ug/L	**0.0990**	**0.0933**
	6/5/2007	grab		0.12	ug/L		
	6/10/2007	composite		0.057	ug/L		
OF 22B LW3	3/27/2007	composite		0.05	ug/L		
	5/3/2007	composite		0.14	ug/L		
	6/5/2007	grab		0.071	ug/L	**0.0685**	**0.0606**
	11/16/2007	composite		0.044	ug/L		
	11/27/2007	composite		0.039	ug/L		
	11/27/2007 (duplicate)	composite		0.036	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(b)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(b)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22C City	2/29/2008	grab	U	0.00971	ug/L	0.0127	0.0119
	3/20/2008	grab		0.0212	ug/L		
	4/4/2008	grab		0.0101	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 22D City	2/29/2008	grab	U	0.00971	ug/L	**0.0393**	**0.0228**
	2/29/2008 (duplicate)	grab		0.0187	ug/L		
	3/20/2008	grab		0.132	ug/L		
	4/4/2008	grab		0.0262	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.145	ug/L	**0.0898**	**0.0844**
	2/29/2008	grab		0.0659	ug/L		
	3/20/2008	grab		0.0609	ug/L		
	4/4/2008	grab		0.0872	ug/L		
OF 46 City	2/5/2008	grab		0.291	ug/L	**0.1947**	**0.1859**
	2/29/2008	grab		0.15	ug/L		
	3/20/2008	grab		0.203	ug/L		
	4/4/2008 (duplicate)	grab		0.0963	ug/L		
	4/4/2008	grab		0.173	ug/L		
OF 47 City	2/5/2008	grab		0.144	ug/L	**0.1386**	**0.1015**
	2/29/2008	grab		0.0264	ug/L		
	3/20/2008	grab		0.287	ug/L		
	4/4/2008	grab		0.0971	ug/L		
OF 48 City	9/28/2007	grab		0.063	ug/L	**0.0232**	0.0179
	9/28/2007 (duplicate)	grab		0.0433	ug/L		
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0203	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.0081	ug/L	0.0088	0.0087
	4/23/2007	composite	J	0.011	ug/L		
	6/10/2007	composite	J	0.0083	ug/L		
	11/16/2007	composite	J	0.0078	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(b)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(b)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 50 City	9/28/2007	grab		0.0231	ug/L	0.0144	0.0135
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab		0.015	ug/L		
OF 52 City	9/28/2007	grab		0.0288	ug/L	**0.0240**	**0.0224**
	9/30/2007	grab		0.0117	ug/L		
	9/30/2007 (duplicate)	grab		0.0106	ug/L		
	10/16/2007 (duplicate)	grab		0.0243	ug/L		
	10/16/2007	grab		0.0284	ug/L		
	11/16/2007	grab		0.0297	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L	**0.0936**	**0.0768**
	10/16/2007	grab		0.0477	ug/L		
	11/16/2007	grab		0.0827	ug/L		
	12/14/2007	grab		0.0441	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.2	ug/L	**0.0800**	**0.0596**
	4/7/2007	composite		0.037	ug/L		
	5/3/2007	composite		0.046	ug/L		
	11/16/2007	composite		0.037	ug/L		
OF 53 City+Port	3/24/2007	composite		0.065	ug/L	**0.0724**	**0.0617**
	4/7/2007	composite		0.066	ug/L		
	5/3/2007	composite		0.14	ug/L		
	1/26/2008	composite		0.0357	ug/L		
	2/6/2008	composite		0.103	ug/L		
	3/12/2008	composite		0.024	ug/L		
	3/12/2008 (duplicate)	composite		0.0259	ug/L		
OF 53A City	2/29/2008	grab		0.0238	ug/L	**0.0342**	**0.0248**
	3/20/2008	grab		0.0838	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(b)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(b)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-1 City [5]	9/28/2007	grab		0.0174	ug/L		
	9/30/2007	grab		0.0168	ug/L	**0.0251**	**0.0224**
	10/16/2007	grab		0.0484	ug/L		
	11/16/2007	grab		0.0179	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.11	ug/L		
	4/9/2007	composite		0.15	ug/L	**0.1400**	**0.1382**
	4/18/2007	composite		0.16	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.018	ug/L		
	10/16/2007	grab		0.0284	ug/L	0.0176	0.0163
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0142	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.088	ug/L		
	4/9/2007	composite		0.046	ug/L		
	4/23/2007	composite		0.026	ug/L	**0.0485**	**0.0435**
	5/3/2007	composite		0.033	ug/L		
	5/3/2007 (duplicate)	composite		0.035	ug/L		
OF M-3 City	9/28/2007	grab		0.0142	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0146	0.0135
	10/16/2007	grab		0.0247	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF S-1 City	9/28/2007	grab		0.0922	ug/L		
	10/16/2007	grab		0.239	ug/L	**0.5906**	**0.3511**
	11/16/2007	grab		1.6	ug/L		
	12/15/2007	grab		0.431	ug/L		
OF S-2 City	9/28/2007	grab		0.0133	ug/L		
	10/16/2007	grab		0.0139	ug/L	0.0178	0.0158
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0344	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(b)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(b)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-5 City	9/28/2007	grab		0.0102	ug/L		
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007 (duplicate)	grab		0.0407	ug/L	**0.0371**	**0.0239**
	11/16/2007	grab		0.0305	ug/L		
	12/15/2007	grab		0.093	ug/L		
OF S-6 City	9/28/2007	grab		0.0254	ug/L		
	10/16/2007	grab		0.132	ug/L	**0.0596**	**0.0479**
	11/16/2007	grab		0.0321	ug/L		
	12/15/2007	grab		0.0488	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for benzo(b)fluoranthene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Benzo(g,h,i)perylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(g,h,i)perylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.084	ug/L		
	4/18/2007	composite		0.077	ug/L	0.0627	0.0559
	4/23/2007	composite		0.027	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.13	ug/L		
	3/26/2007	composite		0.2	ug/L		
	4/9/2007	composite		0.085	ug/L	0.0743	0.0420
	4/18/2007	composite	U	0.042	ug/L		
	5/21/2007	grab	J	0.0053	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.097	ug/L		
	3/26/2007	composite		0.066	ug/L		
	4/9/2007	composite		0.11	ug/L		
	4/9/2007 (duplicate)	composite		0.13	ug/L	0.0953	0.0886
	4/18/2007	composite		0.074	ug/L		
	11/26/2007	composite	U	0.2	ug/L		
	11/26/2007	composite		0.0496	ug/L		
	3/7/2008	composite		0.0848	ug/L		
	3/25/2008	composite		0.0686	ug/L		
	11/20/2008	composite		0.0387	ug/L		
	2/23/2009	composite		0.123	ug/L		
	3/14/2009	composite		0.0631	ug/L		
OF 22 LW3	4/9/2007	composite		0.15	ug/L		
	5/3/2007	composite		0.066	ug/L	0.0870	0.0782
	6/5/2007	grab		0.09	ug/L		
	6/10/2007	composite		0.042	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(g,h,i)perylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(g,h,i)perylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.042	ug/L	0.0564	0.0493
	5/3/2007	composite		0.12	ug/L		
	6/5/2007	grab		0.055	ug/L		
	11/16/2007	composite		0.035	ug/L		
	11/27/2007 (duplicate)	composite		0.031	ug/L		
	11/27/2007	composite		0.029	ug/L		
OF 22C City	2/29/2008	grab	U	0.0194	ug/L	0.0206	0.0205
	3/20/2008	grab		0.0241	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.0236	ug/L	0.0561	0.0344
	2/29/2008	grab	U	0.0194	ug/L		
	3/20/2008	grab		0.189	ug/L		
	4/4/2008	grab		0.0289	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.121	ug/L	0.0761	0.0723
	2/29/2008	grab		0.0551	ug/L		
	3/20/2008	grab		0.0609	ug/L		
	4/4/2008	grab		0.0672	ug/L		
OF 46 City	2/5/2008	grab		0.152	ug/L	0.1603	0.1513
	2/29/2008	grab		0.143	ug/L		
	3/20/2008	grab		0.25	ug/L		
	4/4/2008 (duplicate)	grab		0.0797	ug/L		
	4/4/2008	grab		0.113	ug/L		
OF 47 City	2/5/2008	grab		0.121	ug/L	0.1292	0.0926
	2/29/2008	grab		0.0253	ug/L		
	3/20/2008	grab		0.287	ug/L		
	4/4/2008	grab		0.0836	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(g,h,i)perylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(g,h,i)perylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.0363	ug/L		
	9/28/2007 (duplicate)	grab		0.0299	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0228	0.0222
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0192	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.012	ug/L		
	4/23/2007	composite	J	0.012	ug/L	0.0094	0.0090
	6/10/2007	composite	J	0.007	ug/L		
	11/16/2007	composite	J	0.0066	ug/L		
OF 50 City	9/28/2007	grab		0.0398	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0246	0.0233
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0194	ug/L		
OF 52 City	9/28/2007	grab		0.0378	ug/L		
	9/30/2007	grab	U	0.0194	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L	0.0274	0.0266
	10/16/2007	grab		0.0318	ug/L		
	10/16/2007 (duplicate)	grab		0.0255	ug/L		
	11/16/2007	grab		0.0238	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0665	0.0378
	11/16/2007	grab		0.0267	ug/L		
	12/14/2007	grab	U	0.0196	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.13	ug/L		
	4/7/2007	composite		0.026	ug/L	0.0476	0.0242
	5/3/2007	composite		0.031	ug/L		
	11/16/2007	composite	U	0.0033	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(g,h,i)perylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(g,h,i)perylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.053	ug/L		
	4/7/2007	composite		0.051	ug/L		
	5/3/2007	composite		0.11	ug/L		
	1/26/2008	composite		0.0272	ug/L	0.0612	0.0537
	2/6/2008	composite		0.0942	ug/L		
	3/12/2008	composite		0.0311	ug/L		
	3/12/2008 (duplicate)	composite		0.0321	ug/L		
OF 53A City	2/29/2008	grab		0.0207	ug/L		
	3/20/2008	grab		0.0804	ug/L	0.0398	0.0335
	4/4/2008	grab	U	0.0388	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0299	ug/L		
	9/30/2007	grab		0.0407	ug/L	0.0333	0.0318
	10/16/2007	grab		0.0431	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.083	ug/L		
	4/9/2007	composite		0.11	ug/L	0.1010	0.1001
	4/18/2007	composite		0.11	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.0247	ug/L		
	10/16/2007	grab		0.0367	ug/L	0.0251	0.0242
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.042	ug/L		
	4/9/2007	composite		0.083	ug/L		
	4/23/2007	composite	J	0.018	ug/L	0.0434	0.0372
	5/3/2007 (duplicate)	composite	U	0.032	ug/L		
	5/3/2007	composite	U	0.029	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0198	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0291	0.0256
	10/16/2007	grab		0.0577	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(g,h,i)perylene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(g,h,i)perylene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.114	ug/L	**0.3703**	**0.2574**
	10/16/2007	grab		0.187	ug/L		
	11/16/2007	grab		0.967	ug/L		
	12/15/2007	grab		0.213	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0226	0.0221
	10/16/2007	grab		0.0201	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0315	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0194	ug/L	0.0361	0.0304
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab		0.0348	ug/L		
	11/16/2007	grab		0.0258	ug/L		
	12/15/2007	grab		0.0752	ug/L		
OF S-6 City	9/28/2007	grab		0.0288	ug/L	0.0531	0.0418
	10/16/2007	grab		0.125	ug/L		
	11/16/2007	grab		0.0273	ug/L		
	12/15/2007	grab		0.0312	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for benzo(g,h,i)perylene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Benzo(k)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(k)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.029	ug/L		
	4/18/2007	composite		0.029	ug/L	**0.0230**	**0.0210**
	4/23/2007	composite	J	0.011	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.044	ug/L		
	3/26/2007	composite		0.064	ug/L		
	4/9/2007	composite		0.026	ug/L	**0.0247**	0.0157
	4/18/2007	composite	J	0.016	ug/L		
	5/21/2007	grab	U	0.0027	ug/L		
OF 19 LW3+MS4	11/19/2006	composite	U	0.11	ug/L		
	3/26/2007	composite		0.027	ug/L		
	4/9/2007	composite		0.033	ug/L		
	4/9/2007 (duplicate)	composite		0.052	ug/L		
	4/18/2007	composite		0.034	ug/L		
	11/26/2007	composite		0.031	ug/L	**0.0509**	**0.0454**
	3/7/2008	composite		0.051	ug/L		
	3/25/2008	composite		0.0474	ug/L		
	11/20/2008	composite		0.0286	ug/L		
	2/23/2009	composite		0.0954	ug/L		
	3/14/2009	composite		0.0425	ug/L		
OF 22 LW3	4/9/2007	composite		0.041	ug/L		
	5/3/2007	composite		0.024	ug/L	**0.0338**	**0.0310**
	6/5/2007	grab		0.052	ug/L		
	6/10/2007	composite	J	0.018	ug/L		
OF 22B LW3	3/27/2007	composite	J	0.019	ug/L		
	5/3/2007	composite		0.051	ug/L		
	6/5/2007	grab		0.027	ug/L	**0.0259**	**0.0233**
	11/16/2007	composite	J	0.018	ug/L		
	11/27/2007 (duplicate)	composite	J	0.014	ug/L		
	11/27/2007	composite	J	0.015	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.0139	ug/L	0.0108	0.0106
	4/4/2008	grab	U	0.00971	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(k)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(k)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22D City	2/29/2008	grab	U	0.00971	ug/L		
	2/29/2008 (duplicate)	grab		0.0189	ug/L		
	3/20/2008	grab		0.0958	ug/L	**0.0298**	**0.0191**
	4/4/2008	grab		0.0149	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.0691	ug/L		
	2/29/2008	grab		0.0309	ug/L	**0.0467**	**0.0446**
	3/20/2008	grab		0.0494	ug/L		
	4/4/2008	grab		0.0375	ug/L		
OF 46 City	2/5/2008	grab		0.145	ug/L		
	2/29/2008	grab		0.0843	ug/L		
	3/20/2008	grab		0.143	ug/L	**0.1082**	**0.1013**
	4/4/2008 (duplicate)	grab		0.0493	ug/L		
	4/4/2008	grab		0.0713	ug/L		
OF 47 City	2/5/2008	grab		0.0881	ug/L		
	2/29/2008	grab		0.0199	ug/L	**0.0963**	**0.0705**
	3/20/2008	grab		0.21	ug/L		
	4/4/2008	grab		0.067	ug/L		
OF 48 City	9/28/2007	grab		0.0495	ug/L		
	9/28/2007 (duplicate)	grab		0.0307	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0180	0.0147
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0122	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0056	ug/L		
	4/23/2007	composite	U	0.0054	ug/L	0.0041 U	0.0038 U
	6/10/2007	composite	U	0.0026	ug/L		
	11/16/2007	composite	U	0.0027	ug/L		
OF 50 City	9/28/2007	grab		0.0168	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0119	0.0116
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab		0.0114	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(k)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(k)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 52 City	9/28/2007	grab		0.0189	ug/L	0.0178	0.0170
	9/30/2007	grab	U	0.00971	ug/L		
	9/30/2007 (duplicate)	grab	U	0.00971	ug/L		
	10/16/2007	grab		0.027	ug/L		
	10/16/2007 (duplicate)	grab		0.0166	ug/L		
	11/16/2007	grab		0.0209	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L	**0.0766**	**0.0524**
	10/16/2007	grab		0.0287	ug/L		
	11/16/2007	grab		0.0527	ug/L		
	12/14/2007	grab		0.0249	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.061	ug/L	**0.0222**	0.0129
	4/7/2007	composite	J	0.012	ug/L		
	5/3/2007	composite	J	0.013	ug/L		
	11/16/2007	composite	U	0.0029	ug/L		
OF 53 City+Port	3/24/2007	composite		0.023	ug/L	**0.0308**	**0.0280**
	4/7/2007	composite		0.022	ug/L		
	5/3/2007	composite		0.046	ug/L		
	1/26/2008	composite		0.0202	ug/L		
	2/6/2008	composite		0.0543	ug/L		
	3/12/2008	composite		0.0175	ug/L		
	3/12/2008 (duplicate)	composite		0.0206	ug/L		
OF 53A City	2/29/2008	grab		0.0164	ug/L	**0.0271**	**0.0210**
	3/20/2008	grab		0.0627	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0108	ug/L	0.0137	0.0131
	9/30/2007	grab		0.0108	ug/L		
	10/16/2007	grab		0.0208	ug/L		
	11/16/2007	grab		0.0123	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.037	ug/L	**0.0497**	**0.0487**
	4/9/2007	composite		0.06	ug/L		
	4/18/2007	composite		0.052	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(k)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(k)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-2 City [5]	9/28/2007	grab		0.0101	ug/L	0.0125	0.0119
	10/16/2007	grab		0.0196	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0105	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.016	ug/L	0.0162	0.0143
	4/9/2007	composite		0.029	ug/L		
	4/23/2007	composite	J	0.0073	ug/L		
	5/3/2007	composite	J	0.011	ug/L		
	5/3/2007 (duplicate)	composite	J	0.014	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0099	ug/L	0.0109	0.0107
	9/30/2007	grab	U	0.00971	ug/L		
	10/16/2007	grab		0.0143	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF S-1 City	9/28/2007	grab		0.0877	ug/L	**0.5962**	**0.3485**
	10/16/2007	grab		0.255	ug/L		
	11/16/2007	grab		1.64	ug/L		
	12/15/2007	grab		0.402	ug/L		
OF S-2 City	9/28/2007	grab		0.0105	ug/L	0.0139	0.0126
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0256	ug/L		
OF S-5 City	9/28/2007	grab	U	0.00971	ug/L	**0.0396**	**0.0248**
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007	grab		0.0377	ug/L		
	11/16/2007 (duplicate)	grab		0.0432	ug/L		
	12/15/2007	grab		0.0985	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Benzo(k)fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Benzo(k)fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-6 City	9/28/2007	grab		0.0166	ug/L	**0.0520**	**0.0402**
	10/16/2007	grab		0.112	ug/L		
	11/16/2007	grab		0.027	ug/L		
	12/15/2007	grab		0.0522	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for benzo(k)fluoranthene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Chrysene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chrysene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.082	ug/L		
	4/18/2007	composite		0.066	ug/L	**0.0567**	**0.0492**
	4/23/2007	composite		0.022	ug/L		
OF 18 LW3	3/26/2007	composite		0.26	ug/L		
	3/26/2007 (duplicate)	composite		0.14	ug/L		
	4/9/2007	composite		0.077	ug/L	**0.0823**	**0.0471**
	4/18/2007	composite		0.045	ug/L		
	5/21/2007	grab	J	0.0071	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.16	ug/L		
	3/26/2007	composite		0.082	ug/L		
	4/9/2007	composite		0.12	ug/L	**0.1082**	**0.1027**
	4/9/2007 (duplicate)	composite		0.17	ug/L		
	4/18/2007	composite		0.072	ug/L		
	11/26/2007	composite		0.0673	ug/L		
	3/7/2008	composite		0.103	ug/L		
	3/25/2008	composite		0.0772	ug/L		
	11/20/2008	composite		0.068	ug/L		
	2/23/2009	composite		0.212	ug/L		
	3/14/2009	composite		0.0968	ug/L		
OF 22 LW3	4/9/2007	composite		0.16	ug/L		
	5/3/2007	composite		0.057	ug/L	**0.1105**	**0.0927**
	6/5/2007	grab		0.18	ug/L		
	6/10/2007	composite		0.045	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chrysene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chrysene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.064	ug/L		
	5/3/2007	composite		0.16	ug/L		
	6/5/2007	grab		0.046	ug/L	**0.0743**	**0.0654**
	11/16/2007	composite		0.057	ug/L		
	11/27/2007	composite		0.045	ug/L		
	11/27/2007 (duplicate)	composite		0.044	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.021	ug/L	0.0127	0.0120
	4/4/2008	grab	U	0.00971	ug/L		
	5/13/2008	grab		0.0105	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.0286	ug/L		
	2/29/2008	grab		0.0128	ug/L		
	3/20/2008	grab		0.234	ug/L	**0.0744**	**0.0353**
	4/4/2008	grab		0.0331	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.187	ug/L		
	2/29/2008	grab		0.0978	ug/L	**0.1255**	**0.1211**
	3/20/2008	grab		0.108	ug/L		
	4/4/2008	grab		0.109	ug/L		
OF 46 City	2/5/2008	grab		0.359	ug/L		
	2/29/2008	grab		0.285	ug/L		
	3/20/2008	grab		0.33	ug/L	**0.2893**	**0.2804**
	4/4/2008 (duplicate)	grab		0.132	ug/L		
	4/4/2008	grab		0.234	ug/L		
OF 47 City	2/5/2008	grab		0.199	ug/L		
	2/29/2008	grab		0.047	ug/L	**0.1805**	**0.1440**
	3/20/2008	grab		0.341	ug/L		
	4/4/2008	grab		0.135	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chrysene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chrysene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.139	ug/L		
	9/28/2007 (duplicate)	grab		0.0806	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	**0.0404**	**0.0241**
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0321	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.0073	ug/L		
	4/23/2007	composite	J	0.0065	ug/L	0.0069	0.0069
	6/10/2007	composite	J	0.0067	ug/L		
	11/16/2007	composite	J	0.0071	ug/L		
OF 50 City	9/28/2007	grab		0.03	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	**0.0183**	0.0161
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab		0.0236	ug/L		
OF 52 City	9/28/2007	grab		0.0421	ug/L		
	9/30/2007	grab		0.0174	ug/L		
	9/30/2007 (duplicate)	grab		0.0151	ug/L	**0.0306**	**0.0287**
	10/16/2007 (duplicate)	grab		0.0319	ug/L		
	10/16/2007	grab		0.0432	ug/L		
	11/16/2007	grab		0.0265	ug/L		
OF 52A City	9/28/2007	grab		0.23	ug/L		
	10/16/2007	grab		0.0941	ug/L	**0.1272**	**0.1156**
	11/16/2007	grab		0.109	ug/L		
	12/14/2007	grab		0.0756	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.17	ug/L		
	4/7/2007	composite		0.035	ug/L	**0.0670**	**0.0488**
	5/3/2007	composite		0.025	ug/L		
	11/16/2007	composite		0.038	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chrysene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chrysene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.055	ug/L		
	4/7/2007	composite		0.051	ug/L		
	5/3/2007	composite		0.1	ug/L		
	1/26/2008	composite		0.0402	ug/L	**0.0673**	**0.0610**
	2/6/2008	composite		0.119	ug/L		
	3/12/2008 (duplicate)	composite		0.041	ug/L		
	3/12/2008	composite		0.0357	ug/L		
OF 53A City	2/29/2008	grab		0.0398	ug/L		
	3/20/2008	grab		0.117	ug/L	**0.0498**	**0.0379**
	4/4/2008	grab		0.0195	ug/L		
	5/13/2008	grab		0.0228	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0263	ug/L		
	9/30/2007	grab		0.0253	ug/L	**0.0318**	**0.0302**
	10/16/2007	grab		0.0512	ug/L		
	11/16/2007	grab		0.0244	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.12	ug/L		
	4/9/2007	composite		0.16	ug/L	**0.1500**	**0.1483**
	4/18/2007	composite		0.17	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.023	ug/L		
	10/16/2007	grab		0.0372	ug/L	**0.0235**	**0.0215**
	11/16/2007	grab		0.011	ug/L		
	12/15/2007	grab		0.0229	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.047	ug/L		
	4/9/2007	composite		0.086	ug/L		
	4/23/2007	composite	J	0.018	ug/L	**0.0443**	**0.0371**
	5/3/2007 (duplicate)	composite		0.026	ug/L		
	5/3/2007	composite		0.026	ug/L		
OF M-3 City	9/28/2007	grab		0.0192	ug/L		
	9/30/2007	grab		0.0108	ug/L	**0.0197**	0.0175
	10/16/2007	grab		0.0361	ug/L		
	11/16/2007	grab		0.0126	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chrysene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chrysene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.132	ug/L		
	10/16/2007	grab		0.381	ug/L	**0.9705**	**0.5591**
	11/16/2007	grab		2.63	ug/L		
	12/15/2007	grab		0.739	ug/L		
OF S-2 City	9/28/2007	grab		0.0206	ug/L		
	10/16/2007	grab		0.0199	ug/L	**0.0250**	**0.0211**
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0499	ug/L		
OF S-5 City	9/28/2007	grab		0.0163	ug/L		
	10/16/2007	grab		0.0159	ug/L		
	11/16/2007 (duplicate)	grab		0.0798	ug/L	**0.0666**	**0.0416**
	11/16/2007	grab		0.0609	ug/L		
	12/15/2007	grab		0.164	ug/L		
OF S-6 City	9/28/2007	grab		0.0416	ug/L		
	10/16/2007	grab		0.171	ug/L	**0.0948**	**0.0833**
	11/16/2007	grab		0.0699	ug/L		
	12/15/2007	grab		0.0968	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for chrysene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Dibenzo(a,h)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dibenzo(a,h)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite	U	0.012	ug/L		
	4/18/2007	composite	J	0.017	ug/L	0.0120	0.0113
	4/23/2007	composite	J	0.0071	ug/L		
OF 18 LW3	3/26/2007	composite		0.034	ug/L		
	3/26/2007 (duplicate)	composite		0.026	ug/L		
	4/9/2007	composite	U	0.013	ug/L	0.0138	0.0100
	4/18/2007	composite	U	0.0096	ug/L		
	5/21/2007	grab	U	0.0027	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.021	ug/L		
	3/26/2007	composite	U	0.011	ug/L		
	4/9/2007	composite	U	0.018	ug/L	**0.0483**	**0.0320**
	4/9/2007 (duplicate)	composite	U	0.027	ug/L		
	4/18/2007	composite	J	0.015	ug/L		
	11/26/2007	composite		0.0108	ug/L		
	3/7/2008	composite		0.0171	ug/L		
	3/25/2008	composite	U	0.0286	ug/L		
	11/20/2008	composite		0.0166	ug/L		
	2/23/2009	composite		0.0301	ug/L		
	3/14/2009	composite		0.0123	ug/L		
OF 22 LW3	4/9/2007	composite	U	0.033	ug/L		
	5/3/2007	composite	U	0.016	ug/L	**0.0209**	**0.0181**
	6/5/2007	grab		0.027	ug/L		
	6/10/2007	composite	J	0.0076	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Dibenzo(a,h)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dibenzo(a,h)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite	J	0.0081	ug/L	0.0119	0.0098
	5/3/2007	composite		0.029	ug/L		
	6/5/2007	grab	J	0.0099	ug/L		
	11/16/2007	composite	J	0.006	ug/L		
	11/27/2007	composite	J	0.007	ug/L		
	11/27/2007 (duplicate)	composite	J	0.0061	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L	0.0100	0.0100
	3/20/2008	grab	U	0.00971	ug/L		
	4/4/2008	grab		0.0109	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.015	ug/L	**0.0185**	0.0146
	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab	U	0.0485	ug/L		
	4/4/2008	grab	U	0.0098	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.0262	ug/L	**0.0220**	**0.0210**
	2/29/2008	grab		0.0133	ug/L		
	3/20/2008	grab	U	0.0291	ug/L		
	4/4/2008	grab	U	0.0192	ug/L		
OF 46 City	2/5/2008	grab		0.0355	ug/L	**0.0407**	**0.0333**
	2/29/2008	grab		0.0297	ug/L		
	3/20/2008	grab		0.0986	ug/L		
	4/4/2008	grab		0.0203	ug/L		
	4/4/2008 (duplicate)	grab	U	0.0194	ug/L		
OF 47 City	2/5/2008	grab		0.0254	ug/L	**0.0456**	**0.0333**
	2/29/2008	grab	U	0.01	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.05	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Dibenzo(a,h)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dibenzo(a,h)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab	U	0.00971	ug/L		
	9/28/2007 (duplicate)	grab	U	0.00971	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0097 U	0.0097 U
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00962	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.0039	ug/L		
	4/23/2007	composite	U	0.0038	ug/L	0.0037	0.0036
	6/10/2007	composite	J	0.0043	ug/L		
	11/16/2007	composite	U	0.0027	ug/L		
OF 50 City	9/28/2007	grab	U	0.00971	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0097 U	0.0097 U
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab	U	0.00971	ug/L		
OF 52 City	9/28/2007	grab	U	0.00971	ug/L		
	9/30/2007	grab	U	0.00971	ug/L		
	9/30/2007 (duplicate)	grab	U	0.00971	ug/L	0.0097 U	0.0097 U
	10/16/2007 (duplicate)	grab	U	0.0098	ug/L		
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0573 U	0.0208 U
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab	U	0.0098	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.029	ug/L		
	4/7/2007	composite	J	0.0061	ug/L	0.0111	0.0075
	5/3/2007	composite	J	0.0062	ug/L		
	11/16/2007	composite	U	0.0029	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Dibenzo(a,h)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dibenzo(a,h)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.01	ug/L		
	4/7/2007	composite	J	0.011	ug/L		
	5/3/2007	composite	J	0.026	ug/L		
	1/26/2008	composite	U	0.0952	ug/L	**0.0285**	**0.0192**
	2/6/2008	composite	U	0.019	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0098	ug/L		
	3/12/2008	composite	U	0.0098	ug/L		
OF 53A City	2/29/2008	grab	U	0.01	ug/L		
	3/20/2008	grab	U	0.0291	ug/L	0.0171 U	0.0153 U
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0098	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0098 U	0.0098 U
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite	U	0.014	ug/L		
	4/9/2007	composite	U	0.016	ug/L	0.0170	0.0168
	4/18/2007	composite		0.021	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.00971	ug/L		
	10/16/2007	grab	U	0.00971	ug/L	0.0097 U	0.0097 U
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00971	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	U	0.0068	ug/L		
	4/9/2007	composite	U	0.012	ug/L		
	4/23/2007	composite	U	0.0036	ug/L	0.0074 U	0.0067 U
	5/3/2007	composite	U	0.0062	ug/L		
	5/3/2007 (duplicate)	composite	U	0.0078	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0099	ug/L		
	9/30/2007	grab	U	0.00971	ug/L	0.0098 U	0.0098 U
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Dibenzo(a,h)anthracene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dibenzo(a,h)anthracene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0152	ug/L	**0.1251**	**0.0661**
	10/16/2007	grab		0.0413	ug/L		
	11/16/2007	grab		0.359	ug/L		
	12/15/2007	grab		0.0847	ug/L		
OF S-2 City	9/28/2007	grab	U	0.00971	ug/L	0.0098 U	0.0098 U
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.0098	ug/L		
OF S-5 City	9/28/2007	grab	U	0.00971	ug/L	0.0125	0.0117
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007 (duplicate)	grab		0.0103	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0233	ug/L		
OF S-6 City	9/28/2007	grab	U	0.00971	ug/L	0.0193 U	0.0145 U
	10/16/2007	grab	U	0.0481	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00971	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for dibenzo(a,h)anthracene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.15	ug/L		
	4/18/2007	composite		0.15	ug/L	0.1153	0.1012
	4/23/2007	composite		0.046	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.21	ug/L		
	3/26/2007	composite		0.42	ug/L		
	4/9/2007	composite		0.09	ug/L	0.1255	0.0805
	4/18/2007	composite		0.078	ug/L		
	5/21/2007	grab	J	0.019	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	EST	0.18	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.25	ug/L		
	3/26/2007	composite		0.11	ug/L		
	4/9/2007 (duplicate)	composite		0.24	ug/L	0.1596	0.1487
	4/9/2007	composite		0.16	ug/L		
	4/18/2007	composite		0.16	ug/L		
	11/26/2007	composite		0.12	ug/L		
	3/7/2008	composite		0.195	ug/L		
	3/25/2008	composite		0.126	ug/L		
	11/20/2008	composite		0.117	ug/L		
	2/23/2009	composite		0.358	ug/L		
	3/14/2009	composite		0.148	ug/L		
OF 22 LW3	4/9/2007	composite		0.18	ug/L		
	5/3/2007	composite		0.13	ug/L	0.1720	0.1530
	6/5/2007	grab		0.3	ug/L		
	6/10/2007	composite		0.078	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.17	ug/L	0.1770	0.1620
	5/3/2007	composite		0.34	ug/L		
	6/5/2007	grab		0.14	ug/L		
	11/16/2007	composite		0.12	ug/L		
	11/27/2007	composite		0.12	ug/L		
	11/27/2007 (duplicate)	composite		0.11	ug/L		
OF 22C City	2/29/2008	grab		0.0724	ug/L	0.0694	0.0610
	3/20/2008	grab		0.0424	ug/L		
	4/4/2008	grab		0.0356	ug/L		
	5/13/2008	grab		0.127	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.0306	ug/L	0.1278	0.0645
	2/29/2008	grab		0.0242	ug/L		
	3/20/2008	grab		0.378	ug/L		
	4/4/2008	grab		0.0864	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.346	ug/L	**0.2328**	**0.2243**
	2/29/2008	grab		0.196	ug/L		
	3/20/2008	grab		0.172	ug/L		
	4/4/2008	grab		0.217	ug/L		
OF 46 City	2/5/2008	grab		0.77	ug/L	**0.5569**	**0.5336**
	2/29/2008	grab		0.455	ug/L		
	3/20/2008	grab		0.642	ug/L		
	4/4/2008 (duplicate)	grab		0.218	ug/L		
	4/4/2008	grab		0.503	ug/L		
OF 47 City	2/5/2008	grab		0.431	ug/L	**0.3321**	**0.2803**
	2/29/2008	grab		0.0905	ug/L		
	3/20/2008	grab		0.471	ug/L		
	4/4/2008	grab		0.336	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.554	ug/L		
	9/28/2007 (duplicate)	grab		0.332	ug/L		
	10/16/2007	grab		0.0257	ug/L	0.1480	0.0692
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.104	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.012	ug/L		
	4/23/2007	composite		0.022	ug/L	0.0173	0.0169
	6/10/2007	composite	J	0.018	ug/L		
	11/16/2007	composite	J	0.017	ug/L		
OF 50 City	9/28/2007	grab		0.137	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0591	0.0421
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0604	ug/L		
OF 52 City	9/28/2007	grab		0.232	ug/L		
	9/30/2007 (duplicate)	grab		0.0393	ug/L		
	9/30/2007	grab		0.0373	ug/L	0.1079	0.0812
	10/16/2007 (duplicate)	grab		0.108	ug/L		
	10/16/2007	grab		0.133	ug/L		
	11/16/2007	grab		0.0407	ug/L		
OF 52A City	9/28/2007	grab		0.62	ug/L		
	10/16/2007	grab		0.333	ug/L	**0.4060**	**0.3903**
	11/16/2007	grab		0.321	ug/L		
	12/14/2007	grab		0.35	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.19	ug/L		
	4/7/2007	composite		0.056	ug/L	0.0935	0.0812
	5/3/2007	composite		0.063	ug/L		
	11/16/2007	composite		0.065	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.1	ug/L		
	4/7/2007	composite		0.082	ug/L		
	5/3/2007	composite		0.21	ug/L		
	1/26/2008	composite		0.0899	ug/L	0.1308	0.1186
	2/6/2008	composite		0.222	ug/L		
	3/12/2008	composite		0.074	ug/L		
	3/12/2008 (duplicate)	composite		0.088	ug/L		
OF 53A City	2/29/2008	grab		0.0909	ug/L		
	3/20/2008	grab		0.204	ug/L	0.1163	0.1049
	4/4/2008	grab		0.112	ug/L		
	5/13/2008	grab	U	0.0583	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.118	ug/L		
	9/30/2007	grab		0.0446	ug/L	0.0979	0.0872
	10/16/2007	grab		0.16	ug/L		
	11/16/2007	grab		0.0688	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.19	ug/L		
	4/9/2007	composite		0.23	ug/L	**0.2267**	**0.2248**
	4/18/2007	composite		0.26	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.0476	ug/L		
	10/16/2007	grab		0.097	ug/L	0.0587	0.0551
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab		0.0515	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.12	ug/L		
	4/9/2007	composite		0.078	ug/L		
	4/23/2007	composite		0.048	ug/L	0.0793	0.0752
	5/3/2007	composite		0.068	ug/L		
	5/3/2007 (duplicate)	composite		0.074	ug/L		
OF M-3 City	9/28/2007	grab		0.0379	ug/L		
	9/30/2007	grab		0.0245	ug/L	0.0486	0.0413
	10/16/2007	grab		0.101	ug/L		
	11/16/2007	grab		0.031	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluoranthene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluoranthene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.435	ug/L		
	10/16/2007	grab		0.82	ug/L	**1.8363**	**1.2962**
	11/16/2007	grab		4.21	ug/L		
	12/15/2007	grab		1.88	ug/L		
OF S-2 City	9/28/2007	grab		0.0505	ug/L		
	10/16/2007	grab	U	0.0588	ug/L	0.0644	0.0566
	11/16/2007	grab	U	0.0291	ug/L		
	12/15/2007	grab		0.119	ug/L		
OF S-5 City	9/28/2007	grab		0.0603	ug/L		
	10/16/2007	grab	U	0.0388	ug/L		
	11/16/2007 (duplicate)	grab		0.206	ug/L	0.1674	0.1139
	11/16/2007	grab		0.169	ug/L		
	12/15/2007	grab		0.383	ug/L		
OF S-6 City	9/28/2007	grab		0.133	ug/L		
	10/16/2007	grab		0.465	ug/L	**0.2460**	**0.2136**
	11/16/2007	grab		0.133	ug/L		
	12/15/2007	grab		0.253	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); EST = estimated value; U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for fluoranthene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Fluorene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluorene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.024	ug/L		
	4/18/2007	composite		0.022	ug/L	0.0347	0.0313
	4/23/2007	composite		0.058	ug/L		
OF 18 LW3	3/26/2007	composite		0.031	ug/L		
	3/26/2007 (duplicate)	composite		0.047	ug/L		
	4/9/2007	composite	U	0.0042	ug/L	0.0142	0.0089
	4/18/2007	composite	J	0.0095	ug/L		
	5/21/2007	grab	U	0.004	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.013	ug/L		
	3/26/2007	composite	U	0.0097	ug/L		
	4/9/2007	composite		0.023	ug/L	0.0475	0.0325
	4/9/2007 (duplicate)	composite	J	0.019	ug/L		
	4/18/2007	composite	J	0.014	ug/L		
	11/26/2007	composite	U	0.02	ug/L		
	3/7/2008	composite	U	0.02	ug/L		
	3/25/2008	composite	U	0.019	ug/L		
	11/20/2008	composite		0.0236	ug/L		
	2/23/2009	composite	U	0.0392	ug/L		
	3/14/2009	composite	U	0.0196	ug/L		
OF 22 LW3	4/9/2007	composite		0.039	ug/L		
	5/3/2007	composite	J	0.012	ug/L	**0.3637**	0.0400
	6/5/2007	grab		1.4	ug/L		
	6/10/2007	composite	U	0.0039	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluorene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluorene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.036	ug/L	0.0305	0.0298
	5/3/2007	composite		0.04	ug/L		
	6/5/2007	grab		0.029	ug/L		
	11/16/2007	composite		0.023	ug/L		
	11/27/2007 (duplicate)	composite		0.023	ug/L		
	11/27/2007	composite		0.026	ug/L		
OF 22C City	2/29/2008	grab		0.218	ug/L	0.1603	0.1334
	3/20/2008	grab		0.0588	ug/L		
	4/4/2008	grab		0.0903	ug/L		
	5/13/2008	grab		0.274	ug/L		
OF 22D City	2/29/2008	grab	U	0.0194	ug/L	0.0389 U	0.0291 U
	2/29/2008 (duplicate)	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.0196	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.0425	ug/L	0.0309	0.0292
	2/29/2008	grab		0.023	ug/L		
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab	U	0.0385	ug/L		
OF 46 City	2/5/2008	grab	U	0.0396	ug/L	0.0535 U	0.0490 U
	2/29/2008	grab	U	0.0385	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab	U	0.0388	ug/L		
	4/4/2008 (duplicate)	grab	U	0.0388	ug/L		
OF 47 City	2/5/2008	grab	U	0.0388	ug/L	0.0442	0.0353
	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab	U	0.0971	ug/L		
	4/4/2008	grab		0.0207	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluorene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluorene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007 (duplicate)	grab		0.0351	ug/L		
	9/28/2007	grab		0.0451	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0246	0.0233
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0192	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.0059	ug/L		
	4/23/2007	composite	U	0.0038	ug/L	0.0051	0.0049
	6/10/2007	composite	U	0.0039	ug/L		
	11/16/2007	composite	J	0.0067	ug/L		
OF 50 City	9/28/2007	grab		0.0361	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0236	0.0227
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab	U	0.0194	ug/L		
OF 52 City	9/28/2007	grab		0.0441	ug/L		
	9/30/2007	grab	U	0.0194	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L	0.0256	0.0239
	10/16/2007 (duplicate)	grab	U	0.0196	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab	U	0.0294	ug/L	0.0677	0.0397
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0218	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.018	ug/L		
	4/7/2007	composite	J	0.014	ug/L	0.0121	0.0107
	5/3/2007	composite	J	0.012	ug/L		
	11/16/2007	composite	U	0.0044	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluorene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluorene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.0094	ug/L	0.0213	0.0189
	4/7/2007	composite	J	0.01	ug/L		
	5/3/2007	composite	J	0.024	ug/L		
	1/26/2008	composite		0.0268	ug/L		
	2/6/2008	composite	U	0.0381	ug/L		
	3/12/2008	composite	U	0.0196	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0196	ug/L		
OF 53A City	2/29/2008	grab	U	0.02	ug/L	0.0342	0.0277
	3/20/2008	grab	U	0.0194	ug/L		
	4/4/2008	grab		0.0779	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0196	ug/L	0.0195 U	0.0195 U
	9/30/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.024	ug/L	0.0357	0.0331
	4/9/2007	composite		0.056	ug/L		
	4/18/2007	composite		0.027	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.0194	ug/L	0.0243 U	0.0231 U
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.0094	ug/L	0.0094	0.0088
	4/9/2007	composite	J	0.015	ug/L		
	4/23/2007	composite	J	0.0054	ug/L		
	5/3/2007	composite	J	0.0083	ug/L		
	5/3/2007 (duplicate)	composite	J	0.0073	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0198	ug/L	0.0196 U	0.0195 U
	9/30/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Fluorene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Fluorene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0403	ug/L	0.0647	0.0495
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab		0.147	ug/L		
	12/15/2007	grab		0.0518	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0195 U
	10/16/2007	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0196	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0194	ug/L	0.0195 U	0.0194 U
	10/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab	U	0.0194	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0196	ug/L		
OF S-6 City	9/28/2007	grab		0.0419	ug/L	0.0250	0.0235
	10/16/2007	grab	U	0.0192	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab	U	0.0194	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for fluorene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Indeno(1,2,3-cd)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Indeno(1,2,3-cd)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.056	ug/L		
	4/18/2007	composite		0.064	ug/L	**0.0467**	**0.0415**
	4/23/2007	composite	J	0.02	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.091	ug/L		
	3/26/2007	composite		0.14	ug/L		
	4/9/2007	composite		0.065	ug/L	**0.0542**	**0.0301**
	4/18/2007	composite	U	0.033	ug/L		
	5/21/2007	grab	J	0.0033	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.091	ug/L		
	3/26/2007	composite		0.056	ug/L		
	4/9/2007 (duplicate)	composite		0.12	ug/L	**0.0740**	**0.0663**
	4/9/2007	composite		0.088	ug/L		
	4/18/2007	composite		0.064	ug/L		
	11/26/2007	composite		0.0282	ug/L		
	3/7/2008	composite		0.0482	ug/L		
	3/25/2008	composite		0.0389	ug/L		
	11/20/2008	composite		0.03	ug/L		
	2/23/2009	composite		0.0721	ug/L		
	3/14/2009	composite		0.0373	ug/L		
OF 22 LW3	4/9/2007	composite		0.13	ug/L		
	5/3/2007	composite		0.065	ug/L	**0.0730**	**0.0658**
	6/5/2007	grab		0.06	ug/L		
	6/10/2007	composite		0.037	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Indeno(1,2,3-cd)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Indeno(1,2,3-cd)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.038	ug/L		
	5/3/2007	composite		0.11	ug/L		
	6/5/2007	grab		0.045	ug/L	**0.0433**	**0.0355**
	11/16/2007	composite		0.028	ug/L		
	11/27/2007 (duplicate)	composite		0.021	ug/L		
	11/27/2007	composite	J	0.018	ug/L		
OF 22C City	2/29/2008	grab	U	0.00971	ug/L		
	3/20/2008	grab		0.0166	ug/L	0.0123	0.0120
	4/4/2008	grab		0.0132	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 22D City	2/29/2008	grab	U	0.00971	ug/L		
	2/29/2008 (duplicate)	grab		0.0169	ug/L		
	3/20/2008	grab		0.1	ug/L	**0.0301**	**0.0186**
	4/4/2008	grab		0.014	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		
OF 45 City	2/5/2008	grab		0.0682	ug/L		
	2/29/2008	grab		0.0323	ug/L	**0.0422**	**0.0398**
	3/20/2008	grab		0.0298	ug/L		
	4/4/2008	grab		0.0384	ug/L		
OF 46 City	2/5/2008	grab		0.086	ug/L		
	2/29/2008	grab		0.0605	ug/L		
	3/20/2008	grab		0.141	ug/L	**0.0838**	**0.0769**
	4/4/2008	grab		0.0515	ug/L		
	4/4/2008 (duplicate)	grab		0.044	ug/L		
OF 47 City	2/5/2008	grab		0.062	ug/L		
	2/29/2008	grab		0.0127	ug/L	**0.0744**	**0.0511**
	3/20/2008	grab		0.173	ug/L		
	4/4/2008	grab	U	0.05	ug/L		
OF 48 City	9/28/2007	grab		0.0197	ug/L		
	9/28/2007 (duplicate)	grab		0.0164	ug/L		
	10/16/2007	grab	U	0.0098	ug/L	0.0118	0.0113
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00962	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Indeno(1,2,3-cd)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Indeno(1,2,3-cd)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 49 LW3	4/9/2007	composite	U	0.0065	ug/L	0.0056	0.0054
	4/23/2007	composite	J	0.0072	ug/L		
	6/10/2007	composite	J	0.0049	ug/L		
	11/16/2007	composite	J	0.0037	ug/L		
OF 50 City	9/28/2007	grab		0.0127	ug/L	0.0105	0.0104
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/14/2007	grab	U	0.00971	ug/L		
OF 52 City	9/28/2007	grab		0.0148	ug/L	0.0134	0.0132
	9/30/2007 (duplicate)	grab	U	0.00971	ug/L		
	9/30/2007	grab	U	0.00971	ug/L		
	10/16/2007	grab		0.0147	ug/L		
	10/16/2007 (duplicate)	grab		0.011	ug/L		
	11/16/2007	grab		0.0164	ug/L		
OF 52A City	9/28/2007	grab		0.21	ug/L	**0.0644**	**0.0288**
	10/16/2007	grab		0.0114	ug/L		
	11/16/2007	grab		0.0246	ug/L		
	12/14/2007	grab		0.0117	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.12	ug/L	**0.0443**	**0.0226**
	4/7/2007	composite		0.027	ug/L		
	5/3/2007	composite	J	0.027	ug/L		
	11/16/2007	composite	U	0.003	ug/L		
OF 53 City+Port	3/24/2007	composite		0.038	ug/L	**0.0445**	**0.0370**
	4/7/2007	composite		0.048	ug/L		
	5/3/2007	composite		0.095	ug/L		
	1/26/2008	composite		0.016	ug/L		
	2/6/2008	composite		0.0523	ug/L		
	3/12/2008	composite		0.0165	ug/L		
	3/12/2008 (duplicate)	composite		0.0191	ug/L		
OF 53A City	2/29/2008	grab		0.0113	ug/L	**0.0201**	0.0171
	3/20/2008	grab		0.0399	ug/L		
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab	U	0.00971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Indeno(1,2,3-cd)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Indeno(1,2,3-cd)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-1 City [5]	9/28/2007	grab	U	0.0098	ug/L	0.0111	0.0109
	9/30/2007	grab		0.0098	ug/L		
	10/16/2007	grab		0.0149	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.077	ug/L	**0.0893**	**0.0888**
	4/9/2007	composite		0.099	ug/L		
	4/18/2007	composite		0.092	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.00971	ug/L	0.0114	0.0111
	10/16/2007	grab		0.0163	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab	U	0.00971	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.068	ug/L	**0.0374**	**0.0329**
	4/9/2007	composite		0.037	ug/L		
	4/23/2007	composite	J	0.017	ug/L		
	5/3/2007 (duplicate)	composite	U	0.03	ug/L		
	5/3/2007	composite	U	0.025	ug/L		
OF M-3 City	9/28/2007	grab	U	0.0099	ug/L	0.0105	0.0105
	9/30/2007	grab	U	0.00971	ug/L		
	10/16/2007	grab		0.0128	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
OF S-1 City	9/28/2007	grab		0.0401	ug/L	**0.3000**	**0.1677**
	10/16/2007	grab		0.116	ug/L		
	11/16/2007	grab		0.842	ug/L		
	12/15/2007	grab		0.202	ug/L		
OF S-2 City	9/28/2007	grab	U	0.00971	ug/L	0.0120	0.0115
	10/16/2007	grab	U	0.0098	ug/L		
	11/16/2007	grab	U	0.00971	ug/L		
	12/15/2007	grab		0.0188	ug/L		
OF S-5 City	9/28/2007	grab	U	0.00971	ug/L	**0.0249**	**0.0185**
	10/16/2007	grab	U	0.00971	ug/L		
	11/16/2007 (duplicate)	grab		0.0232	ug/L		
	11/16/2007	grab		0.0185	ug/L		
	12/15/2007	grab		0.0592	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Indeno(1,2,3-cd)pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Indeno(1,2,3-cd)pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-6 City	9/28/2007	grab		0.011	ug/L	**0.0309**	**0.0226**
	10/16/2007	grab		0.0754	ug/L		
	11/16/2007	grab		0.013	ug/L		
	12/15/2007	grab		0.0241	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for indeno(1,2,3-cd)phyrene = 0.018 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Naphthalene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Naphthalene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite	U	0.063	ug/L		
	4/18/2007	composite	U	0.091	ug/L	0.0880	0.0858
	4/23/2007	composite	U	0.11	ug/L		
OF 18 LW3	3/26/2007	composite		0.042	ug/L		
	3/26/2007 (duplicate)	composite	U	0.032	ug/L		
	4/9/2007	composite	U	0.019	ug/L	0.0233	0.0202
	4/18/2007	composite	U	0.015	ug/L		
	5/21/2007	grab	U	0.0087	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.028	ug/L		
	3/26/2007	composite	U	0.025	ug/L		
	4/9/2007	composite	U	0.026	ug/L	0.0629	0.0524
	4/9/2007 (duplicate)	composite	U	0.022	ug/L		
	4/18/2007	composite	U	0.03	ug/L		
	11/26/2007	composite	U	0.08	ug/L		
	3/7/2008	composite		0.0527	ug/L		
	3/25/2008	composite		0.0555	ug/L		
	11/20/2008	composite		0.0323	ug/L		
	2/23/2009	composite		0.0566	ug/L		
	3/14/2009	composite	U	0.0196	ug/L		
OF 22 LW3	4/9/2007	composite	U	0.034	ug/L		
	5/3/2007	composite	U	0.029	ug/L	0.0428 U	0.0386 U
	6/5/2007	grab	U	0.08	ug/L		
	6/10/2007	composite	U	0.028	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Naphthalene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Naphthalene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.061	ug/L		
	5/3/2007	composite	U	0.1	ug/L		
	6/5/2007	grab		4.1	ug/L	**1.2922**	**0.4274**
	11/16/2007	composite		0.3	ug/L		
	11/27/2007 (duplicate)	composite		2	ug/L		
	11/27/2007	composite		1.8	ug/L		
OF 22C City	2/29/2008	grab		0.0358	ug/L		
	3/20/2008	grab	U	0.0583	ug/L	0.0758	0.0690
	4/4/2008	grab		0.0979	ug/L		
	5/13/2008	grab		0.111	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab	U	0.0194	ug/L		
	2/29/2008	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0971	ug/L	0.0613	0.0528
	4/4/2008	grab		0.0634	ug/L		
	5/13/2008	grab		0.0653	ug/L		
OF 45 City	2/5/2008	grab		0.0418	ug/L		
	2/29/2008	grab		0.0422	ug/L	0.0544	0.0527
	3/20/2008	grab	U	0.0583	ug/L		
	4/4/2008	grab		0.0752	ug/L		
OF 46 City	2/5/2008	grab	U	0.0396	ug/L		
	2/29/2008	grab	U	0.0385	ug/L		
	3/20/2008	grab	U	0.0971	ug/L	0.0603	0.0559
	4/4/2008	grab		0.0824	ug/L		
	4/4/2008 (duplicate)	grab		0.0493	ug/L		
OF 47 City	2/5/2008	grab		0.0391	ug/L		
	2/29/2008	grab		0.0297	ug/L	0.0791	0.0589
	3/20/2008	grab	U	0.194	ug/L		
	4/4/2008	grab		0.0534	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Naphthalene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Naphthalene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab	U	0.0388	ug/L		
	9/28/2007 (duplicate)	grab		0.0343	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0296	0.0283
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0357	ug/L		
OF 49 LW3	4/9/2007	composite	U	0.02	ug/L		
	4/23/2007	composite	U	0.018	ug/L	0.0205 U	0.0204 U
	6/10/2007	composite	U	0.023	ug/L		
	11/16/2007	composite	U	0.021	ug/L		
OF 50 City	9/28/2007	grab		0.0348	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0267	0.0257
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0331	ug/L		
OF 52 City	9/28/2007	grab		0.0344	ug/L		
	9/30/2007 (duplicate)	grab	U	0.0194	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0232	0.0224
	10/16/2007	grab	U	0.0196	ug/L		
	10/16/2007 (duplicate)	grab	U	0.0196	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab	U	0.2	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0761	0.0472
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0652	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.051	ug/L		
	4/7/2007	composite		0.034	ug/L	0.0276	0.0191
	5/3/2007	composite	J	0.022	ug/L		
	11/16/2007	composite	U	0.0035	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Naphthalene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Naphthalene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.028	ug/L		
	4/7/2007	composite		0.028	ug/L		
	5/3/2007	composite		0.043	ug/L		
	1/26/2008	composite		0.129	ug/L	0.0476	0.0385
	2/6/2008	composite	U	0.0381	ug/L		
	3/12/2008 (duplicate)	composite	U	0.0196	ug/L		
	3/12/2008	composite	U	0.0196	ug/L		
OF 53A City	2/29/2008	grab	U	0.02	ug/L		
	3/20/2008	grab	U	0.0583	ug/L	0.0536	0.0441
	4/4/2008	grab		0.0309	ug/L		
	5/13/2008	grab		0.105	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0312	ug/L		
	9/30/2007	grab	U	0.0194	ug/L	0.0288	0.0281
	10/16/2007	grab		0.0332	ug/L		
	11/16/2007	grab		0.0312	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.047	ug/L		
	4/9/2007	composite		0.11	ug/L	0.0837	0.0786
	4/18/2007	composite	U	0.094	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.0194	ug/L		
	10/16/2007	grab		0.0461	ug/L	0.0352	0.0336
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab		0.0366	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	U	0.034	ug/L		
	4/9/2007	composite	U	0.027	ug/L		
	4/23/2007	composite	U	0.019	ug/L	0.0261 U	0.0256 U
	5/3/2007 (duplicate)	composite	U	0.019	ug/L		
	5/3/2007	composite	U	0.03	ug/L		
OF M-3 City	9/28/2007	grab		0.0519	ug/L		
	9/30/2007	grab		0.0291	ug/L	0.0420	0.0398
	10/16/2007	grab		0.0587	ug/L		
	11/16/2007	grab		0.0283	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Naphthalene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Naphthalene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.0307	ug/L	0.1308	0.0730
	10/16/2007	grab		0.0213	ug/L		
	11/16/2007	grab		0.126	ug/L		
	12/15/2007	grab		0.345	ug/L		
OF S-2 City	9/28/2007	grab	U	0.0194	ug/L	0.0306	0.0270
	10/16/2007	grab		0.0237	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.06	ug/L		
OF S-5 City	9/28/2007	grab	U	0.0194	ug/L	0.0255	0.0245
	10/16/2007	grab	U	0.0291	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	11/16/2007 (duplicate)	grab		0.0206	ug/L		
	12/15/2007	grab		0.039	ug/L		
OF S-6 City	9/28/2007	grab	U	0.0194	ug/L	0.0236	0.0227
	10/16/2007	grab		0.0201	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0353	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for naphthalene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Phenanthrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Phenanthrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.11	ug/L		
	4/18/2007	composite		0.13	ug/L	0.11	0.11
	4/23/2007	composite		0.1	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.49	ug/L		
	3/26/2007	composite		0.29	ug/L		
	4/9/2007	composite		0.037	ug/L	0.12	0.05
	4/18/2007	composite		0.038	ug/L		
	5/21/2007	grab	J	0.0084	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.11	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.073	ug/L		
	3/26/2007	composite		0.075	ug/L		
	4/9/2007	composite		0.1	ug/L	0.11	0.10
	4/9/2007 (duplicate)	composite		0.15	ug/L		
	4/18/2007	composite		0.09	ug/L		
	11/26/2007	composite		0.0995	ug/L		
	3/7/2008	composite		0.0872	ug/L		
	3/25/2008	composite		0.0516	ug/L		
	11/20/2008	composite		0.122	ug/L		
	2/23/2009	composite		0.272	ug/L		
	3/14/2009	composite		0.101	ug/L		
OF 22 LW3	4/9/2007	composite		0.097	ug/L		
	5/3/2007	composite		0.091	ug/L	**0.33**	0.14
	6/5/2007	grab		1.1	ug/L		
	6/10/2007	composite		0.04	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Phenanthrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Phenanthrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.3	ug/L		
	5/3/2007	composite		0.33	ug/L		
	6/5/2007	grab		0.094	ug/L	**0.21**	0.19
	11/16/2007	composite		0.17	ug/L		
	11/27/2007	composite		0.15	ug/L		
	11/27/2007 (duplicate)	composite		0.14	ug/L		
OF 22C City	2/29/2008	grab	U	0.0194	ug/L		
	3/20/2008	grab	U	0.0194	ug/L	0.02	0.02
	4/4/2008	grab	U	0.0194	ug/L		
	5/13/2008	grab		0.0242	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.0214	ug/L		
	2/29/2008	grab		0.0204	ug/L		
	3/20/2008	grab		0.139	ug/L	0.06	0.04
	4/4/2008	grab		0.0558	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.173	ug/L		
	2/29/2008	grab		0.109	ug/L	0.12	0.12
	3/20/2008	grab		0.0687	ug/L		
	4/4/2008	grab		0.147	ug/L		
OF 46 City	2/5/2008	grab		0.178	ug/L		
	2/29/2008	grab		0.235	ug/L		
	3/20/2008	grab		0.168	ug/L	0.19	0.19
	4/4/2008 (duplicate)	grab		0.161	ug/L		
	4/4/2008	grab		0.234	ug/L		
OF 47 City	2/5/2008	grab		0.216	ug/L		
	2/29/2008	grab		0.0892	ug/L	0.13	0.12
	3/20/2008	grab		0.0708	ug/L		
	4/4/2008	grab		0.15	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Phenanthrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Phenanthrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.215	ug/L		
	9/28/2007 (duplicate)	grab		0.2	ug/L		
	10/16/2007	grab		0.0293	ug/L	0.08	0.05
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0693	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.013	ug/L		
	4/23/2007	composite	U	0.019	ug/L	0.02	0.02
	6/10/2007	composite	J	0.012	ug/L		
	11/16/2007	composite	J	0.019	ug/L		
OF 50 City	9/28/2007	grab		0.148	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.06	0.04
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0401	ug/L		
OF 52 City	9/28/2007	grab		0.141	ug/L		
	9/30/2007 (duplicate)	grab		0.0291	ug/L		
	9/30/2007	grab		0.0313	ug/L	0.07	0.05
	10/16/2007	grab		0.0827	ug/L		
	10/16/2007 (duplicate)	grab		0.0722	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
OF 52A City	9/28/2007	grab		0.65	ug/L		
	10/16/2007	grab		0.0968	ug/L	**0.23**	0.13
	11/16/2007	grab		0.0377	ug/L		
	12/14/2007	grab		0.128	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.17	ug/L		
	4/7/2007	composite		0.072	ug/L	0.09	0.08
	5/3/2007	composite		0.061	ug/L		
	11/16/2007	composite		0.056	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Phenanthrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Phenanthrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.068	ug/L		
	4/7/2007	composite		0.069	ug/L		
	5/3/2007	composite		0.15	ug/L		
	1/26/2008	composite		0.107	ug/L	0.10	0.09
	2/6/2008	composite		0.129	ug/L		
	3/12/2008	composite		0.0429	ug/L		
	3/12/2008 (duplicate)	composite		0.0522	ug/L		
OF 53A City	2/29/2008	grab		0.0572	ug/L		
	3/20/2008	grab		0.0912	ug/L	0.08	0.08
	4/4/2008	grab		0.128	ug/L		
	5/13/2008	grab		0.0582	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0327	ug/L		
	9/30/2007	grab		0.036	ug/L	0.04	0.04
	10/16/2007	grab		0.0571	ug/L		
	11/16/2007	grab		0.0312	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.068	ug/L		
	4/9/2007	composite		0.084	ug/L	0.08	0.08
	4/18/2007	composite		0.1	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.039	ug/L		
	10/16/2007	grab		0.0534	ug/L	0.05	0.05
	11/16/2007	grab	U	0.0388	ug/L		
	12/15/2007	grab		0.0541	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.063	ug/L		
	4/9/2007	composite		0.078	ug/L		
	4/23/2007	composite		0.036	ug/L	0.06	0.05
	5/3/2007	composite		0.05	ug/L		
	5/3/2007 (duplicate)	composite		0.048	ug/L		
OF M-3 City	9/28/2007	grab		0.0474	ug/L		
	9/30/2007	grab		0.0458	ug/L	0.05	0.05
	10/16/2007	grab		0.0836	ug/L		
	11/16/2007	grab		0.023	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Phenanthrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Phenanthrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.132	ug/L	**0.76**	**0.46**
	10/16/2007	grab		0.24	ug/L		
	11/16/2007	grab		1.95	ug/L		
	12/15/2007	grab		0.737	ug/L		
OF S-2 City	9/28/2007	grab		0.0457	ug/L	0.05	0.05
	10/16/2007	grab		0.0475	ug/L		
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.102	ug/L		
OF S-5 City	9/28/2007	grab		0.0469	ug/L	0.10	0.08
	10/16/2007	grab		0.0277	ug/L		
	11/16/2007 (duplicate)	grab		0.179	ug/L		
	11/16/2007	grab		0.107	ug/L		
	12/15/2007	grab		0.195	ug/L		
OF S-6 City	9/28/2007	grab		0.0702	ug/L	0.09	0.09
	10/16/2007	grab		0.107	ug/L		
	11/16/2007	grab		0.0575	ug/L		
	12/15/2007	grab		0.143	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for phenanthrene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.15	ug/L		
	4/18/2007	composite		0.18	ug/L	0.1373	0.1303
	4/23/2007	composite		0.082	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.34	ug/L		
	3/26/2007	composite		0.54	ug/L		
	4/9/2007	composite		0.14	ug/L	0.1810	0.1232
	4/18/2007	composite		0.11	ug/L		
	5/21/2007	grab		0.034	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.11	ug/L		
	3/15/2006	composite	U	0.11	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	EST	0.19	ug/L		
	11/19/2006	composite	U	0.11	ug/L		
	2/14/2007	composite		0.27	ug/L		
	3/26/2007	composite		0.14	ug/L		
	4/9/2007	composite		0.19	ug/L	0.1481	0.1378
	4/9/2007 (duplicate)	composite		0.24	ug/L		
	4/18/2007	composite		0.19	ug/L		
	11/26/2007	composite		0.153	ug/L		
	3/7/2008	composite	J	0.126	ug/L		
	3/25/2008	composite		0.0646	ug/L		
	11/20/2008	composite		0.0845	ug/L		
	2/23/2009	composite		0.225	ug/L		
	3/14/2009	composite		0.133	ug/L		
OF 22 LW3	4/9/2007	composite		0.19	ug/L		
	5/3/2007	composite		0.14	ug/L	**0.2725**	**0.2192**
	6/5/2007	grab		0.62	ug/L		
	6/10/2007	composite		0.14	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.17	ug/L	0.1730	0.1586
	5/3/2007	composite		0.33	ug/L		
	6/5/2007	grab		0.11	ug/L		
	11/16/2007	composite		0.13	ug/L		
	11/27/2007	composite		0.12	ug/L		
	11/27/2007 (duplicate)	composite		0.13	ug/L		
OF 22C City	2/29/2008	grab		0.0793	ug/L	0.0780	0.0682
	3/20/2008	grab		0.0469	ug/L		
	4/4/2008	grab		0.0398	ug/L		
	5/13/2008	grab		0.146	ug/L		
OF 22D City	2/29/2008	grab		0.0316	ug/L	0.0962	0.0553
	2/29/2008 (duplicate)	grab		0.0362	ug/L		
	3/20/2008	grab		0.281	ug/L		
	4/4/2008	grab		0.0505	ug/L		
	5/13/2008	grab	U	0.0194	ug/L		
OF 45 City	2/5/2008	grab		0.206	ug/L	0.1342	0.1265
	2/29/2008	grab		0.147	ug/L		
	3/20/2008	grab		0.0908	ug/L		
	4/4/2008	grab		0.0931	ug/L		
OF 46 City	2/5/2008	grab		0.32	ug/L	**0.2688**	**0.2561**
	2/29/2008	grab		0.309	ug/L		
	3/20/2008	grab		0.302	ug/L		
	4/4/2008 (duplicate)	grab		0.102	ug/L		
	4/4/2008	grab		0.186	ug/L		
OF 47 City	2/5/2008	grab		0.235	ug/L	**0.2048**	0.1807
	2/29/2008	grab		0.073	ug/L		
	3/20/2008	grab		0.312	ug/L		
	4/4/2008	grab		0.199	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab		0.317	ug/L		
	9/28/2007 (duplicate)	grab		0.211	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0870	0.0461
	11/16/2007	grab	U	0.0194	ug/L		
	12/15/2007	grab		0.0449	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.022	ug/L		
	4/23/2007	composite		0.03	ug/L	0.0215	0.0209
	6/10/2007	composite	J	0.016	ug/L		
	11/16/2007	composite	J	0.018	ug/L		
OF 50 City	9/28/2007	grab		0.092	ug/L		
	10/16/2007	grab	U	0.0196	ug/L	0.0437	0.0352
	11/16/2007	grab	U	0.0194	ug/L		
	12/14/2007	grab		0.0438	ug/L		
OF 52 City	9/28/2007	grab		0.138	ug/L		
	9/30/2007	grab		0.0392	ug/L		
	9/30/2007 (duplicate)	grab		0.0383	ug/L	0.0735	0.0636
	10/16/2007 (duplicate)	grab		0.0762	ug/L		
	10/16/2007	grab		0.0788	ug/L		
	11/16/2007	grab		0.0396	ug/L		
OF52A City	9/28/2007	grab		0.45	ug/L		
	10/16/2007	grab		0.186	ug/L	**0.2330**	**0.2069**
	11/16/2007	grab		0.146	ug/L		
	12/14/2007	grab		0.15	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.2	ug/L		
	4/7/2007	composite		0.044	ug/L	0.0893	0.0728
	5/3/2007	composite		0.056	ug/L		
	11/16/2007	composite		0.057	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.13	ug/L		
	4/7/2007	composite		0.093	ug/L		
	5/3/2007	composite		0.21	ug/L		
	1/26/2008	composite		0.0667	ug/L	0.1158	0.1059
	2/6/2008	composite		0.132	ug/L		
	3/12/2008 (duplicate)	composite		0.0701	ug/L		
	3/12/2008	composite		0.0559	ug/L		
OF 53A City	2/29/2008	grab		0.0735	ug/L		
	3/20/2008	grab		0.124	ug/L	0.0886	0.0865
	4/4/2008	grab		0.0739	ug/L		
	5/13/2008	grab		0.083	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.0784	ug/L		
	9/30/2007	grab		0.0474	ug/L	0.0628	0.0593
	10/16/2007	grab		0.0869	ug/L		
	11/16/2007	grab		0.0384	ug/L		
OF M-1 LW3 [5]	3/26/2007	composite		0.2	ug/L		
	4/9/2007	composite		0.26	ug/L	**0.2367**	**0.2351**
	4/18/2007	composite		0.25	ug/L		
OF M-2 City [5]	9/28/2007	grab		0.061	ug/L		
	10/16/2007	grab		0.0726	ug/L	0.0556	0.0528
	11/16/2007	grab		0.0301	ug/L		
	12/15/2007	grab		0.0585	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		0.13	ug/L		
	4/9/2007	composite		0.071	ug/L		
	4/23/2007	composite		0.045	ug/L	0.0779	0.0722
	5/3/2007	composite		0.065	ug/L		
	5/3/2007 (duplicate)	composite		0.066	ug/L		
OF M-3 City	9/28/2007	grab		0.0585	ug/L		
	9/30/2007	grab		0.0275	ug/L	0.0468	0.0425
	10/16/2007	grab		0.0736	ug/L		
	11/16/2007	grab		0.0276	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Pyrene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pyrene Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.21	ug/L	**1.5758**	**0.8736**
	10/16/2007	grab		0.553	ug/L		
	11/16/2007	grab		4.4	ug/L		
	12/15/2007	grab		1.14	ug/L		
OF S-2 City	9/28/2007	grab		0.0574	ug/L	0.0557	0.0519
	10/16/2007	grab		0.0515	ug/L		
	11/16/2007	grab	U	0.0291	ug/L		
	12/15/2007	grab		0.0846	ug/L		
OF S-5 City	9/28/2007	grab		0.0638	ug/L	0.1144	0.0920
	10/16/2007	grab		0.0408	ug/L		
	11/16/2007 (duplicate)	grab		0.135	ug/L		
	11/16/2007	grab		0.0972	ug/L		
	12/15/2007	grab		0.237	ug/L		
OF S-6 City	9/28/2007	grab		0.0903	ug/L	0.1238	0.1197
	10/16/2007	grab		0.177	ug/L		
	11/16/2007	grab		0.102	ug/L		
	12/15/2007	grab		0.126	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); EST = estimated; U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for pyrene = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin:

Organochlorine Pesticides

Stormwater Analytical Results by City Outfall Basin -- 2,4'-DDD

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	2,4'-DDD Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007 (duplicate)	composite	U	0.013	ug/L	0.0129 U	0.0117 U
	3/27/2007	composite	U	0.0071	ug/L		
	5/3/2007 (duplicate)	composite	U	0.0052	ug/L		
	5/3/2007	composite	U	0.037	ug/L		
	6/5/2007	grab	U	0.014	ug/L		
	11/16/2007	composite	U	0.0064	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.0015	ug/L	**0.0034**	**0.0021**
	4/7/2007	composite	U	0.00097	ug/L		
	4/7/2007 (duplicate)	composite	J	0.0053	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	0.00058	ug/L		
	11/16/2007 (duplicate)	composite	U	0.00055	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0015	ug/L	0.0027 U	0.0020 U
	4/7/2007	composite	U	0.00099	ug/L		
	5/3/2007	composite	UJ	0.0055	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 2,4'-DDD = 0.00031 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin-- 2,4'-DDE

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	2,4'-DDE Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007 (duplicate)	composite	J	0.031	ug/L	**0.0197**	**0.0145**
	3/27/2007	composite	J	0.023	ug/L		
	5/3/2007	composite	NJ	0.032	ug/L		
	5/3/2007 (duplicate)	composite	U	0.023	ug/L		
	6/5/2007	grab	U	0.0023	ug/L		
	11/16/2007	composite	J	0.014	ug/L		
OF 52C Basin T Port	3/24/2007	composite	U	0.00049	ug/L	0.0026 U	0.0014 U
	4/7/2007 (duplicate)	composite	UJ	0.002	ug/L		
	4/7/2007	composite	U	0.00049	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	0.0012	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0011	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0013	ug/L	0.0024 U	0.0015 U
	4/7/2007	composite	UJ	5.00E-04	ug/L		
	5/3/2007	composite	U	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 2,4'-DDE = 0.00022 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- 2,4'-DDT

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	2,4'-DDT Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22B LW3	3/27/2007	composite		0.012	ug/L		
	3/27/2007 (duplicate)	composite		0.014	ug/L		
	5/3/2007	composite	NJ	0.01	ug/L	**0.0081**	**0.0072**
	5/3/2007 (duplicate)	composite	U	0.0078	ug/L		
	6/5/2007	grab	NJ	0.0028	ug/L		
	11/16/2007	composite	U	0.007	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.00071	ug/L		
	4/7/2007	composite	UJ	0.00072	ug/L		
	4/7/2007 (duplicate)	composite	J	0.0018	ug/L	**0.0025**	**0.0014**
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	0.00064	ug/L		
	11/16/2007 (duplicate)	composite	U	6.00E-04	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.00061	ug/L		
	4/7/2007	composite	UJ	0.00067	ug/L	0.0022 U	0.0013 U
	5/3/2007	composite	UJ	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 2,4'-DDT = 0.00022 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- 4,4'-DDD

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	4,4'-DDD Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	J	0.014	ug/L	**0.0140**	**0.0140**
OF 22B LW3	3/27/2007	composite	NJ	0.026	ug/L	**0.0618**	**0.0342**
	3/27/2007 (duplicate)	composite	NJ	0.079	ug/L		
	5/3/2007	composite	J	0.15	ug/L		
	5/3/2007 (duplicate)	composite	J	0.16	ug/L		
	6/5/2007	grab	U	0.0048	ug/L		
	11/16/2007	composite		0.035	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.0012	ug/L	0.0031 U	0.0013 U
	4/7/2007	composite	U	0.00049	ug/L		
	4/7/2007 (duplicate)	composite	UJ	0.00049	ug/L		
	5/3/2007	composite	UJ	0.012	ug/L		
	11/16/2007	composite	U	0.0012	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0011	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.00064	ug/L	0.0032 U	0.0014 U
	4/7/2007	composite	UJ	5.00E-04	ug/L		
	5/3/2007	composite	UJ	0.0085	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 4,4'-DDD = 0.00022 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- 4,4'-DDE

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	4,4'-DDE Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	U	0.0091	ug/L	0.0091 U	0.0091 U
OF 22B LW3	3/27/2007	composite		0.01	ug/L	**0.0119**	**0.0101**
	3/27/2007 (duplicate)	composite		0.014	ug/L		
	5/3/2007 (duplicate)	composite	NJ	0.018	ug/L		
	5/3/2007	composite	J	0.017	ug/L		
	6/5/2007	grab	NJ	0.0092	ug/L		
	11/16/2007	composite	NJ	0.0031	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.0026	ug/L	0.0038 U	0.0019 U
	4/7/2007	composite	U	0.00049	ug/L		
	4/7/2007 (duplicate)	composite	U	0.00049	ug/L		
	5/3/2007	composite	UJ	0.011	ug/L		
	11/16/2007	composite	U	0.001	ug/L		
	11/16/2007 (duplicate)	composite	U	0.00095	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.003	ug/L	**0.0049**	**0.0030**
	4/7/2007	composite		0.00081	ug/L		
	5/3/2007	composite	UJ	0.011	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 4,4'-DDE= 0.00031 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- 4,4'-DDT

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	4,4'-DDT Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	U	0.023	ug/L	0.023 U	0.023 U
OF 22B LW3	3/27/2007	composite	U	0.056	ug/L	0.0558 U	0.0448 U
	3/27/2007 (duplicate)	composite	U	0.087	ug/L		
	5/3/2007	composite	U	0.11	ug/L		
	5/3/2007 (duplicate)	composite	U	0.071	ug/L		
	6/5/2007	grab	U	0.013	ug/L		
	11/16/2007	composite	U	0.048	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.031	ug/L	**0.0112**	**0.0056**
	4/7/2007	composite	UJ	0.0024	ug/L		
	4/7/2007 (duplicate)	composite	UJ	0.0057	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	9.00E-04	ug/L		
	11/16/2007 (duplicate)	composite	U	0.00085	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0042	ug/L	0.0042 U	0.0036 U
	4/7/2007	composite	UJ	0.0017	ug/L		
	5/3/2007	composite	UJ	0.0067	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for 4,4'-ddt = 0.00022 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Aldrin

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Aldrin Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	J	0.0037	ug/L	**0.0037**	**0.0037**
OF 22B LW3	3/27/2007	composite	J	0.02	ug/L	**0.0137**	**0.0098**
	3/27/2007 (duplicate)	composite		0.027	ug/L		
	5/3/2007 (duplicate)	composite	U	0.0071	ug/L		
	5/3/2007	composite	NJ	0.021	ug/L		
	6/5/2007	grab	U	0.0041	ug/L		
	11/16/2007	composite	U	0.0027	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.00069	ug/L	0.0029 U	0.0014 U
	4/7/2007 (duplicate)	composite	UJ	0.0038	ug/L		
	4/7/2007	composite	U	0.00049	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	0.00058	ug/L		
	11/16/2007 (duplicate)	composite	U	0.00055	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.00077	ug/L	0.0025 U	0.0018 U
	4/7/2007	composite	UJ	0.0014	ug/L		
	5/3/2007	composite	UJ	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for aldrin = 0.00005 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Dieldrin

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Dieldrin Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	U	0.0052	ug/L	0.0052 U	0.0052 U
OF 22B LW3	3/27/2007 (duplicate)	composite		0.19	ug/L	**0.0981**	**0.0293**
	3/27/2007	composite		0.089	ug/L		
	5/3/2007 (duplicate)	composite		0.25	ug/L		
	5/3/2007	composite		0.23	ug/L		
	6/5/2007	grab		0.011	ug/L		
	11/16/2007	composite	U	0.002	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.00049	ug/L	0.0027 U	0.0015 U
	4/7/2007	composite	U	0.00049	ug/L		
	4/7/2007 (duplicate)	composite	UJ	0.0018	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007	composite	U	0.002	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0019	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0011	ug/L	0.0023 U	0.0014 U
	4/7/2007	composite	U	5.00E-04	ug/L		
	5/3/2007	composite	U	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for dieldrin = 0.000054 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Heptachlor epoxide

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Heptachlor epoxide Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite	U	0.0052	ug/L	0.0052 U	0.0052 U
OF 22B LW3	3/27/2007 (duplicate)	composite	NJ	0.0058	ug/L	**0.0034**	**0.0024**
	3/27/2007	composite	U	0.0025	ug/L		
	5/3/2007 (duplicate)	composite	NJ	0.0072	ug/L		
	5/3/2007	composite		0.0074	ug/L		
	6/5/2007	grab	U	0.00089	ug/L		
	11/16/2007	composite	U	0.0012	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.00074	ug/L	0.0028 U	0.0014 U
	4/7/2007 (duplicate)	composite	U	0.00049	ug/L		
	4/7/2007	composite	U	0.00049	ug/L		
	5/3/2007	composite	UJ	0.0088	ug/L		
	11/16/2007	composite	U	0.0012	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0011	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0043	ug/L	**0.0031**	**0.0024**
	4/7/2007	composite	J	0.00072	ug/L		
	5/3/2007	composite	J	0.0044	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for heptachlor epoxide = 0.000039 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Heptachlor

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Heptachlor Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite		0.0061	ug/L	**0.0061**	**0.0061**
OF 22B LW3	3/27/2007 (duplicate)	composite		0.012	ug/L	**0.0076**	**0.0055**
	3/27/2007	composite		0.0086	ug/L		
	5/3/2007 (duplicate)	composite		0.015	ug/L		
	5/3/2007	composite	NJ	0.015	ug/L		
	6/5/2007	grab	U	0.0017	ug/L		
	11/16/2007	composite	U	0.0034	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.0014	ug/L	0.0032 U	0.0019 U
	4/7/2007	composite	UJ	0.00061	ug/L		
	4/7/2007 (duplicate)	composite	U	0.00049	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0009	ug/L		
	11/16/2007	composite	U	0.0032	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.00053	ug/L	**0.0025**	**0.0017**
	4/7/2007	composite		0.0017	ug/L		
	5/3/2007	composite	UJ	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumptive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for heptachlor = 0.000079 ug/L.
If analyte was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Total Chlordane

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total Chlordane Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite		0.0347	ug/l	**0.0347**	**0.0347**
OF 22B LW3	3/27/2007 (duplicate)	composite		0.108	ug/L	**0.043**	**0.028**
	3/27/2007	composite		0.071	ug/L		
	5/3/2007 (duplicate)	composite		0.066	ug/L		
	5/3/2007	composite		0.057	ug/L		
	6/5/2007	grab	U	0.0082	ug/L		
	11/16/2007	composite		0.014	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.031	ug/L	**0.0035**	**0.0026**
	4/7/2007 (duplicate)	composite		0.0024	ug/L		
	4/7/2007	composite	U	0.0071	ug/L		
	5/3/2007	composite	U	0.012	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0012	ug/L		
	11/16/2007	composite	U	0.0011	ug/L		
OF 53 City+Port	3/24/2007	composite	U	0.0042	ug/L	**0.0018**	**0.0012**
	4/7/2007	composite	UJ	0.00081	ug/L		
	5/3/2007	composite		0.011	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for total chlordane = 0.00081 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Total DDX

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Total DDX Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite		0.014	ug/l	0.014	0.014
OF 22B LW3	3/27/2007	composite		0.071	ug/L	0.0725	0.0531
	3/27/2007 (duplicate)	composite		0.138	ug/L		
	5/3/2007	composite		0.209	ug/L		
	5/3/2007 (duplicate)	composite		0.034	ug/L		
	6/5/2007	grab		0.012	ug/L		
	11/16/2007	composite		0.0521	ug/L		
OF 52C Basin T Port	3/24/2007	composite		0.031	ug/L	0.0122	0.0067
	4/7/2007	composite	U	0.0024	ug/L		
	4/7/2007 (duplicate)	composite		0.0071	ug/L		
	5/3/2007	composite	U	0.012	ug/L		
	11/16/2007	composite	U	0.0012	ug/L		
	11/16/2007 (duplicate)	composite	U	0.0011	ug/L		
OF 53 City+Port	3/24/2007	composite	UJ	0.0042	ug/L	0.0053	0.0033
	4/7/2007	composite		0.00081	ug/L		
	5/3/2007	composite	U	0.011	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for total DDX = 0.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Toxaphene

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Toxaphene Concentration		Basin Mean [4]	Basin Geomean [4]
OF19 LW3+MS4	2/23/2009	composite	U	0.65	ug/L	0.6500	0.6500
OF22B LW3	3/27/2007	composite	UJ	0.65	ug/L	0.4588	0.4076
	3/27/2007 (duplicate)	composite	UJ	0.81	ug/L		
	5/3/2007	composite	U	0.5	ug/L		
	5/3/2007 (duplicate)	composite	U	0.71	ug/L		
	6/5/2007	grab	U	0.25	ug/L		
	11/16/2007	composite	U	0.25	ug/L		
OF52C Basin T Port	3/24/2007	composite	UJ	0.11	ug/L	0.1838	0.1329
	4/7/2007 (duplicate)	composite	UJ	0.22	ug/L		
	4/7/2007	composite	UJ	0.057	ug/L		
	5/3/2007	composite	UJ	0.44	ug/L		
	11/16/2007	composite	U	0.048	ug/L		
	11/16/2007 (duplicate)	composite	U	0.045	ug/L		
OF53 City+Port	3/24/2007	composite	UJ	0.071	ug/L	0.2150	0.1380
	4/7/2007	composite	UJ	0.074	ug/L		
	5/3/2007	composite	UJ	0.5	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for toxaphene = 0.0002 ug/L.
If was undetected ("U" or "UJ" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin:

Phthalates

Stormwater Analytical Results by City Outfall Basin -- Bis(2-ethylhexyl)pthalate (BEHP)

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	BEHP Concentration		Basin Mean [4]	Basin Geomean [4]
OF 18 LW3	3/26/2007	composite		5.6	ug/L	**5.0**	**4.3**
	4/9/2007	composite		3.8	ug/L		
	4/18/2007	composite		8.9	ug/L		
	5/21/2007	grab	J	1.8	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	16	ug/L	**22.1**	**6.9**
	3/15/2006	composite	U	17	ug/L		
	5/23/2006	composite	U	15	ug/L		
	11/2/2006	composite	U	16	ug/L		
	11/19/2006	composite	U	16	ug/L		
	2/14/2007	composite		2.2	ug/L		
	11/26/2007	composite		173	ug/L		
	3/7/2008	composite		2.12	ug/L		
	3/25/2008	composite		1.71	ug/L		
	11/20/2008	composite		1	ug/L		
	2/23/2009	composite		3.48	ug/L		
	3/14/2009	composite		2.16	ug/L		
OF 22C City	2/29/2008	grab	U	0.971	ug/L	0.9	0.8
	3/20/2008	grab	U	0.971	ug/L		
	4/4/2008	grab	J	0.568	ug/L		
	5/13/2008	grab	U	0.971	ug/L		
OF 22D City	2/29/2008	grab	U	0.971	ug/L	1.8	1.3
	2/29/2008 (duplicate)	grab	U	1.12	ug/L		
	3/20/2008	grab		4.32	ug/L		
	4/4/2008	grab	J	0.7	ug/L		
	5/13/2008	grab	U	0.971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Bis(2-ethylhexyl)pthalate (BEHP)

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	BEHP Concentration		Basin Mean [4]	Basin Geomean [4]
OF 45 City	2/5/2008	grab		28.3	ug/L		
	2/29/2008	grab	U	1.12	ug/L	**8.3**	**3.3**
	3/20/2008	grab		2.44	ug/L		
	4/4/2008	grab		1.48	ug/L		
OF 46 City	2/5/2008	grab		2.99	ug/L		
	2/29/2008	grab		3.43	ug/L		
	3/20/2008	grab		6.79	ug/L	**3.9**	**3.7**
	4/4/2008 (duplicate)	grab		2.03	ug/L		
	4/4/2008	grab		3.09	ug/L		
OF 47 City	2/5/2008	grab		6.1	ug/L		
	2/29/2008	grab		1.76	ug/L	**3.5**	**3.2**
	3/20/2008	grab		2.9	ug/L		
	4/4/2008	grab		3.29	ug/L		
OF 48 City	9/28/2007 (duplicate)	grab	J	0.614	ug/L		
	9/28/2007	grab		5.94	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.9	1.3
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.962	ug/L		
OF 49 LW3	4/9/2007	composite		1	ug/L		
	4/23/2007	composite		2.1	ug/L	1.9	1.8
	11/16/2007	composite	J	2.6	ug/L		
OF 50 City	9/28/2007	grab		1.1	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.6	1.3
	11/16/2007	grab		3.5	ug/L		
	12/14/2007	grab	J	0.801	ug/L		
OF 52 City	9/28/2007	grab		1.62	ug/L		
	9/30/2007	grab	J	0.827	ug/L		
	9/30/2007 (duplicate)	grab	J	0.792	ug/L	**3.3**	**2.4**
	10/16/2007	grab		5.75	ug/L		
	10/16/2007 (duplicate)	grab		1.2	ug/L		
	11/16/2007	grab		7.46	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Bis(2-ethylhexyl)pthalate (BEHP)

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	BEHP Concentration		Basin Mean [4]	Basin Geomean [4]
OF 52A City	9/28/2007	grab		1.19	ug/L	1.8	1.3
	10/16/2007	grab	U	0.98	ug/L		
	11/16/2007	grab	J	0.518	ug/L		
	12/14/2007	grab		4.67	ug/L		
OF 52C Basin T Port	3/24/2007	composite		2.5	ug/L	1.8	1.7
	4/7/2007	composite	J	1.3	ug/L		
	4/7/2007 (duplicate)	composite	J	1	ug/L		
	5/3/2007	composite		1.7	ug/L		
	11/16/2007	composite		1.7	ug/L		
OF 53 City+Port	3/24/2007	composite		5.7	ug/L	**7.6**	**5.8**
	4/7/2007	composite	J	4.6	ug/L		
	5/3/2007	composite		6.7	ug/L		
	1/26/2008	composite		3.43	ug/L		
	2/6/2008	composite		2.86	ug/L		
	3/12/2008 (duplicate)	composite	B	40	ug/L		
	3/12/2008	composite	B	4.06	ug/L		
OF 53A City	2/29/2008	grab	U	1	ug/L	1.2	1.0
	3/20/2008	grab		2.07	ug/L		
	4/4/2008	grab	J	0.585	ug/L		
	5/13/2008	grab	U	0.971	ug/L		
OF M1- City [5]	9/28/2007	grab		8.42	ug/L	**3.2**	2.1
	9/30/2007	grab		1.24	ug/L		
	10/16/2007	grab		2.32	ug/L		
	11/16/2007	grab	J	0.816	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Bis(2-ethylhexyl)pthalate (BEHP)

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	BEHP Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-2 City [5]	9/28/2007	grab		1.03	ug/L	0.9	0.9
	10/16/2007	grab		1.07	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	J	0.569	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite		1.4	ug/L	**2.2**	2.0
	4/9/2007	composite	J	1.9	ug/L		
	4/23/2007	composite		1.5	ug/L		
	5/3/2007	composite	J	4.2	ug/L		
	5/3/2007 (duplicate)	composite	J	4.1	ug/L		
OF M-3 City	9/28/2007	grab		1.09	ug/L	1.3	1.2
	9/30/2007	grab		1.44	ug/L		
	10/16/2007	grab		1.59	ug/L		
	11/16/2007	grab	J	0.887	ug/L		
OF S-1 City	9/28/2007	grab		1.07	ug/L	**3.1**	2.0
	10/16/2007	grab		1.81	ug/L		
	11/16/2007	grab		8.73	ug/L		
	12/15/2007	grab	J	0.86	ug/L		
OF S-2 City	9/28/2007	grab		8.08	ug/L	**3.1**	2.1
	10/16/2007	grab		1.06	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab		2.24	ug/L		
OF S-5 City	9/28/2007	grab	J	0.77	ug/L	1.1	1.0
	10/16/2007	grab		1.01	ug/L		
	11/16/2007 (duplicate)	grab	J	0.588	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab		2.29	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Bis(2-ethylhexyl)pthalate (BEHP)

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	BEHP Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-6 City	9/28/2007	grab	J	0.879	ug/L	1.7	1.4
	10/16/2007	grab		3.68	ug/L		
	11/16/2007	grab		1.14	ug/L		
	12/15/2007	grab	J	0.909	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected; B = analyte was detected in the associated laboratory method blank.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for BEHP = 2.2 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Di-n-octyl phthalate

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Di-n-octyl phthalate Concentration		Basin Mean [4]	Basin Geomean [4]
OF 18 LW3	3/26/2007	composite		0.41	ug/L	0.2	0.1
	4/9/2007	composite	J	0.13	ug/L		
	4/18/2007	composite		0.27	ug/L		
	5/21/2007	grab	U	0.0052	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	2.1	ug/L	1.5	1.3
	3/15/2006	composite	U	2.3	ug/L		
	5/23/2006	composite	U	2	ug/L		
	11/2/2006	composite	U	2.2	ug/L		
	11/19/2006	composite	U	2.1	ug/L		
	2/14/2007	composite		0.33	ug/L		
	11/26/2007	composite	U	1	ug/L		
	3/7/2008	composite	U	1	ug/L		
	3/25/2008	composite	U	0.952	ug/L		
	11/20/2008	composite	U	0.971	ug/L		
	2/23/2009	composite	U	1.96	ug/L		
	3/14/2009	composite	U	0.98	ug/L		
OF 22C City	2/29/2008	grab	U	0.971	ug/L	1.0 U	1.0 U
	3/20/2008	grab	U	0.971	ug/L		
	4/4/2008	grab	U	0.971	ug/L		
	5/13/2008	grab	U	0.971	ug/L		
OF 22D City	2/29/2008	grab	U	0.971	ug/L	1.2 U	1.2 U
	2/29/2008 (duplicate)	grab	U	0.971	ug/L		
	3/20/2008	grab	U	1.94	ug/L		
	4/4/2008	grab	U	0.98	ug/L		
	5/13/2008	grab	U	0.971	ug/L		
OF 45 City	2/5/2008	grab	U	3.85	ug/L	1.7 U	1.4 U
	2/29/2008	grab	U	0.971	ug/L		
	3/20/2008	grab	U	0.971	ug/L		
	4/4/2008	grab	U	0.962	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Di-n-octyl phthalate

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Di-n-octyl phthalate Concentration		Basin Mean [4]	Basin Geomean [4]
OF 46 City	2/5/2008	grab	U	1.98	ug/L		
	2/29/2008	grab		1.06	ug/L		
	3/20/2008	grab	U	3.88	ug/L	2.2	2.0
	4/4/2008 (duplicate)	grab	U	1.94	ug/L		
	4/4/2008	grab	U	1.94	ug/L		
OF 47 City	2/5/2008	grab	U	1.94	ug/L		
	2/29/2008	grab	U	1	ug/L	1.9 U	1.7 U
	3/20/2008	grab	U	3.88	ug/L		
	4/4/2008	grab	U	1	ug/L		
OF 48 City	9/28/2007 (duplicate)	grab	U	0.971	ug/L		
	9/28/2007	grab	U	1.94	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.1 U	1.1 U
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.962	ug/L		
OF 49 LW3	4/9/2007	composite	J	0.15	ug/L		
	4/23/2007	composite		0.26	ug/L	0.2	0.2
	11/16/2007	composite	J	0.19	ug/L		
OF 50 City	9/28/2007	grab	U	0.971	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.0 U	1.0 U
	11/16/2007	grab	U	0.971	ug/L		
	12/14/2007	grab	U	0.971	ug/L		
OF 52 City	9/28/2007	grab	U	0.971	ug/L		
	9/30/2007 (duplicate)	grab	U	0.971	ug/L		
	9/30/2007	grab	U	0.971	ug/L	1.0 U	1.0 U
	10/16/2007 (duplicate)	grab	U	0.98	ug/L		
	10/16/2007	grab	U	0.98	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
OF 52A City	9/28/2007	grab		1.42	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.2	1.2
	11/16/2007	grab	U	0.971	ug/L		
	12/14/2007	grab		1.6	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.13	ug/L		
	4/7/2007 (duplicate)	composite	J	0.11	ug/L		
	4/7/2007	composite	U	0.2	ug/L	0.1	0.1
	5/3/2007	composite	U	0.21	ug/L		
	11/16/2007	composite	U	0.0053	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Di-n-octyl phthalate

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Di-n-octyl phthalate Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite		0.5	ug/L		
	4/7/2007	composite		0.33	ug/L		
	5/3/2007	composite		0.65	ug/L		
	1/26/2008	composite	U	0.952	ug/L	0.9	0.8
	2/6/2008	composite	U	1.9	ug/L		
	3/12/2008 (duplicate)	composite	U	0.98	ug/L		
	3/12/2008	composite	U	0.98	ug/L		
OF 53A City	2/29/2008	grab	U	1	ug/L		
	3/20/2008	grab	J	0.707	ug/L	0.9	0.9
	4/4/2008	grab	U	0.971	ug/L		
	5/13/2008	grab	U	0.971	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	1.47	ug/L		
	9/30/2007	grab	U	1.94	ug/L	2.1 U	2.0 U
	10/16/2007	grab	U	2.94	ug/L		
	11/16/2007	grab	U	1.94	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.971	ug/L		
	10/16/2007	grab	U	0.971	ug/L	1.0 U	1.0 U
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.971	ug/L		
OF M-2 LW3 [5]	4/9/2007	composite	J	0.11	ug/L		
	4/9/2007	composite	J	0.12	ug/L		
	4/23/2007	composite	J	0.13	ug/L	0.1	0.1
	5/3/2007	composite	UJ	0.0052	ug/L		
	5/3/2007 (duplicate)	composite	J	0.31	ug/L		
OF M-3 City	9/28/2007	grab	U	0.99	ug/L		
	9/30/2007	grab	U	0.971	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	0.98	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
OF S-1 City	9/28/2007	grab	U	0.971	ug/L		
	10/16/2007	grab	U	0.98	ug/L	1.0 U	1.0 U
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.971	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Di-n-octyl phthalate

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Di-n-octyl phthalate Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-2 City	9/28/2007	grab	J	2.42	ug/L	2.3	2.1
	10/16/2007	grab		1.91	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab		4.08	ug/L		
OF S-5 City	9/28/2007	grab	U	0.971	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	0.971	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	11/16/2007 (duplicate)	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.98	ug/L		
OF S-6 City	9/28/2007	grab	U	0.971	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	0.962	ug/L		
	11/16/2007	grab	U	0.971	ug/L		
	12/15/2007	grab	U	0.971	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for di-n-octylphthalate = 3 ug/L.

Stormwater Analytical Results by City Outfall Basin:

Metals

Stormwater Analytical Results by City Outfall Basin -- Arsenic

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Arsenic Concentration		Basin Mean	Basin Geomean
OF 16 LW3	4/9/2007	composite		0.512	ug/L		
	4/18/2007	composite		0.786	ug/L		
	4/23/2007 (duplicate)	composite		0.353	ug/L	**0.627**	**0.599**
	4/23/2007	composite		0.338	ug/L		
	5/3/2007	composite		0.78	ug/L		
	6/10/2007	composite		0.71	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		1.36	ug/L		
	3/26/2007	composite		1.67	ug/L		
	4/9/2007	composite		1.84	ug/L	**1.640**	**1.631**
	4/18/2007 (duplicate)	composite		1.75	ug/L		
	4/18/2007	composite		1.78	ug/L		
	5/3/2007	composite		1.44	ug/L		
OF 19 LW3+MS4	3/8/2006	composite		0.95	ug/L		
	3/15/2006	composite		0.51	ug/L		
	5/23/2006	composite		1.31	ug/L		
	11/2/2006	composite		1.42	ug/L		
	11/19/2006	composite		0.52	ug/L		
	2/14/2007	composite		1.46	ug/L		
	3/26/2007	composite		0.774	ug/L		
	4/9/2007	composite		1.15	ug/L		
	4/9/2007 (duplicate)	composite		1.17	ug/L	**1.438**	**1.269**
	4/18/2007	composite		2.02	ug/L		
	5/3/2007	composite	J	2.2	ug/L		
	5/3/2007 (duplicate)	composite		2.22	ug/L		
	11/26/2007	composite		1.18	ug/L		
	3/7/2008	composite		1.54	ug/L		
	3/25/2008	composite		0.77	ug/L		
	11/20/2008	composite		1.62	ug/L		
	2/23/2009	composite		3.65	ug/L		
	3/14/2009	composite		1.15	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Arsenic

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Arsenic Concentration		Basin Mean	Basin Geomean
OF 22 LW3	4/9/2007	composite		3.57	ug/L		
	5/3/2007	composite	J	2.42	ug/L	**3.313**	**3.244**
	6/10/2007	composite		3.95	ug/L		
OF 22B LW3	3/27/2007	composite		4.02	ug/L		
	5/3/2007	composite		5.84	ug/L	**3.835**	**3.639**
	11/16/2007	composite		2.55	ug/L		
	11/27/2007	composite		2.93	ug/L		
OF 22C City	2/29/2008	grab		0.98	ug/L		
	3/20/2008	grab		1.12	ug/L	**1.310**	**1.251**
	4/4/2008	grab		1.09	ug/L		
	5/13/2008	grab		2.05	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		0.22	ug/L		
	2/29/2008	grab		0.23	ug/L		
	3/20/2008	grab		1.21	ug/L	**0.559**	**0.425**
	4/4/2008			0.6	ug/L		
	5/13/2008	grab		0.2	ug/L		
OF 45 City	2/5/2008	grab		3.49	ug/L		
	2/29/2008	grab		1.36	ug/L	**1.770**	**1.418**
	3/20/2008	grab		0.49	ug/L		
	4/4/2008	grab		1.74	ug/L		
OF 46 City	2/5/2008	grab		1.62	ug/L		
	2/29/2008	grab		1.3	ug/L		
	3/20/2008	grab		1.13	ug/L	**1.379**	**1.366**
	4/4/2008	grab		1.25	ug/L		
	4/4/2008 (duplicate)	grab		1.68	ug/L		
OF 47 City	2/5/2008	grab		1.17	ug/L		
	2/29/2008	grab		0.62	ug/L	**1.180**	**1.094**
	3/20/2008	grab		1.88	ug/L		
	4/4/2008	grab		1.05	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Arsenic

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Arsenic Concentration		Basin Mean	Basin Geomean
OF 48 City	9/28/2007	grab		0.62	ug/L		
	9/28/2007 (duplicate)	grab		0.65	ug/L		
	10/16/2007	grab		0.54	ug/L	**0.509**	**0.501**
	11/16/2007	grab		0.4	ug/L		
	12/15/2007	grab		0.46	ug/L		
OF 49 LW3	4/9/2007	composite		0.291	ug/L		
	4/23/2007	composite		0.255	ug/L	**0.344**	**0.335**
	6/10/2007	composite		0.47	ug/L		
	11/16/2007	composite	J	0.36	ug/L		
OF 50 City	9/28/2007	grab		0.88	ug/L		
	10/16/2007	grab		2.07	ug/L	**1.040**	**0.897**
	11/16/2007	grab		0.71	ug/L		
	12/14/2007	grab		0.5	ug/L		
OF 52 City	9/28/2007	grab		1.25	ug/L		
	9/30/2007 (duplicate)	grab		0.58	ug/L		
	9/30/2007	grab		0.62	ug/L	**1.031**	**0.937**
	10/16/2007	grab		1.97	ug/L		
	10/16/2007 (duplicate)	grab		1.34	ug/L		
	11/16/2007	grab		0.62	ug/L		
OF 52A City	9/28/2007	grab		1.22	ug/L		
	10/16/2007	grab		1.18	ug/L	**1.098**	**1.082**
	11/16/2007	grab		0.8	ug/L		
	12/14/2007	grab		1.19	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.251	ug/L		
	5/3/2007	composite		0.48	ug/L	**0.294**	**0.276**
	5/20/2007	composite		0.253	ug/L		
	11/16/2007	composite		0.19	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Arsenic

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Arsenic Concentration		Basin Mean	Basin Geomean
OF 53 City+Port	3/24/2007	composite	J	0.601	ug/L		
	5/3/2007	composite		1.36	ug/L		
	1/26/2008	composite		0.63	ug/L	**0.814**	**0.774**
	2/6/2008	composite		0.83	ug/L		
	3/12/2008	composite		0.65	ug/L		
	3/12/2008 (duplicate)	composite		0.65	ug/L		
OF 53A City	2/29/2008	grab		3.07	ug/L		
	3/20/2008	grab		2.41	ug/L	**8.063**	**4.458**
	4/4/2008	grab		24.6	ug/L		
	5/13/2008	grab		2.17	ug/L		
OF M-1 City [4]	9/28/2007	grab		0.7	ug/L		
	9/30/2007	grab		0.52	ug/L	**0.835**	**0.795**
	10/16/2007	grab		1.22	ug/L		
	11/16/2007	grab		0.9	ug/L		
OF M-1 LW3 [4]	3/26/2007	composite		0.717	ug/L		
	4/9/2007	composite		0.979	ug/L		
	4/18/2007 (duplicate)	composite		0.791	ug/L	**0.916**	**0.903**
	4/18/2007	composite		0.903	ug/L		
	6/10/2007	composite		1.12	ug/L		
OF M-2 City [4]	9/28/2007	grab		0.94	ug/L		
	10/16/2007	grab		6.15	ug/L	**2.518**	**1.887**
	11/16/2007	grab		1.65	ug/L		
	12/15/2007	grab		1.33	ug/L		
OF M-2 LWG [4]	4/9/2007	composite		2.27	ug/L		
	4/9/2007	composite		0.99	ug/L		
	4/23/2007 (duplicate)	composite		1.75	ug/L	**1.649**	**1.576**
	4/23/2007	composite		1.22	ug/L		
	5/3/2007	composite	J	1.85	ug/L		
OF M-3 City	9/28/2007	grab		0.7	ug/L		
	9/30/2007	grab		0.58	ug/L	**0.635**	**0.634**
	10/16/2007	grab		0.63	ug/L		
	11/16/2007	grab		0.63	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Arsenic

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Arsenic Concentration		Basin Mean	Basin Geomean
OF S-1 City	9/28/2007	grab		0.67	ug/L		
	10/16/2007	grab		0.85	ug/L	**0.898**	**0.879**
	11/16/2007	grab		1.18	ug/L		
	12/15/2007	grab		0.89	ug/L		
OF S-2 City	9/28/2007	grab		0.8	ug/L		
	10/16/2007	grab		0.55	ug/L	**0.545**	**0.524**
	11/16/2007	grab		0.44	ug/L		
	12/15/2007	grab		0.39	ug/L		
OF S-5 City	9/28/2007	grab		0.77	ug/L		
	10/16/2007	grab		0.87	ug/L		
	11/16/2007	grab		0.73	ug/L	**0.845**	**0.838**
	11/16/2007 (duplicate)	grab		0.73	ug/L		
	12/15/2007	grab		1.01	ug/L		
OF S-6 City	9/28/2007	grab		1.07	ug/L		
	10/16/2007	grab		2.35	ug/L	**1.083**	**0.846**
	11/16/2007	grab		0.4	ug/L		
	12/15/2007	grab		0.51	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit)

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for arsenic = 0.045 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Cadmium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Cadmium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		0.455 ug/L		
	4/18/2007	composite		0.862 ug/L		
	4/23/2007	composite		0.312 ug/L	**0.732**	**0.653**
	4/23/2007 (duplicate)	composite		0.318 ug/L		
	5/3/2007	composite		1.28 ug/L		
	6/10/2007	composite	J	0.75 ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.89 ug/L		
	3/26/2007	composite		0.8 ug/L		
	4/9/2007	composite		0.718 ug/L	**1.017**	**0.919**
	4/18/2007	composite		0.609 ug/L		
	4/18/2007 (duplicate)	composite		0.643 ug/L		
	5/3/2007	composite		1.88 ug/L		
OF 19 LW3+MS4	3/8/2006	composite		0.33 ug/L		
	3/15/2006	composite		0.22 ug/L		
	5/23/2006	composite		0.22 ug/L		
	11/2/2006	composite		0.39 ug/L		
	11/19/2006	composite		0.17 ug/L		
	2/14/2007	composite		0.34 ug/L		
	3/26/2007	composite		0.17 ug/L		
	4/9/2007 (duplicate)	composite		0.236 ug/L		
	4/9/2007	composite		0.224 ug/L	**0.363**	**0.320**
	4/18/2007	composite		0.366 ug/L		
	5/3/2007 (duplicate)	composite		0.863 ug/L		
	5/3/2007	composite		0.884 ug/L		
	11/26/2007	composite		0.32 ug/L		
	3/7/2008	composite		0.36 ug/L		
	3/25/2008	composite		0.17 ug/L		
	11/20/2008	composite		0.41 ug/L		
	2/23/2009	composite		0.85 ug/L		
	3/14/2009	composite		0.39 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Cadmium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Cadmium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 22 LW3	4/9/2007	composite		0.351 ug/L		
	5/3/2007	composite		0.48 ug/L	**0.392**	**0.387**
	6/10/2007	composite	J	0.345 ug/L		
OF 22B LW3	3/27/2007	composite		1.5 ug/L		
	5/3/2007	composite		4.02 ug/L	**1.909**	**1.602**
	11/16/2007	composite		0.896 ug/L		
	11/27/2007	composite		1.22 ug/L		
OF 22C City	2/29/2008	grab	U	0.1 ug/L		
	3/20/2008	grab	U	0.1 ug/L	0.1 U	0.1 U
	4/4/2008	grab	U	0.1 ug/L		
	5/13/2008	grab	U	0.1 ug/L		
OF 22D City	2/29/2008	grab	U	0.1 ug/L		
	2/29/2008 (duplicate)	grab	U	0.1 ug/L		
	3/20/2008	grab		0.38 ug/L	**0.173**	**0.143**
	4/4/2008	grab		0.11 ug/L		
	5/13/2008	grab	U	0.1 ug/L		
OF 45 City	2/5/2008	grab		1.75 ug/L		
	2/29/2008	grab		0.62 ug/L	**0.810**	**0.577**
	3/20/2008	grab		0.14 ug/L		
	4/4/2008	grab		0.73 ug/L		
OF 46 City	2/5/2008	grab		0.64 ug/L		
	2/29/2008	grab		0.59 ug/L		
	3/20/2008	grab		0.43 ug/L	**0.585**	**0.576**
	4/4/2008 (duplicate)	grab		0.73 ug/L		
	4/4/2008	grab		0.63 ug/L		
OF 47 City	2/5/2008	grab		0.56 ug/L		
	2/29/2008	grab		0.31 ug/L	**0.450**	**0.435**
	3/20/2008	grab		0.56 ug/L		
	4/4/2008	grab		0.37 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Cadmium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Cadmium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007	grab	U	0.1 ug/L		
	9/28/2007 (duplicate)	grab	U	0.1 ug/L		
	10/16/2007	grab	U	0.1 ug/L	0.1 U	0.1 U
	11/16/2007	grab	U	0.1 ug/L		
	12/15/2007	grab	U	0.1 ug/L		
OF 49 LW3	4/9/2007	composite		0.063 ug/L		
	4/23/2007	composite		0.076 ug/L	**0.077**	**0.075**
	6/10/2007	composite	J	0.112 ug/L		
	11/16/2007	composite		0.058 ug/L		
OF 50 City	9/28/2007	grab		0.22 ug/L		
	10/16/2007	grab	U	0.1 ug/L	**0.133**	**0.125**
	11/16/2007	grab	U	0.1 ug/L		
	12/14/2007	grab		0.11 ug/L		
OF 52 City	9/28/2007	grab		0.34 ug/L		
	9/30/2007	grab		0.18 ug/L		
	9/30/2007 (duplicate)	grab		0.17 ug/L	**0.199**	**0.181**
	10/16/2007	grab	U	0.1 ug/L		
	10/16/2007 (duplicate)	grab		0.26 ug/L		
	11/16/2007	grab	U	0.1 ug/L		
OF 52A City	9/28/2007	grab		0.22 ug/L		
	10/16/2007	grab	U	0.1 ug/L	**0.150**	**0.141**
	11/16/2007	grab	U	0.1 ug/L		
	12/14/2007	grab		0.18 ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.21 ug/L		
	5/3/2007	composite		0.324 ug/L	**0.219**	**0.204**
	5/20/2007	composite		0.232 ug/L		
	11/16/2007	composite		0.109 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Cadmium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Cadmium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.28 ug/L	**0.447**	**0.282**
	5/3/2007	composite		1.46 ug/L		
	1/26/2008	composite		0.14 ug/L		
	2/6/2008	composite		0.19 ug/L		
	3/12/2008 (duplicate)	composite		0.17 ug/L		
	3/12/2008	composite		0.16 ug/L		
OF 53A City	2/29/2008	grab		0.56 ug/L	**0.385**	**0.359**
	3/20/2008	grab		0.41 ug/L		
	4/4/2008	grab		0.38 ug/L		
	5/13/2008	grab		0.19 ug/L		
OF M-1 City [5]	9/28/2007	grab		0.42 ug/L	**0.428**	**0.390**
	9/30/2007	grab		0.21 ug/L		
	10/16/2007	grab		0.71 ug/L		
	11/16/2007	grab		0.37 ug/L		
OF M-1 LWG [5]	3/26/2007	composite		0.61 ug/L	**0.769**	**0.751**
	4/9/2007	composite		0.662 ug/L		
	4/18/2007 (duplicate)	composite		0.959 ug/L		
	4/18/2007	composite		0.99 ug/L		
	6/10/2007	composite	J	0.622 ug/L		
OF M-2 City [5]	9/28/2007	grab		0.29 ug/L	**0.330**	**0.319**
	10/16/2007	grab		0.49 ug/L		
	11/16/2007	grab		0.26 ug/L		
	12/15/2007	grab		0.28 ug/L		
OF M-2 LWG [5]	4/9/2007	composite		0.264 ug/L	**0.320**	**0.304**
	4/9/2007	composite		0.162 ug/L		
	4/23/2007 (duplicate)	composite		0.39 ug/L		
	4/23/2007	composite		0.391 ug/L		
	5/3/2007	composite		0.395 ug/L		
OF M-3 City	9/28/2007	grab		0.25 ug/L	**0.225**	**0.216**
	9/30/2007	grab		0.13 ug/L		
	10/16/2007	grab		0.29 ug/L		
	11/16/2007	grab		0.23 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Cadmium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Cadmium Concentration	Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		0.36 ug/L	**0.365**	**0.363**
	10/16/2007	grab		0.32 ug/L		
	11/16/2007	grab		0.36 ug/L		
	12/15/2007	grab		0.42 ug/L		
OF S-2 City	9/28/2007	grab		0.32 ug/L	**0.280**	**0.271**
	10/16/2007	grab		0.37 ug/L		
	11/16/2007	grab		0.19 ug/L		
	12/15/2007	grab		0.24 ug/L		
OF S-5 City	9/28/2007	grab		0.25 ug/L	**0.221**	**0.220**
	10/16/2007	grab		0.19 ug/L		
	11/16/2007 (duplicate)	grab		0.2 ug/L		
	11/16/2007	grab		0.21 ug/L		
	12/15/2007	grab		0.24 ug/L		
OF S-6 City	9/28/2007	grab		0.36 ug/L	**0.268**	**0.244**
	10/16/2007	grab		0.39 ug/L		
	11/16/2007	grab		0.14 ug/L		
	12/15/2007	grab		0.18 ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for cadmium = 0.094 ug/L.
If analyte was undetected ("U" flag) in all samples, the mean and geomean are not bolded.

Stormwater Analytical Results by City Outfall Basin -- Chromium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chromium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite		7.88 ug/L		
	4/18/2007	composite		8.13 ug/L		
	4/23/2007	composite		2.91 ug/L	6.5	6.1
	4/23/2007 (duplicate)	composite		2.95 ug/L		
	5/3/2007	composite		8.37 ug/L		
	6/10/2007	composite		5.21 ug/L		
OF 18 LW3	3/26/2007	composite		11.5 ug/L		
	3/26/2007 (duplicate)	composite		7.32 ug/L		
	4/9/2007	composite		6.18 ug/L	8.3	8.0
	4/18/2007 (duplicate)	composite		6.41 ug/L		
	4/18/2007	composite		5.88 ug/L		
	5/3/2007	composite		11.6 ug/L		
OF 19 LW3+MS4	3/8/2006	composite		8.01 ug/L		
	3/15/2006	composite		3.95 ug/L		
	5/23/2006	composite		3.07 ug/L		
	11/2/2006	composite		5.81 ug/L		
	11/19/2006	composite		1.59 ug/L		
	2/14/2007	composite		6.45 ug/L		
	3/26/2007	composite		2.84 ug/L		
	4/9/2007	composite		9.72 ug/L		
	4/9/2007 (duplicate)	composite		10.1 ug/L	7.0	5.6
	4/18/2007	composite		5.51 ug/L		
	5/3/2007 (duplicate)	composite		9.8 ug/L		
	5/3/2007	composite		10.2 ug/L		
	11/26/2007	composite		5.01 ug/L		
	3/7/2008	composite		5.98 ug/L		
	3/25/2008	composite		2.88 ug/L		
	11/20/2008	composite		6.24 ug/L		
	2/23/2009	composite		28.7 ug/L		
	3/14/2009	composite		6.09 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chromium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chromium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 22 LW3	4/9/2007	composite		5.4 ug/L		
	5/3/2007	composite		6.1 ug/L	5.1	5.0
	6/10/2007	composite		3.76 ug/L		
OF 22B LW3	3/27/2007	composite		8.47 ug/L		
	5/3/2007	composite		18.5 ug/L	9.0	7.4
	11/16/2007	composite		5.38 ug/L		
	11/27/2007	composite		3.48 ug/L		
OF 22C City	2/29/2008	grab		0.59 ug/L		
	3/20/2008	grab		1.24 ug/L	0.8	0.8
	4/4/2008	grab		0.88 ug/L		
	5/13/2008	grab		0.64 ug/L		
OF 22D City	2/29/2008	grab		1.34 ug/L		
	2/29/2008 (duplicate)	grab		1.54 ug/L		
	3/20/2008	grab		14.9 ug/L	4.8	2.6
	4/4/2008	grab		1.89 ug/L		
	5/13/2008	grab		1.09 ug/L		
OF 45 City	2/5/2008	grab		46.7 ug/L		
	2/29/2008	grab		14.4 ug/L	22.2	15.2
	3/20/2008	grab		3.22 ug/L		
	4/4/2008	grab		24.5 ug/L		
OF 46 City	2/5/2008	grab		11.1 ug/L		
	2/29/2008	grab		10 ug/L		
	3/20/2008	grab		7.9 ug/L	11.9	11.3
	4/4/2008	grab		12.7 ug/L		
	4/4/2008 (duplicate)	grab		24.4 ug/L		
OF 47 City	2/5/2008	grab		10.5 ug/L		
	2/29/2008	grab		3.86 ug/L	10.4	9.0
	3/20/2008	grab		18.8 ug/L		
	4/4/2008	grab		8.48 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chromium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chromium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007 (duplicate)	grab		1.61 ug/L		
	9/28/2007	grab		1.69 ug/L		
	10/16/2007	grab	U	0.4 ug/L	0.9	0.8
	11/16/2007	grab		0.43 ug/L		
	12/15/2007	grab		1.16 ug/L		
OF 49 LW3	4/9/2007	composite		0.83 ug/L		
	4/23/2007	composite		1.21 ug/L	1.3	1.2
	6/10/2007	composite		1.97 ug/L		
	11/16/2007	composite		1.16 ug/L		
OF 50 City	9/28/2007	grab		4.53 ug/L		
	10/16/2007	grab		0.5 ug/L	1.6	1.0
	11/16/2007	grab		0.54 ug/L		
	12/14/2007	grab		0.88 ug/L		
OF 52 City	9/28/2007	grab		6.79 ug/L		
	9/30/2007 (duplicate)	grab		1.7 ug/L		
	9/30/2007	grab		1.85 ug/L	2.9	2.1
	10/16/2007	grab		0.49 ug/L		
	10/16/2007 (duplicate)	grab		4.16 ug/L		
	11/16/2007	grab		0.71 ug/L		
OF 52A City	9/28/2007	grab		2.69 ug/L		
	10/16/2007	grab		1.14 ug/L	1.5	1.4
	11/16/2007	grab		0.83 ug/L		
	12/14/2007	grab		1.42 ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	5.98 ug/L		
	5/3/2007	composite		12.7 ug/L	6.0	4.7
	5/20/2007	composite		3.82 ug/L		
	11/16/2007	composite		1.65 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chromium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chromium Concentration	Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	3.72 ug/L	9.6	5.9
	5/3/2007	composite		31.8 ug/L		
	1/26/2008	composite		2.79 ug/L		
	2/6/2008	composite		6 ug/L		
	3/12/2008	composite		3.57 ug/L		
	3/12/2008 (duplicate)	composite		3.53 ug/L		
OF 53A City	2/29/2008	grab		73.6 ug/L	47.5	42.0
	3/20/2008	grab		52.9 ug/L		
	4/4/2008	grab		46.1 ug/L		
	5/13/2008	grab		17.3 ug/L		
OF M-1 City [5]	9/28/2007	grab		1.72 ug/L	2.5	2.3
	9/30/2007	grab		1.29 ug/L		
	10/16/2007	grab		4.26 ug/L		
	11/16/2007	grab		2.88 ug/L		
OF M-1 LWG [5]	3/26/2007	composite		1.79 ug/L	2.6	2.5
	4/9/2007	composite		1.88 ug/L		
	4/18/2007 (duplicate)	composite		3.74 ug/L		
	4/18/2007	composite		3.84 ug/L		
	6/10/2007	composite		2.88 ug/L		
OF M-2 City [5]	9/28/2007	grab		1.67 ug/L	2.3	2.2
	10/16/2007	grab		3.9 ug/L		
	11/16/2007	grab		1.75 ug/L		
	12/15/2007	grab		1.93 ug/L		
OF M-2 LWG [5]	4/9/2007	composite		1.43 ug/L	1.9	1.8
	4/9/2007	composite		1.39 ug/L		
	4/23/2007 (duplicate)	composite		2 ug/L		
	4/23/2007	composite		1.53 ug/L		
	5/3/2007	composite		2.88 ug/L		
OF M-3 City	9/28/2007	grab		1.6 ug/L	2.0	1.7
	9/30/2007	grab		0.95 ug/L		
	10/16/2007	grab		3.78 ug/L		
	11/16/2007	grab		1.58 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Chromium

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Chromium Concentration	Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab		1.82 ug/L	3.3	3.0
	10/16/2007	grab		2.66 ug/L		
	11/16/2007	grab		6.09 ug/L		
	12/15/2007	grab		2.8 ug/L		
OF S-2 City	9/28/2007	grab		3.9 ug/L	3.1	2.8
	10/16/2007	grab		2.97 ug/L		
	11/16/2007	grab		1.38 ug/L		
	12/15/2007	grab		4 ug/L		
OF S-5 City	9/28/2007	grab		2.17 ug/L	2.7	2.6
	10/16/2007	grab		2.07 ug/L		
	11/16/2007	grab		2.91 ug/L		
	11/16/2007 (duplicate)	grab		2.87 ug/L		
	12/15/2007	grab		3.56 ug/L		
OF S-6 City	9/28/2007	grab		2.57 ug/L	2.7	2.2
	10/16/2007	grab		5.85 ug/L		
	11/16/2007	grab		1.29 ug/L		
	12/15/2007	grab		1.12 ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for chromium = 100 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Copper

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Copper Concentration		Basin Mean	Basin Geomean
OF 16 LW3	4/9/2007	composite	J	41.1	ug/L		
	4/18/2007	composite		54.4	ug/L		
	4/23/2007 (duplicate)	composite		30.3	ug/L	**53.8**	**50.4**
	4/23/2007	composite		30.8	ug/L		
	5/3/2007	composite		89.2	ug/L		
	6/10/2007	composite		53.6	ug/L		
OF 18 LW3	3/26/2007	composite		25.4	ug/L		
	3/26/2007 (duplicate)	composite		24.3	ug/L		
	4/9/2007	composite	J	24.1	ug/L	**29.2**	**28.5**
	4/18/2007 (duplicate)	composite	J	26.7	ug/L		
	4/18/2007	composite	J	26.8	ug/L		
	5/3/2007	composite		41.2	ug/L		
OF 19 LW3+MS4	3/8/2006	composite		20.3	ug/L		
	3/15/2006	composite		12.2	ug/L		
	5/23/2006	composite		13.5	ug/L		
	11/2/2006	composite		22	ug/L		
	11/19/2006	composite		8.34	ug/L		
	2/14/2007	composite		19.7	ug/L		
	3/26/2007	composite		10.3	ug/L		
	4/9/2007	composite		14.6	ug/L		
	4/9/2007 (duplicate)	composite	J	16.1	ug/L	**20.8**	**18.3**
	4/18/2007	composite		20.5	ug/L		
	5/3/2007 (duplicate)	composite		55.6	ug/L		
	5/3/2007	composite		45.8	ug/L		
	11/26/2007	composite		18.2	ug/L		
	3/7/2008	composite		21.8	ug/L		
	3/25/2008	composite		10.6	ug/L		
	11/20/2008	composite		29	ug/L		
	2/23/2009	composite		49.5	ug/L		
	3/14/2009	composite		16	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Copper

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Copper Concentration		Basin Mean	Basin Geomean
OF 22 LW3	4/9/2007	composite		20.6	ug/L		
	5/3/2007	composite		29.7	ug/L	**23.2**	**22.8**
	6/10/2007	composite		19.4	ug/L		
OF 22B LW3	3/27/2007	composite		35	ug/L		
	5/3/2007	composite		78.6	ug/L	**38.0**	**31.4**
	11/16/2007	composite		23.3	ug/L		
	11/27/2007	composite		15.2	ug/L		
OF 22C City	2/29/2008	grab		1.35	ug/L		
	3/20/2008	grab		2.06	ug/L	1.7	1.6
	4/4/2008	grab		1.41	ug/L		
	5/13/2008	grab		1.79	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab		2.71	ug/L		
	2/29/2008	grab		2.79	ug/L		
	3/20/2008	grab		28.3	ug/L	**9.6**	**5.3**
	4/4/2008	grab		5.64	ug/L		
	5/13/2008	grab		1.86	ug/L		
OF 45 City	2/5/2008	grab		74.8	ug/L		
	2/29/2008	grab		29.8	ug/L	**37.4**	**29.4**
	3/20/2008	grab		9.38	ug/L		
	4/4/2008	grab		35.7	ug/L		
OF 46 City	2/5/2008	grab		37.6	ug/L		
	2/29/2008	grab		44.3	ug/L		
	3/20/2008	grab		27.6	ug/L	**36.6**	**36.1**
	4/4/2008	grab		36.8	ug/L		
	4/4/2008 (duplicate)	grab		36.8	ug/L		
OF 47 City	2/5/2008	grab		31.5	ug/L		
	2/29/2008	grab		16.2	ug/L	**25.3**	**24.4**
	3/20/2008	grab		31.5	ug/L		
	4/4/2008	grab		22	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Copper

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Copper Concentration		Basin Mean	Basin Geomean
OF 48 City	9/28/2007 (duplicate)	grab		14.8	ug/L		
	9/28/2007	grab		15.1	ug/L		
	10/16/2007	grab		6.6	ug/L	**8.5**	**7.7**
	11/16/2007	grab		4.84	ug/L		
	12/15/2007	grab		7.43	ug/L		
OF 49 LW3	4/9/2007	composite		7.24	ug/L		
	4/23/2007	composite		7.56	ug/L	**8.2**	**8.0**
	6/10/2007	composite		11	ug/L		
	11/16/2007	composite		6.92	ug/L		
OF 50 City	9/28/2007	grab		15.3	ug/L		
	10/16/2007	grab		4.98	ug/L	**7.2**	**6.0**
	11/16/2007	grab		3.39	ug/L		
	12/14/2007	grab		5.14	ug/L		
OF 52 City	9/28/2007	grab		60.5	ug/L		
	9/30/2007	grab		20.8	ug/L		
	9/30/2007 (duplicate)	grab		20.7	ug/L	**35.6**	**32.8**
	10/16/2007 (duplicate)	grab		49.9	ug/L		
	10/16/2007	grab		4.89	ug/L		
	11/16/2007	grab		33.6	ug/L		
OF 52A City	9/28/2007	grab		15.9	ug/L		
	10/16/2007	grab		9.91	ug/L	**10.0**	**9.4**
	11/16/2007	grab		5.66	ug/L		
	12/14/2007	grab		8.58	ug/L		
OF 52C Basin T Port	3/24/2007	composite		8.4	ug/L		
	5/3/2007	composite		18.8	ug/L	**10.5**	**9.6**
	5/20/2007	composite		8.44	ug/L		
	11/16/2007	composite		6.25	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Copper

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Copper Concentration		Basin Mean	Basin Geomean
OF 53 City+Port	3/24/2007	composite		12.8	ug/L		
	5/3/2007	composite		83.5	ug/L		
	1/26/2008	composite		9.92	ug/L	**25.9**	**17.0**
	2/6/2008	composite		12.5	ug/L		
	3/12/2008	composite		10.6	ug/L		
	3/12/2008 (duplicate)	composite		10.7	ug/L		
OF 53A City	2/29/2008	grab		29.8	ug/L		
	3/20/2008	grab		25.7	ug/L	**23.5**	**23.1**
	4/4/2008	grab		20.2	ug/L		
	5/13/2008	grab		18.3	ug/L		
OF M-1 City [4]	9/28/2007	grab		16.5	ug/L		
	9/30/2007	grab		6.89	ug/L	**14.0**	**12.8**
	10/16/2007	grab		21.9	ug/L		
	11/16/2007	grab		10.9	ug/L		
OF M-1 LWG [4]	3/26/2007	composite		11	ug/L		
	4/9/2007	composite		15.7	ug/L		
	4/18/2007 (duplicate)	composite		22.2	ug/L	**17.7**	**17.1**
	4/18/2007	composite		22.9	ug/L		
	6/10/2007	composite		16.7	ug/L		
OF M-2 City [4]	9/28/2007	grab		15.4	ug/L		
	10/16/2007	grab		25.8	ug/L	**15.2**	**13.9**
	11/16/2007	grab		10.3	ug/L		
	12/15/2007	grab		9.13	ug/L		
OF M-2 LWG [4]	4/9/2007	composite		9.41	ug/L		
	4/9/2007	composite		6.87	ug/L		
	4/23/2007 (duplicate)	composite		9.86	ug/L	**10.7**	**10.0**
	4/23/2007	composite		8.22	ug/L		
	5/3/2007	composite		19	ug/L		
OF M-3 City	9/28/2007	grab		15.6	ug/L		
	9/30/2007	grab		10.2	ug/L	**16.9**	**16.2**
	10/16/2007	grab		20.1	ug/L		
	11/16/2007	grab		21.7	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Copper

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Copper Concentration		Basin Mean	Basin Geomean
OF S-1 City	9/28/2007	grab		39.3	ug/L		
	10/16/2007	grab		34.2	ug/L	**33.2**	**32.7**
	11/16/2007	grab		35.3	ug/L		
	12/15/2007	grab		24.1	ug/L		
OF S-2 City	9/28/2007	grab		20.4	ug/L		
	10/16/2007	grab		21	ug/L	**15.4**	**14.5**
	11/16/2007	grab		9.85	ug/L		
	12/15/2007	grab		10.5	ug/L		
OF S-5 City	9/28/2007	grab		24.5	ug/L		
	10/16/2007	grab		19.8	ug/L		
	11/16/2007 (duplicate)	grab		15.4	ug/L	**19.4**	**19.1**
	11/16/2007	grab		15.7	ug/L		
	12/15/2007	grab		17.6	ug/L		
OF S-6 City	9/28/2007	grab		51.5	ug/L		
	10/16/2007	grab		54.4	ug/L	**37.5**	**34.1**
	11/16/2007	grab		22.7	ug/L		
	12/15/2007	grab		21.3	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit)

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for copper = 2.7 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Lead

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Lead Concentration		Basin Mean	Basin Geomean
OF 16 LW3	4/9/2007	composite		21.6	ug/L		
	4/18/2007	composite	J	39.1	ug/L		
	4/23/2007 (duplicate)	composite	J	13.7	ug/L	**30.41**	**26.94**
	4/23/2007	composite	J	13.4	ug/L		
	5/3/2007	composite		55.4	ug/L		
	6/10/2007	composite		22.4	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		44.7	ug/L		
	3/26/2007	composite		76.3	ug/L		
	4/9/2007	composite		24.4	ug/L	**40.60**	**36.95**
	4/18/2007 (duplicate)	composite		23.4	ug/L		
	4/18/2007	composite		23.2	ug/L		
	5/3/2007	composite		54.2	ug/L		
OF 19 LW3+MS4	3/8/2006	composite		21.4	ug/L		
	3/15/2006	composite		12.3	ug/L		
	5/23/2006	composite		13.4	ug/L		
	11/2/2006	composite		31.7	ug/L		
	11/19/2006	composite		5.2	ug/L		
	2/14/2007	composite		22	ug/L		
	3/26/2007	composite		11.8	ug/L		
	4/9/2007 (duplicate)	composite		12.2	ug/L		
	4/9/2007	composite		10.4	ug/L	**22.36**	**18.76**
	4/18/2007	composite	J	24	ug/L		
	5/3/2007	composite		41	ug/L		
	5/3/2007 (duplicate)	composite		40.2	ug/L		
	11/26/2007	composite		13.3	ug/L		
	3/7/2008	composite		18.4	ug/L		
	3/25/2008	composite		11.3	ug/L		
	11/20/2008	composite		45.9	ug/L		
	2/23/2009	composite		55	ug/L		
	3/14/2009	composite		20.2	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Lead

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Lead Concentration		Basin Mean	Basin Geomean
OF 22 LW3	4/9/2007	composite		14.7	ug/L		
	5/3/2007	composite		24.7	ug/L	**16.38**	**15.23**
	6/10/2007	composite		9.73	ug/L		
OF 22B LW3	3/27/2007	composite		101	ug/L		
	5/3/2007	composite		195	ug/L	**101.48**	**81.73**
	11/16/2007	composite		82.4	ug/L		
	11/27/2007	composite		27.5	ug/L		
OF 22C City	2/29/2008	grab		0.29	ug/L		
	3/20/2008	grab		1.17	ug/L	**0.78**	**0.69**
	4/4/2008	grab		0.71	ug/L		
	5/13/2008	grab		0.96	ug/L		
OF 22D City	2/29/2008	grab		1.35	ug/L		
	2/29/2008 (duplicate)	grab		1.42	ug/L		
	3/20/2008	grab		32.6	ug/L	**9.28**	**3.05**
	4/4/2008	grab		2.3	ug/L		
	5/13/2008	grab		0.83	ug/L		
OF 45 City	2/5/2008	grab		95.6	ug/L		
	2/29/2008	grab		15.1	ug/L	**35.90**	**23.15**
	3/20/2008	grab		7.99	ug/L		
	4/4/2008	grab		24.9	ug/L		
OF 46 City	2/5/2008	grab		23.7	ug/L		
	2/29/2008	grab		18.5	ug/L		
	3/20/2008	grab		24.3	ug/L	**22.65**	**22.51**
	4/4/2008	grab		22.9	ug/L		
	4/4/2008 (duplicate)	grab		25.3	ug/L		
OF 47 City	2/5/2008	grab		28.3	ug/L		
	2/29/2008	grab		7.6	ug/L	**18.85**	**17.00**
	3/20/2008	grab		21	ug/L		
	4/4/2008	grab		18.5	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Lead

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Lead Concentration		Basin Mean	Basin Geomean
OF 48 City	9/28/2007	grab		4.04	ug/L		
	9/28/2007 (duplicate)	grab		3.99	ug/L		
	10/16/2007	grab		0.53	ug/L	**2.13**	**1.65**
	11/16/2007	grab		1.3	ug/L		
	12/15/2007	grab		2.69	ug/L		
OF 49 LW3	4/9/2007	composite		1.39	ug/L		
	4/23/2007	composite	J	2.75	ug/L	**2.63**	**2.42**
	6/10/2007	composite		4.3	ug/L		
	11/16/2007	composite		2.09	ug/L		
OF 50 City	9/28/2007	grab		11.8	ug/L		
	10/16/2007	grab		0.92	ug/L	**3.87**	**2.06**
	11/16/2007	grab		0.87	ug/L		
	12/14/2007	grab		1.9	ug/L		
OF 52 City	9/28/2007	grab		19.1	ug/L		
	9/30/2007 (duplicate)	grab		3.94	ug/L		
	9/30/2007	grab		3.95	ug/L	**7.46**	**5.04**
	10/16/2007 (duplicate)	grab		9.38	ug/L		
	10/16/2007	grab		0.87	ug/L		
	11/16/2007	grab		1.67	ug/L		
OF 52A City	9/28/2007	grab		9.01	ug/L		
	10/16/2007	grab		3.34	ug/L	**4.59**	**3.94**
	11/16/2007	grab		1.97	ug/L		
	12/14/2007	grab		4.05	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	25	ug/L		
	5/3/2007	composite		50.4	ug/L	**23.84**	**18.08**
	5/20/2007	composite		13.8	ug/L		
	11/16/2007	composite		6.15	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Lead

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Lead Concentration		Basin Mean	Basin Geomean
OF 53 City+Port	3/24/2007	composite	J	20.9	ug/L	**43.45**	**28.79**
	5/3/2007	composite		138	ug/L		
	1/26/2008	composite		14.6	ug/L		
	2/6/2008	composite		24.9	ug/L		
	3/12/2008 (duplicate)	composite		18.9	ug/L		
	3/12/2008	composite		18.8	ug/L		
OF 53A City	2/29/2008	grab		33.6	ug/L	**19.26**	**16.20**
	3/20/2008	grab		25.1	ug/L		
	4/4/2008	grab		10.7	ug/L		
	5/13/2008	grab		7.63	ug/L		
OF M-1 City [4]	9/28/2007	grab		3.95	ug/L	**8.25**	**6.69**
	9/30/2007	grab		3.71	ug/L		
	10/16/2007	grab		17.5	ug/L		
	11/16/2007	grab		7.83	ug/L		
OF M-1 LWG [4]	3/26/2007	composite		5.28	ug/L	**9.06**	**7.28**
	4/9/2007	composite		4.17	ug/L		
	4/18/2007 (duplicate)	composite	J	10.2	ug/L		
	4/18/2007	composite	J	21.4	ug/L		
	6/10/2007	composite		4.25	ug/L		
OF M-2 City [4]	9/28/2007	grab		3.27	ug/L	**4.47**	**4.25**
	10/16/2007	grab		7.13	ug/L		
	11/16/2007	grab		3.66	ug/L		
	12/15/2007	grab		3.81	ug/L		
OF M-2 LWG [4]	4/9/2007	composite		2.85	ug/L	**4.50**	**4.17**
	4/9/2007	composite		3.54	ug/L		
	4/23/2007 (duplicate)	composite	J	3.69	ug/L		
	4/23/2007	composite	J	4.04	ug/L		
	5/3/2007	composite		8.39	ug/L		
OF M-3 City	9/28/2007	grab		2.56	ug/L	**3.73**	**3.25**
	9/30/2007	grab		1.68	ug/L		
	10/16/2007	grab		6.91	ug/L		
	11/16/2007	grab		3.75	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Lead

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Lead Concentration		Basin Mean	Basin Geomean
OF S-1 City	9/28/2007	grab		5.1	ug/L		
	10/16/2007	grab		10.3	ug/L	**11.41**	**9.84**
	11/16/2007	grab		22.2	ug/L		
	12/15/2007	grab		8.04	ug/L		
OF S-2 City	9/28/2007	grab		2.66	ug/L		
	10/16/2007	grab		5.8	ug/L	**2.97**	**2.58**
	11/16/2007	grab		1.85	ug/L		
	12/15/2007	grab		1.55	ug/L		
OF S-5 City	9/28/2007	grab		3.11	ug/L		
	10/16/2007	grab		3.28	ug/L		
	11/16/2007 (duplicate)	grab		5.63	ug/L	**4.24**	**4.10**
	11/16/2007	grab		5.79	ug/L		
	12/15/2007	grab		4.87	ug/L		
OF S-6 City	9/28/2007	grab		7.7	ug/L		
	10/16/2007	grab		19.6	ug/L	**8.46**	**6.32**
	11/16/2007	grab		3.51	ug/L		
	12/15/2007	grab		3.01	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit)

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for lead = 0.54 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Manganese

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Manganese Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	1/26/2008	composite		105	ug/L	**130**	**125**
	2/6/2008	composite		193	ug/L		
	3/12/2008	composite		109	ug/L		
	3/12/2008 (duplicate)	composite		111	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for manganese = 50 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Mercury

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Mercury Concentration	Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite	J	0.04 ug/L	0.05	0.05
	4/18/2007	composite	J	0.04 ug/L		
	4/23/2007	composite	U	0.03 ug/L		
	4/23/2007 (duplicate)	composite	U	0.03 ug/L		
	5/3/2007	composite	U	0.09 ug/L		
	6/10/2007	composite	U	0.05 ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite	J	0.02 ug/L	0.05	0.04
	3/26/2007	composite	J	0.02 ug/L		
	4/9/2007	composite	J	0.04 ug/L		
	4/18/2007	composite	J	0.04 ug/L		
	5/3/2007	composite	U	0.08 ug/L		
OF 19 LW3+MS4	3/26/2007	composite	UJ	0.02 ug/L	0.04	0.03
	4/9/2007	composite	U	0.03 ug/L		
	4/9/2007 (duplicate)	composite	J	0.03 ug/L		
	4/18/2007	composite	U	0.03 ug/L		
	5/3/2007 (duplicate)	composite	U	0.08 ug/L		
	5/3/2007	composite	U	0.09 ug/L		
OF 22 LW3	4/9/2007	composite	J	0.04 ug/L	0.05	0.05
	5/3/2007	composite	U	0.08 ug/L		
	6/10/2007	composite	U	0.03 ug/L		
OF 22B LW3	3/27/2007	composite		0.21 ug/L	0.33	0.18
	5/3/2007	composite		0.89 ug/L		
	5/3/2007 (duplicate)	composite		0.96 ug/L		
	11/16/2007 (duplicate)	composite	J	0.12 ug/L		
	11/16/2007	composite	J	0.12 ug/L		
	11/27/2007	composite	J	0.05 ug/L		
OF 22C City	2/29/2008	grab		0.0039 ug/L	0.004	0.004
	3/20/2008	grab		0.0052 ug/L		
	4/4/2008	grab		0.0061 ug/L		
	5/13/2008	grab		0.0026 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Mercury

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Mercury Concentration	Basin Mean [4]	Basin Geomean [4]
OF 22D City	2/29/2008 (duplicate)	grab		0.0036 ug/L		
	2/29/2008	grab		0.0045 ug/L		
	3/20/2008	grab		0.039 ug/L	0.01	0.01
	4/4/2008	grab		0.0055 ug/L		
	5/13/2008	grab		0.0034 ug/L		
OF 45 City	2/5/2008	grab		0.009 ug/L		
	2/29/2008	grab		0.092 ug/L	0.04	0.02
	3/20/2008	grab		0.0064 ug/L		
	4/4/2008	grab		0.0403 ug/L		
OF 46 City	2/5/2008	grab		0.024 ug/L		
	2/29/2008	grab		0.022 ug/L		
	3/20/2008	grab		0.028 ug/L	0.03	0.03
	4/4/2008 (duplicate)	grab		0.0342 ug/L		
	4/4/2008	grab		0.0189 ug/L		
OF 47 City	2/5/2008	grab		0.0031 ug/L		
	2/29/2008	grab		0.012 ug/L	0.01	0.01
	3/20/2008	grab		0.025 ug/L		
	4/4/2008	grab		0.019 ug/L		
OF 48 City	9/28/2007 (duplicate)	grab		0.011 ug/L		
	9/28/2007	grab		0.011 ug/L		
	10/16/2007	grab		0.0043 ug/L	0.01	0.01
	11/16/2007	grab		0.0034 ug/L		
	12/15/2007	grab		0.004 ug/L		
OF 49 LW3	4/9/2007	composite	U	0.03 ug/L		
	4/23/2007	composite	U	0.03 ug/L	0.03 U	0.03 U
	6/10/2007	composite	U	0.03 ug/L		
	11/16/2007	composite	U	0.03 ug/L		
OF 50 City	9/28/2007	grab		0.016 ug/L		
	10/16/2007	grab		0.004 ug/L	0.01	0.01
	11/16/2007	grab		0.003 ug/L		
	12/14/2007	grab		0.0055 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Mercury

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Mercury Concentration		Basin Mean [4]	Basin Geomean [4]
OF 52 City	9/28/2007	grab		0.019	ug/L	0.01	0.01
	9/30/2007 (duplicate)	grab		0.0073	ug/L		
	9/30/2007	grab		0.0074	ug/L		
	10/16/2007	grab		0.022	ug/L		
	10/16/2007 (duplicate)	grab		0.019	ug/L		
	11/16/2007	grab		0.0055	ug/L		
OF 52A City	9/28/2007	grab		0.017	ug/L	0.01	0.01
	10/16/2007	grab		0.013	ug/L		
	11/16/2007	grab		0.0062	ug/L		
	12/14/2007	grab		0.0078	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.03	ug/L	0.08	0.05
	5/3/2007	composite	J	0.05	ug/L		
	5/20/2007	composite	U	0.2	ug/L		
	11/16/2007	composite	U	0.03	ug/L		
OF 53 City+Port	3/24/2007	composite	J	0.03	ug/L	0.04	0.03
	5/3/2007	composite	J	0.13	ug/L		
	1/26/2008	composite		0.0124	ug/L		
	2/6/2008	composite		0.022	ug/L		
	3/12/2008 (duplicate)	composite		0.021	ug/L		
	3/12/2008	composite		0.022	ug/L		
OF 53A City	2/29/2008	grab		0.044	ug/L	0.03	0.03
	3/20/2008	grab		0.031	ug/L		
	4/4/2008	grab		0.0403	ug/L		
	5/13/2008	grab		0.022	ug/L		
OF M-1 City [5]	9/28/2007	grab		0.0084	ug/L	0.01	0.01
	9/30/2007	grab		0.0041	ug/L		
	10/16/2007	grab		0.011	ug/L		
	11/16/2007	grab		0.0076	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Mercury

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Mercury Concentration	Basin Mean [4]	Basin Geomean [4]
OF M-1 LWG [5]	3/26/2007	composite	UJ	0.02 ug/L	0.03 U	0.03 U
	4/9/2007	composite	U	0.03 ug/L		
	4/18/2007 (duplicate)	composite	U	0.03 ug/L		
	4/18/2007	composite	U	0.03 ug/L		
	6/10/2007	composite	U	0.03 ug/L		
OF M-2 City [5]	9/28/2007	grab		0.013 ug/L	0.01	0.01
	10/16/2007	grab		0.019 ug/L		
	11/16/2007	grab		0.0037 ug/L		
	12/15/2007	grab		0.0066 ug/L		
OF M-2 LWG [5]	4/9/2007	composite	U	0.03 ug/L	0.04 U	0.03 U
	4/9/2007	composite	U	0.03 ug/L		
	4/23/2007 (duplicate)	composite	U	0.03 ug/L		
	4/23/2007	composite	U	0.03 ug/L		
	5/3/2007	composite	U	0.06 ug/L		
OF M-3 City	9/28/2007	grab		0.0073 ug/L	0.01	0.01
	9/30/2007	grab		0.0038 ug/L		
	10/16/2007	grab		0.0083 ug/L		
	11/16/2007	grab		0.0035 ug/L		
OF S-1 City	9/28/2007	grab		0.021 ug/L	0.01	0.01
	10/16/2007	grab		0.01 ug/L		
	11/16/2007	grab		0.017 ug/L		
	12/15/2007	grab		0.0082 ug/L		
OF S-2 City	9/28/2007	grab		0.0061 ug/L	0.005	0.005
	10/16/2007	grab		0.0065 ug/L		
	11/16/2007	grab		0.0032 ug/L		
	12/15/2007	grab		0.0039 ug/L		
OF S-5 City	9/28/2007	grab		0.0094 ug/L	0.01	0.01
	10/16/2007	grab		0.0077 ug/L		
	11/16/2007	grab		0.0075 ug/L		
	11/16/2007 (duplicate)	grab		0.0071 ug/L		
	12/15/2007	grab		0.0072 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Mercury

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Mercury Concentration	Basin Mean [4]	Basin Geomean [4]
OF S-6 City	9/28/2007	grab		0.015 ug/L	0.01	0.01
	10/16/2007	grab		0.02 ug/L		
	11/16/2007	grab		0.0044 ug/L		
	12/15/2007	grab		0.0047 ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for mercury = 0.77 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Nickel

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Nickel Concentration	Basin Mean	Basin Geomean
OF 16 LW3	4/9/2007	composite		5.45 ug/L	5.7	5.3
	4/18/2007	composite		6.57 ug/L		
	4/23/2007 (duplicate)	composite		2.37 ug/L		
	4/23/2007	composite		2.48 ug/L		
	5/3/2007	composite		8.47 ug/L		
	6/10/2007	composite		5.53 ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		5.86 ug/L	6.8	6.8
	3/26/2007	composite		5.82 ug/L		
	4/9/2007	composite		6.43 ug/L		
	4/18/2007 (duplicate)	composite		6.77 ug/L		
	4/18/2007	composite		6.56 ug/L		
	5/3/2007	composite		8.39 ug/L		
OF 19 LW3+MS4	3/26/2007	composite		2.44 ug/L	5.1	4.6
	4/9/2007 (duplicate)	composite		3.8 ug/L		
	4/9/2007	composite		3.37 ug/L		
	4/18/2007	composite		5.71 ug/L		
	5/3/2007 (duplicate)	composite		8.69 ug/L		
	5/3/2007	composite		8.93 ug/L		
OF 22 LW3	4/9/2007	composite		4.52 ug/L	4.3	4.3
	5/3/2007	composite		4.84 ug/L		
	6/10/2007	composite		3.67 ug/L		
OF 22B LW3	3/27/2007	composite		7.97 ug/L	8.5	7.9
	5/3/2007	composite		13.8 ug/L		
	11/16/2007	composite		5.04 ug/L		
	11/27/2007	composite		7.18 ug/L		
OF 22C City	2/29/2008	grab		0.68 ug/L	0.8	0.8
	3/20/2008	grab		0.96 ug/L		
	4/4/2008	grab		0.78 ug/L		
	5/13/2008	grab		0.93 ug/L		

Stormwater Analytical Results by City Outfall Basin -- Nickel

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Nickel Concentration		Basin Mean	Basin Geomean
OF 22D City	2/29/2008	grab		0.79	ug/L		
	2/29/2008 (duplicate)	grab		0.76	ug/L		
	3/20/2008	grab		6.76	ug/L	2.4	1.5
	4/4/2008	grab		1.47	ug/L		
	5/13/2008	grab		0.6	ug/L		
OF 45 City	2/5/2008	grab		30.8	ug/L		
	2/29/2008	grab		13.5	ug/L	**16.6**	11.8
	3/20/2008	grab		2.33	ug/L		
	4/4/2008	grab		19.7	ug/L		
OF 46 City	2/5/2008	grab		7.54	ug/L		
	2/29/2008	grab		6.46	ug/L		
	3/20/2008	grab		4.82	ug/L	8.0	7.5
	4/4/2008	grab		6.56	ug/L		
	4/4/2008 (duplicate)	grab		20.1	ug/L		
OF 47 City	2/5/2008	grab		7.77	ug/L		
	2/29/2008	grab		2.84	ug/L	8.0	6.6
	3/20/2008	grab		16	ug/L		
	4/4/2008	grab		5.39	ug/L		
OF 48 City	9/28/2007	grab		3.18	ug/L		
	9/28/2007 (duplicate)	grab		2.93	ug/L		
	10/16/2007	grab		12.5	ug/L	6.2	5.3
	11/16/2007	grab		3.7	ug/L		
	12/15/2007	grab		5.63	ug/L		
OF 49 LW3	4/9/2007	composite		1.22	ug/L		
	4/23/2007	composite		1.04	ug/L	1.6	1.4
	6/10/2007	composite		3.11	ug/L		
	11/16/2007	composite		0.98	ug/L		
OF 50 City	9/28/2007	grab		2.22	ug/L		
	10/16/2007	grab		1.63	ug/L	1.6	1.6
	11/16/2007	grab		1.36	ug/L		
	12/14/2007	grab		1.32	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Nickel

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Nickel Concentration		Basin Mean	Basin Geomean
OF 52 City	9/28/2007	grab		7.07	ug/L	3.6	3.2
	9/30/2007	grab		2.34	ug/L		
	9/30/2007 (duplicate)	grab		2.3	ug/L		
	10/16/2007 (duplicate)	grab		4.49	ug/L		
	10/16/2007	grab		1.69	ug/L		
	11/16/2007	grab		1.95	ug/L		
OF 52A City	9/28/2007	grab		2.41	ug/L	1.7	1.7
	10/16/2007	grab		1.54	ug/L		
	11/16/2007	grab		1.14	ug/L		
	12/14/2007	grab		1.88	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	1.56	ug/L	1.9	1.8
	5/3/2007	composite		3.13	ug/L		
	5/20/2007	composite		1.8	ug/L		
	11/16/2007	composite		1.17	ug/L		
OF 53 City+Port	3/24/2007	composite	J	2.79	ug/L	4.9	3.5
	5/3/2007	composite		14.6	ug/L		
	1/26/2008	composite		1.87	ug/L		
	2/6/2008	composite		3.17	ug/L		
	3/12/2008 (duplicate)	composite		2.15	ug/L		
	3/12/2008	composite		2.1	ug/L		
OF 53A City	2/29/2008	grab		7.39	ug/L	5.9	5.8
	3/20/2008	grab		6.07	ug/L		
	4/4/2008	grab		6.21	ug/L		
	5/13/2008	grab		4.11	ug/L		
OF M-1 City [4]	9/28/2007	grab		2.05	ug/L	2.3	2.1
	9/30/2007	grab		1.07	ug/L		
	10/16/2007	grab		3.26	ug/L		
	11/16/2007	grab		2.74	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Nickel

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Nickel Concentration		Basin Mean	Basin Geomean
OFM-1 LWG [4]	3/26/2007	composite		1.68	ug/L	2.9	2.8
	4/9/2007	composite		2.41	ug/L		
	4/18/2007	composite	(duplicate)	3.44	ug/L		
	4/18/2007	composite		3.58	ug/L		
	6/10/2007	composite		3.44	ug/L		
OF M-2 City [4]	9/28/2007	grab		2.28	ug/L	2.6	2.5
	10/16/2007	grab		3.33	ug/L		
	11/16/2007	grab		2.14	ug/L		
	12/15/2007	grab		2.53	ug/L		
OF M-2 LWG [4]	4/9/2007	composite		1.41	ug/L	2.0	2.0
	4/9/2007	composite		1.99	ug/L		
	4/23/2007	composite	(duplicate)	2.2	ug/L		
	4/23/2007	composite		1.71	ug/L		
	5/3/2007	composite		2.75	ug/L		
OF M-3 City	9/28/2007	grab		1.88	ug/L	1.8	1.7
	9/30/2007	grab		0.93	ug/L		
	10/16/2007	grab		2.55	ug/L		
	11/16/2007	grab		1.76	ug/L		
OF S-1 City	9/28/2007	grab		2.69	ug/L	4.0	3.8
	10/16/2007	grab		3.07	ug/L		
	11/16/2007	grab		5.89	ug/L		
	12/15/2007	grab		4.39	ug/L		
OF S-2 City	9/28/2007	grab		2.66	ug/L	2.0	1.9
	10/16/2007	grab		2.37	ug/L		
	11/16/2007	grab		1.41	ug/L		
	12/15/2007	grab		1.47	ug/L		
OF S-5 City	9/28/2007	grab		2.14	ug/L	2.4	2.3
	10/16/2007	grab		1.99	ug/L		
	11/16/2007	grab		2.61	ug/L		
	11/16/2007	grab	(duplicate)	2.62	ug/L		
	12/15/2007	grab		2.66	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Nickel

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Nickel Concentration	Basin Mean	Basin Geomean
OF S-6 City	9/28/2007	grab		5.15 ug/L	3.8	3.6
	10/16/2007	grab		4.85 ug/L		
	11/16/2007	grab		2.66 ug/L		
	12/15/2007	grab		2.48 ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit)

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for nickel = 16 ug/L.

Stormwater Analytical Results by City Outfall Basin-- Silver

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Silver Concentration		Basin Mean [4]	Basin Geomean [4]
OF 16 LW3	4/9/2007	composite	U	0.05	ug/L		
	4/18/2007	composite	U	0.07	ug/L		
	4/23/2007 (duplicate)	composite		0.032	ug/L	0.08	0.07
	4/23/2007	composite		0.049	ug/L		
	5/3/2007	composite	J	0.156	ug/L		
	6/10/2007	composite	U	0.065	ug/L		
OF 18 LW3	3/26/2007 (duplicate)	composite		0.057	ug/L		
	3/26/2007	composite		0.055	ug/L		
	4/9/2007	composite	U	0.058	ug/L	0.08	0.08
	4/18/2007	composite		0.072	ug/L		
	4/18/2007 (duplicate)	composite		0.081	ug/L		
	5/3/2007	composite	J	0.13	ug/L		
OF 19 LW3+MS4	3/8/2006	composite	U	0.1	ug/L		
	3/15/2006	composite	U	0.1	ug/L		
	5/23/2006	composite	U	0.1	ug/L		
	11/2/2006	composite	U	0.1	ug/L		
	11/19/2006	composite	U	0.1	ug/L		
	2/14/2007	composite	U	0.1	ug/L		
	3/26/2007	composite	U	0.026	ug/L		
	4/9/2007 (duplicate)	composite	U	0.05	ug/L		
	4/9/2007	composite		0.028	ug/L	0.10	0.09
	4/18/2007	composite		0.074	ug/L		
	5/3/2007 (duplicate)	composite	J	0.166	ug/L		
	5/3/2007	composite	J	0.154	ug/L		
	11/26/2007	composite	U	0.1	ug/L		
	3/7/2008	composite	U	0.1	ug/L		
	3/25/2008	composite	U	0.1	ug/L		
	11/20/2008	composite	U	0.1	ug/L		
	2/23/2009	composite		0.21	ug/L		
	3/14/2009	composite	U	0.1	ug/L		

Stormwater Analytical Results by City Outfall Basin-- Silver

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Silver Concentration		Basin Mean [4]	Basin Geomean [4]
OF 22 LW3	4/9/2007	composite		0.049	ug/L		
	5/3/2007	composite	UJ	0.034	ug/L	0.04	0.04
	6/10/2007	composite	U	0.028	ug/L		
OF 22B LW3	3/27/2007	composite		0.194	ug/L		
	5/3/2007	composite	J	0.362	ug/L	**0.21**	**0.18**
	11/16/2007	composite		0.21	ug/L		
	11/27/2007	composite	U	0.064	ug/L		
OF 22C City	2/29/2008	grab	U	0.1	ug/L		
	3/20/2008	grab	U	0.1	ug/L	0.1 U	0.1 U
	4/4/2008	grab	U	0.1	ug/L		
	5/13/2008	grab	U	0.1	ug/L		
OF 22D City	2/29/2008	grab	U	0.1	ug/L		
	2/29/2008 (duplicate)	grab	U	0.1	ug/L		
	3/20/2008	grab	U	0.1	ug/L	0.1 U	0.1 U
	4/4/2008	grab	U	0.1	ug/L		
	5/13/2008	grab	U	0.1	ug/L		
OF 45 City	2/5/2008	grab		0.22	ug/L		
	2/29/2008	grab	U	0.1	ug/L	**0.13**	0.12
	3/20/2008	grab	U	0.1	ug/L		
	4/4/2008	grab	U	0.1	ug/L		
OF 46 City	2/5/2008	grab	U	0.1	ug/L		
	2/29/2008	grab	U	0.1	ug/L		
	3/20/2008	grab	U	0.1	ug/L	0.1 U	0.1 U
	4/4/2008 (duplicate)	grab	U	0.1	ug/L		
	4/4/2008	grab	U	0.1	ug/L		
OF 47 City	2/5/2008	grab	U	0.1	ug/L		
	2/29/2008	grab	U	0.1	ug/L	0.1 U	0.1 U
	3/20/2008	grab	U	0.1	ug/L		
	4/4/2008	grab	U	0.1	ug/L		

Stormwater Analytical Results by City Outfall Basin-- Silver

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Silver Concentration		Basin Mean [4]	Basin Geomean [4]
OF 48 City	9/28/2007 (duplicate)	grab	U	0.1	ug/L		
	9/28/2007	grab	U	0.1	ug/L		
	10/16/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab	U	0.1	ug/L		
OF 49 LW3	4/9/2007	composite		0.033	ug/L		
	4/23/2007	composite	U	0.016	ug/L	0.03	0.03
	6/10/2007	composite	U	0.022	ug/L		
	11/16/2007	composite		0.037	ug/L		
OF 50 City	9/28/2007	grab	U	0.1	ug/L		
	10/16/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	11/16/2007	grab	U	0.1	ug/L		
	12/14/2007	grab	U	0.1	ug/L		
OF 52 City	9/28/2007	grab	U	0.1	ug/L		
	9/30/2007	grab	U	0.1	ug/L		
	9/30/2007 (duplicate)	grab	U	0.1	ug/L	0.1 U	0.1 U
	10/16/2007	grab	U	0.1	ug/L		
	10/16/2007 (duplicate)	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
OF 52A City	9/28/2007	grab	U	0.1	ug/L		
	10/16/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	11/16/2007	grab	U	0.1	ug/L		
	12/14/2007	grab	U	0.1	ug/L		
OF 52C Basin T Port	3/24/2007	composite	J	0.015	ug/L		
	5/3/2007	composite		0.098	ug/L	0.04	0.03
	5/20/2007	composite		0.036	ug/L		
	11/16/2007	composite		0.022	ug/L		

Stormwater Analytical Results by City Outfall Basin-- Silver

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Silver Concentration		Basin Mean [4]	Basin Geomean [4]
OF 53 City+Port	3/24/2007	composite	J	0.022	ug/L	0.10	0.08
	5/3/2007	composite		0.156	ug/L		
	1/26/2008	composite	U	0.1	ug/L		
	2/6/2008	composite	U	0.1	ug/L		
	3/12/2008 (duplicate)	composite	U	0.1	ug/L		
	3/12/2008	composite	U	0.1	ug/L		
OF 53A City	2/29/2008	grab		0.17	ug/L	**0.13**	**0.13**
	3/20/2008	grab	U	0.16	ug/L		
	4/4/2008	grab	U	0.1	ug/L		
	5/13/2008	grab	U	0.1	ug/L		
OF M-1 City [5]	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	9/30/2007	grab	U	0.1	ug/L		
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
OF M-1 LWG [5]	3/26/2007	composite	U	0.017	ug/L	0.02	0.02
	4/9/2007	composite	J	0.01	ug/L		
	4/18/2007 (duplicate)	composite	U	0.032	ug/L		
	4/18/2007	composite	U	0.037	ug/L		
	6/10/2007	composite	U	0.019	ug/L		
OF M-2 City [5]	9/28/2007	grab	U	0.1	ug/L	**0.21**	**0.16**
	10/16/2007	grab		0.5	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab		0.13	ug/L		
OF M-2 LWG [5]	4/9/2007	composite		0.065	ug/L	**0.75**	**0.26**
	4/9/2007	composite		0.145	ug/L		
	4/23/2007 (duplicate)	composite		3.03	ug/L		
	4/23/2007	composite		0.091	ug/L		
	5/3/2007	composite	J	0.441	ug/L		
OF M-3 City	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	9/30/2007	grab	U	0.1	ug/L		
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		

Stormwater Analytical Results by City Outfall Basin-- Silver

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Silver Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-1 City	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab	U	0.1	ug/L		
OF S-2 City	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab	U	0.1	ug/L		
OF S-5 City	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007 (duplicate)	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab	U	0.1	ug/L		
OF S-6 City	9/28/2007	grab	U	0.1	ug/L	0.1 U	0.1 U
	10/16/2007	grab	U	0.1	ug/L		
	11/16/2007	grab	U	0.1	ug/L		
	12/15/2007	grab	U	0.1	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); U = not detected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

[5] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for silver = 0.12 ug/L.

Stormwater Analytical Results by City Outfall Basin -- Zinc

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Zinc Concentration		Basin Mean	Basin Geomean
OF 16 LW3	4/9/2007	composite	J	139	ug/L		
	4/18/2007	composite		275	ug/L		
	4/23/2007	composite	J	94.7	ug/L	**200**	**183**
	4/23/2007 (duplicate)	composite	J	93.9	ug/L		
	5/3/2007	composite		312	ug/L		
	6/10/2007	composite		182	ug/L		
OF 18 LW3	3/26/2007	composite		214	ug/L		
	3/26/2007 (duplicate)	composite		220	ug/L		
	4/9/2007	composite	J	224	ug/L	**249**	**245**
	4/18/2007	composite	J	226	ug/L		
	4/18/2007 (duplicate)	composite	J	229	ug/L		
	5/3/2007	composite		327	ug/L		
OF 19 LW3+MS4	3/8/2006	composite		169	ug/L		
	3/15/2006	composite		153	ug/L		
	5/23/2006	composite		190	ug/L		
	11/2/2006	composite		237	ug/L		
	11/19/2006	composite		146	ug/L		
	2/14/2007	composite		199	ug/L		
	3/26/2007	composite		115	ug/L		
	4/9/2007 (duplicate)	composite	J	182	ug/L		
	4/9/2007	composite	J	169	ug/L	**219**	**204**
	4/18/2007	composite		220	ug/L		
	5/3/2007	composite		391	ug/L		
	5/3/2007 (duplicate)	composite		385	ug/L		
	11/26/2007	composite		206	ug/L		
	3/7/2008	composite		223	ug/L		
	3/25/2008	composite		125	ug/L		
	11/20/2008	composite		282	ug/L		
	2/23/2009	composite		486	ug/L		
	3/14/2009	composite		197	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Zinc

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Zinc Concentration		Basin Mean	Basin Geomean
OF 22 LW3	4/9/2007	composite	J	195	ug/L		
	5/3/2007	composite		285	ug/L	**218**	**213**
	6/10/2007	composite		174	ug/L		
OF 22B LW3	3/27/2007	composite		316	ug/L		
	5/3/2007	composite		560	ug/L	**324**	**293**
	11/16/2007	composite		253	ug/L		
	11/27/2007	composite		165	ug/L		
OF 22C City	2/29/2008	grab		3.47	ug/L		
	3/20/2008	grab		6.28	ug/L	5	5
	4/4/2008	grab		5.01	ug/L		
	5/13/2008	grab		3.83	ug/L		
OF 22D City	2/29/2008	grab		18.6	ug/L		
	2/29/2008 (duplicate)	grab		18.4	ug/L		
	3/20/2008	grab		216	ug/L	**72**	35
	4/4/2008	grab		42.6	ug/L		
	5/13/2008	grab		9.2	ug/L		
OF 45 City	2/5/2008	grab		716	ug/L		
	2/29/2008	grab		391	ug/L	**430**	**327**
	3/20/2008	grab		76.4	ug/L		
	4/4/2008	grab		536	ug/L		
OF 46 City	2/5/2008	grab		364	ug/L		
	2/29/2008	grab		363	ug/L		
	3/20/2008	grab		250	ug/L	**360**	**352**
	4/4/2008 (duplicate)	grab		540	ug/L		
	4/4/2008	grab		389	ug/L		
OF 47 City	2/5/2008	grab		244	ug/L		
	2/29/2008	grab		99.2	ug/L	**192**	**178**
	3/20/2008	grab		267	ug/L		
	4/4/2008	grab		156	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Zinc

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Zinc Concentration		Basin Mean	Basin Geomean
OF 48 City	9/28/2007	grab		26.3	ug/L		
	9/28/2007 (duplicate)	grab		28.1	ug/L		
	10/16/2007	grab		31.1	ug/L	26	26
	11/16/2007	grab		20.5	ug/L		
	12/15/2007	grab		26.7	ug/L		
OF 49 LW3	4/9/2007	composite	J	36.8	ug/L		
	4/23/2007	composite	J	33.4	ug/L	**41**	**39**
	6/10/2007	composite		62.3	ug/L		
	11/16/2007	composite		30.7	ug/L		
OF 50 City	9/28/2007	grab		138	ug/L		
	10/16/2007	grab		66.2	ug/L	**104**	**100**
	11/16/2007	grab		84.3	ug/L		
	12/14/2007	grab		129	ug/L		
OF 52 City	9/28/2007	grab		226	ug/L		
	9/30/2007 (duplicate)	grab		125	ug/L		
	9/30/2007	grab		128	ug/L	**153**	**147**
	10/16/2007	grab		64.5	ug/L		
	10/16/2007 (duplicate)	grab		248	ug/L		
	11/16/2007	grab		104	ug/L		
OF 52A City	9/28/2007	grab		127	ug/L		
	10/16/2007	grab		109	ug/L	**123**	**118**
	11/16/2007	grab		80.3	ug/L		
	12/14/2007	grab		174	ug/L		
OF 52C Basin T Port	3/24/2007	composite		62.5	ug/L		
	5/3/2007	composite		114	ug/L	**65**	**59**
	5/20/2007	composite		38.4	ug/L		
	11/16/2007	composite		44.1	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Zinc

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Zinc Concentration		Basin Mean	Basin Geomean
OF 53 City+Port	3/24/2007	composite		81.1	ug/L	**179**	**109**
	5/3/2007	composite		609	ug/L		
	1/26/2008	composite		59.7	ug/L		
	2/6/2008	composite		78.3	ug/L		
	3/12/2008	composite		65.9	ug/L		
	3/12/2008 (duplicate)	composite		66.5	ug/L		
OF 53A City	2/29/2008	grab		516	ug/L	**478**	**459**
	3/20/2008	grab		453	ug/L		
	4/4/2008	grab		655	ug/L		
	5/13/2008	grab		289	ug/L		
OF M-1 City [4]	9/28/2007	grab		211	ug/L	**195**	**186**
	9/30/2007	grab		119	ug/L		
	10/16/2007	grab		281	ug/L		
	11/16/2007	grab		168	ug/L		
OF M-1 LWG [4]	3/26/2007	composite		140	ug/L	**188**	**185**
	4/9/2007	composite	J	186	ug/L		
	4/18/2007 (duplicate)	composite		216	ug/L		
	4/18/2007	composite		227	ug/L		
	6/10/2007	composite		170	ug/L		
OF M-2 City [4]	9/28/2007	grab		145	ug/L	**137**	**129**
	10/16/2007	grab		210	ug/L		
	11/16/2007	grab		86	ug/L		
	12/15/2007	grab		107	ug/L		
OF M-2 LWG [4]	4/9/2007	composite	J	102	ug/L	**109**	**106**
	4/9/2007	composite	J	94.5	ug/L		
	4/23/2007 (duplicate)	composite	J	87.4	ug/L		
	4/23/2007	composite	J	89.2	ug/L		
	5/3/2007	composite		174	ug/L		
OF M-3 City	9/28/2007	grab		874	ug/L	**298**	**175**
	9/30/2007	grab		78.1	ug/L		
	10/16/2007	grab		139	ug/L		
	11/16/2007	grab		99.1	ug/L		

Stormwater Analytical Results by City Outfall Basin -- Zinc

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Zinc Concentration		Basin Mean	Basin Geomean
OF S-1 City	9/28/2007	grab		468	ug/L		
	10/16/2007	grab		359	ug/L	**345**	**337**
	11/16/2007	grab		266	ug/L		
	12/15/2007	grab		287	ug/L		
OF S-2 City	9/28/2007	grab		231	ug/L		
	10/16/2007	grab		209	ug/L	**276**	**248**
	11/16/2007	grab		152	ug/L		
	12/15/2007	grab		512	ug/L		
OF S-5 City	9/28/2007	grab		288	ug/L		
	10/16/2007	grab		216	ug/L		
	11/16/2007	grab		345	ug/L	**288**	**284**
	11/16/2007 (duplicate)	grab		344	ug/L		
	12/15/2007	grab		304	ug/L		
OF S-6 City	9/28/2007	grab		551	ug/L		
	10/16/2007	grab		415	ug/L	**396**	**385**
	11/16/2007	grab		299	ug/L		
	12/15/2007	grab		320	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit)

[4] Samples were collected at two locations within Basins 22C, M-1, and M-2. Samples collected by the City are representative of entire basin discharges; the samples collected by LWG in these basins were located upstream. For Basins M-1 and M-2 (but not Basin 22C), the LWG sampling location represented basin areas similar to those represented by the City sampling locations.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for zinc = 36 ug/L.

Stormwater Analytical Results by City Outfall Basin:

Semivolatile Organic Compounds (SVOCs)

Stormwater Analytical Results by City Outfall Basin -- Methoxychlor

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Methoxychlor Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	2/23/2009	composite		0.017	ug/L	0.017	0.017
OF 22B LW3	3/27/2007 (duplicate)	composite		0.26	ug/L	**0.069**	0.030
	3/27/2007	composite		0.16	ug/L		
	5/3/2007	composite	J	0.041	ug/L		
	5/3/2007 (duplicate)	composite	J	0.051	ug/L		
	6/5/2007	grab	U	0.0065	ug/L		
	11/16/2007	composite	NJ	0.013	ug/L		
OF 52C Basin T Port	3/24/2007	composite	UJ	0.0016	ug/L	0.006 U	0.003 U
	4/7/2007	composite	U	0.00049	ug/L		
	4/7/2007 (duplicate)	composite	U	0.00049	ug/L		
	5/3/2007	composite	U	0.0088	ug/L		
	11/16/2007 (duplicate)	composite	U	0.021	ug/L		
	11/16/2007	composite	U	0.0015	ug/L		
OF 53 City+Port	3/24/2007	composite	J	0.0011	ug/L	0.003	0.002
	4/7/2007	composite	UJ	0.0011	ug/L		
	5/3/2007	composite	U	0.0053	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] J = estimated value (method dection limit < concentration < method reporting limit); NJ = presumtive evidence of a compound, and the value is estimated; U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for methoxychlor = 0.03 ug/L.

Stormwater Analytical Results by City Outfall Basin --Pentachlorophenol

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pentachlorophenol Concentration		Basin Mean [4]	Basin Geomean [4]
OF 19 LW3+MS4	3/8/2006	composite	U	2.1	ug/L	3.5 U	2.5 U
	3/15/2006	composite	U	4	ug/L		
	5/23/2006	composite	U	3.5	ug/L		
	11/2/2006	composite	U	3.8	ug/L		
	11/19/2006	composite	U	3.7	ug/L		
	2/14/2007	composite	U	0.34	ug/L		
	11/26/2007	composite	U	0.97	ug/L		
	3/7/2008	composite	U	2	ug/L		
	3/25/2008	composite	U	0.97	ug/L		
	11/20/2008	composite	UJ	5.2	ug/L		
	2/23/2009	composite	UJ	5.2	ug/L		
	3/14/2009	composite	U	10	ug/L		
OF 22C City	2/29/2008	grab	U	1.1	ug/L	1.0 U	1.0 U
	3/20/2008	grab	U	0.96	ug/L		
	4/4/2008	grab	U	1	ug/L		
	5/13/2008	grab	U	0.99	ug/L		
OF 22D City	2/29/2008 (duplicate)	grab	U	0.99	ug/L	1.3 U	1.2 U
	2/29/2008	grab	U	1.1	ug/L		
	3/20/2008	grab	U	2	ug/L		
	4/4/2008	grab	U	1	ug/L		
	5/13/2008	grab	U	1	ug/L		
OF 45 City	2/5/2008	grab	U	0.98	ug/L	1.3 U	1.2 U
	2/29/2008	grab	U	1	ug/L		
	3/20/2008	grab	U	2.1	ug/L		
	4/4/2008	grab	U	0.97	ug/L		
OF 46 City	2/5/2008	grab	U	0.98	ug/L	2.7 U	2.1 U
	2/29/2008	grab	U	4	ug/L		
	3/20/2008	grab	U	5	ug/L		
	4/4/2008	grab	U	1	ug/L		
	4/4/2008 (duplicate)	grab	U	0.97	ug/L		

Stormwater Analytical Results by City Outfall Basin --Pentachlorophenol

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pentachlorophenol Concentration		Basin Mean [4]	Basin Geomean [4]
OF 47 City	2/5/2008	grab	U	5.3	ug/L	2.7 U	2.3 U
	2/29/2008	grab	U	2.1	ug/L		
	3/20/2008	grab	U	2.1	ug/L		
	4/4/2008	grab	U	1.1	ug/L		
OF 48 City	9/28/2007 (duplicate)	grab	U	0.98	ug/L	1.0 U	1.0 U
	9/28/2007	grab	U	1	ug/L		
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	1	ug/L		
	12/15/2007	grab	U	1	ug/L		
OF 50 City	9/28/2007	grab	U	0.98	ug/L	1.1 U	1.1 U
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	1.1	ug/L		
	12/14/2007	grab	U	1.1	ug/L		
OF 52 City	9/28/2007	grab	U	1	ug/L	1.1 U	1.0 U
	9/30/2007	grab	U	1.1	ug/L		
	9/30/2007 (duplicate)	grab	U	1.1	ug/L		
	10/16/2007	grab	U	1.1	ug/L		
	10/16/2007 (duplicate)	grab	U	1.1	ug/L		
	11/16/2007	grab	U	1	ug/L		
OF 52A City	9/28/2007	grab	U	0.99	ug/L	**1.1**	**1.1**
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab		1.4	ug/L		
	12/14/2007	grab	U	1	ug/L		
OF 53 City+Port	1/26/2008	composite	U	0.99	ug/L	1.0 U	1.0 U
	2/6/2008	composite	U	0.94	ug/L		
	3/12/2008	composite	U	0.99	ug/L		
	3/12/2008 (duplicate)	composite	U	0.98	ug/L		
OF 53A City	2/29/2008	grab	U	1.1	ug/L	1.3 U	1.2 U
	3/20/2008	grab	U	2.1	ug/L		
	4/4/2008	grab	U	1	ug/L		
	5/13/2008	grab	U	0.99	ug/L		

Stormwater Analytical Results by City Outfall Basin --Pentachlorophenol

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pentachlorophenol Concentration		Basin Mean [4]	Basin Geomean [4]
OF M-1 City	9/28/2007	grab	U	1.1	ug/L	1.0 U	1.0 U
	9/30/2007	grab	U	0.99	ug/L		
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	0.99	ug/L		
OF M-2 City	9/28/2007	grab	U	1.1	ug/L	1.1 U	1.1 U
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	1	ug/L		
	12/15/2007	grab	U	1.1	ug/L		
OF M-3 City	9/28/2007	grab	U	1.2	ug/L	1.1 U	1.1 U
	9/30/2007	grab	U	1.1	ug/L		
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	1	ug/L		
OF S-1 City	9/28/2007	grab	U	0.98	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	1	ug/L		
	11/16/2007	grab	U	1.1	ug/L		
	12/15/2007	grab	U	1	ug/L		
OF S-2 City	9/28/2007	grab	U	0.98	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	1.1	ug/L		
	11/16/2007	grab	U	0.99	ug/L		
	12/15/2007	grab	U	1	ug/L		
OF S-5 City	9/28/2007	grab	U	1	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	1	ug/L		
	11/16/2007 (duplicate)	grab	U	1	ug/L		
	11/16/2007	grab	U	1.1	ug/L		
	12/15/2007	grab	U	1.1	ug/L		

Stormwater Analytical Results by City Outfall Basin --Pentachlorophenol

City Outfall Basin / Sampling Location [1]	Sample Date [2]	Sample Type	Qualifier [3]	Pentachlorophenol Concentration		Basin Mean [4]	Basin Geomean [4]
OF S-6 City	9/28/2007	grab	U	1	ug/L	1.0 U	1.0 U
	10/16/2007	grab	U	1	ug/L		
	11/16/2007	grab	U	1	ug/L		
	12/15/2007	grab	U	1	ug/L		

Notes:

ug/L = micrograms per liter

[1] Each location listed represents discharge from the whole basin, to the extent feasible. Results for City and LWG/Port sampling are combined where sampling locations are representative of the same basin area.

[2] Results for duplicate samples are averaged with the corresponding parent sample results to achieve a mean value for that sample event that is then used to calculate the basin mean and geomean.

[3] U = undetected; UJ = analyte was not detected, and the value is the estimated quantitation limit.

[4] For the purposes of calculating the mean and geomean, non-detect results are set to the value of the method reporting limit.

Bolded values exceed Joint Source Control Strategy (JSCS) Screening Level Value (SLV). JSCS SLV for pentachlorophenol = 0.56 ug/L.

Appendix E

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Appendix E

LWG and Port Sediment Trap Data for City Outfall Basins

Appendix E. Summary of Chemical Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basins 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

Class	Analyte	Units	Outfall Basin	OF16	OF18					OF19	OF22	OF22B[1]		OF22C[2]	OF49		OF52C		OF53	OFM-1[2]	OFM-2	JSCS[3] Screening Level Values	
			Sample Location	AMZ120	AMZ088					AAP918	AAM077	AAJ650		AAJ602	AAG634		AAB511		AAC589	AAJ933	AAM179		
			Sample ID	LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	Duplicate LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW-S10-OF22B	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2		
																						Toxicity	Bioaccumulation
Total Organic Carbon (PSEP)[4]																							
	TOC	%		7.42	3.72	3.71	4.19	6.47	4.66	5.57	4.17	7.36	25	1.44	5.38	10.3	NA	13	14.4	3.34	4.25	--	--
Total Solids (EPA 160.3M)																							
	TS	%		40.5	39.5	54.7 T	50.5	45	54.1	47.1	34	38.3	9.86	51.6	54.7	33.3	23	56.7	51.5	21.3	31.4	--	--
Metals (EPA 6010/6020)																							
	Aluminum	mg/Kg		NA	NA	10000	9320	10300 T	10500	9220	NA	NA	48800	12000	NA	45000	NA	7200	6910 T	NA	NA	--	--
	Antimony	mg/Kg		NA	NA	0.72 J	0.67 J	1.24 JT	0.64 J	2.58 J	NA	NA	20.5 J	0.11 J	NA	2.87 J	NA	5.11 J	2.01 JT	NA	NA	64	--
	Arsenic	mg/Kg		NA	NA	3.56	2.89	2.45 T	2.36	5.6	NA	NA	**48.4**	1.5	NA	**8.69**	4.6	4.43	2.38 T	NA	NA	33	7
	Cadmium	mg/Kg		NA	NA	0.624	0.619	0.653 T	0.548	**2.07** J	NA	NA	**25.4**	0.11 J	NA	**1.91**	**1.75**	**1.56**	**1.04** T	NA	NA	4.98	1
	Chromium	mg/Kg		NA	NA	37.5	40.8	25.9 T	22.5	74.3	NA	NA	261	17.9	NA	71.8	207	122 J	29.2 JT	NA	NA	111	--
	Copper	mg/Kg		NA	NA	38	49.2	37.9 T	32.3	164	NA	NA	507	12.2	NA	128	124	68	49.6 T	NA	NA	149	--
	Lead	mg/Kg		NA	NA	**78.9**	**67.6**	**58.3** T	**46.5**	**139** J	NA	NA	**1930**	8.74 J	NA	**186**	**393**	**432** J	**97.3** JT	NA	NA	128	17
	Mercury[5]	mg/Kg		NA	NA	**0.161** J	0.062 J	**0.113** JT	**0.082** J	**0.213**	NA	NA	**8.6** J	0.032	NA	**0.126** J	**0.206**	**0.26**	**0.187** T	NA	NA	1.06	0.07
	Nickel	mg/Kg		NA	NA	16.5	17.8	17.3 T	13.9	30.4	NA	NA	110	9.08	NA	42.2	33.4	27.2	13.9 T	NA	NA	48.6	--
	Selenium	mg/Kg		NA	NA	0.4 J	0.7 J	0.6 JT	0.3 U	0.4 J	NA	NA	**11**	0.3 U	NA	1.3 J	0.2	0.7 U	0.8 UT	NA	NA	5	2
	Silver	mg/Kg		NA	NA	0.117 J	0.12 J	0.233 JT	0.125 J	0.733	NA	NA	9.77 J	0.049	NA	0.529 J	0.62	0.367 J	0.259 JT	NA	NA	5	--
	Zinc	mg/Kg		NA	NA	1020	280	289 T	229	964 J	NA	NA	6170	48.9 J	NA	856	738	442	334 T	NA	NA	459	--
Organochlorine Pesticides (EPA 8081A)																							
	2,4'-DDD	ug/Kg		3.2 U	47 NJ	7.1 NJ	9.5 NJ	9.9 NJ	5.7 NJ	3.3 U	NA	NA	35 U	0.32 U	54 U	3.2 J	Note[6]	29 UJ	15 JT	4.3 U	3.3 U	--	--
	2,4'-DDE	ug/Kg		0.92 U	0.92 U	0.79 U	1.2 U	1.7 NJ	0.82 U	0.93 U	NA	NA	170	0.23 U	16 U	0.8 U	Note[6]	29 UJ	21 JT	3.4 U	0.93 U	--	--
	2,4'-DDT	ug/Kg		23	17	2.8 J	5	4 J	2.6 NJ	6.6 U	NA	NA	130 U	0.32 J	21 U	8.4 U	Note[6]	23 J	27 JT	1.5 U	4.1 U	--	--
	4,4'-DDD	ug/Kg		5.3 U	47 J	5.8	11	8.2	4.8 J	4.1 U	NA	NA	270 J	0.4 U	25 U	2.2 U	Note[6]	29 UJ	26 T	1.8 U	1.5 U	--	--
	4,4'-DDE	ug/Kg		13 J	66 J	9.3	13	12 J	7.3 J	6.3 NJ	NA	NA	80 J	2 J	9 U	6.3 NJ	Note[6]	11 J	45 T	9.1	4.1 U	--	--
	4,4'-DDT	ug/Kg		38 U	32 U	6.5	9.5	11 J	3 U	25 U	NA	NA	340 NJ	1.6	97 U	26 J	Note[6]	36 UJ	130 T	6 U	4.8 U	--	--
	DDD[7]	ug/Kg		5.3 U	**94** J	**12.9**	**20.5** J	**18.1** J	**10.5** J	4.1 U	NA	NA	**270** J	0.4 U	54 U	**3.2** J	Note[6]	29 UJ	**41** J	4.3 U	3.3 U	31.3	0.33
	DDE[7]	ug/Kg		**13** J	**66** J	**9.3**	**13**	**13.7** J	**7.3** J	**6.3** NJ	NA	NA	**250** J	**2**	16 U	**6.3** NJ	Note[6]	**11** J	**66** J	**9.1**	4.1 U	28	0.33
	DDT[7]	ug/Kg		**23**	**17**	**9.3** J	**14.5**	**15** J	**2.6** NJ	25 U	NA	NA	**340** NJ	**1.9** J	97 U	**26** J	Note[6]	**23** J	**157** J	6 U	4.8 U	62.9	0.33
	Estimated Total DDx[8]	ug/Kg		**36**	**177**	**31.5**	**48**	**46.8**	**20.4**	**6.3**	NA	NA	**860**	**3.92**	ND	**35.5**	**36.3**[6]	**34**	**264**	**9.1**	ND	--	0.33
	Aldrin	ug/Kg		5.9 NJ	21 J	2.5	4.3 J	4.1 U	0.78 U	2.5 U	NA	NA	25 U	0.24 U	40 U	0.22 U	NA	6.2 J	31 UT	3 U	2.5 U	40	--
	alpha-Endosulfan	ug/Kg		24 U	5.9 U	0.84 NJ	1.1 NJ	0.97 U	0.78 U	7.9 U	NA	NA	23 U	0.23 U	13 U	0.099 U	NA	29 UJ	31 UJT	7.4 U	9.6 U	--	--
	alpha-Hexachlorocyclohexane	ug/Kg		2 U	2 U	0.19 U	0.22 U	0.23 U	0.19 U	4.1 U	NA	NA	24	0.2 U	33 U	0.28 J	NA	29 U	31 UT	2.4 U	2 U	--	--
	beta-Endosulfan	ug/Kg		9.1 U	0.62 U	1.2 NJ	1.5 NJ	1.2	0.98 U	12 U	NA	NA	11 U	0.089 U	11 U	1.9 U	NA	13 J	31 UT	11 U	13 U	--	--
	beta-Hexachlorocyclohexane	ug/Kg		5.7 U	11 U	1.3 U	1.7 U	1.9 U	2.1 U	14 U	NA	NA	30 U	0.28 U	47 U	1.4 U	NA	29 U	31 UJT	3.5 U	11 U	--	--
	alpha-Chlordane[9]	ug/Kg		0.62 U	19	3 J	3.8 J	5.8	4.3	0.63 U	NA	NA	330	0.062 U	11 U	4.2 J	NA	29 U	31 UT	0.76 U	0.63 U	--	--
	beta-Chlordane[9]	ug/Kg		15	51 J	6.2	8.1	24	21	8	NA	NA	470	0.4 U	9 U	6.6 J	NA	29 UJ	9.1 JT	2.6 U	4.1 U	--	--
	Total Chlordane[10]	ug/Kg		**15**	**70**	**9.2**	**11.9**	**29.8**	**25.3**	**8**	NA	NA	**800**	ND	ND	**10.8**	NA	ND	**9.1**	ND	ND	17.6	0.37
	cis-Nonachlor	ug/Kg		16 U	12	2.6 U	3.8 U	4.9 U	1.8 U	7.7 U	NA	NA	210 U	0.18 U	29 U	6.7	NA	29 UJ	31 UT	2.2 U	4.5 U	--	--
	delta-Hexachlorocyclohexane	ug/Kg		2.2 U	2.5 U	0.18 U	0.22 U	0.85 U	0.16 U	2.3 U	NA	NA	120 NJ	0.27 U	37 U	0.15 U	NA	16 J	31 UJT	2.9 U	2.3 U	--	--
	Dieldrin	ug/Kg		5.5 U	13 U	**2.9**	**3.6**	**2.6** J	**1.3** J	4.1 U	NA	NA	**470** J	0.4 U	10 U	**4** NJ	NA	29 UJ	31 UT	4.9 U	3.6 U	61.8	0.0081
	Endosulfan sulfate	ug/Kg		7.1 U	7.8 U	0.79 U	1.3 U	0.97 U	0.96 U	14 U	NA	NA	120 U	0.4 U	20 U	1.9 U	NA	29 U	31 UJT	8.5 U	1.2 U	--	--
	Endrin	ug/Kg		1.5 U	4.1 U	0.19 U	0.93 U	0.23 U	0.18 U	1.5 U	NA	NA	56	0.19 U	24 U	0.8 U	NA	29 U	31 UT	1.8 U	1.5 U	207	--
	Endrin aldehyde	ug/Kg		4 U	4 U	0.19 U	0.22 U	0.98 U	0.19 U	4.9 NJ	NA	NA	12	0.084 U	14 U	0.19 U	NA	29 UJ	31 UT	7.4 J	8.6 U	--	--
	Endrin ketone	ug/Kg		0.58 U	4 U	0.79 U	0.93 U	0.97 U	0.79 U	0.59 U	NA	NA	17 U	0.09 U	9.7 U	1.3 U	NA	29 UJ	31 UT	0.71 U	5.2 NJ	--	--
	gamma-Hexachlorocyclohexane	ug/Kg		4 U	3.7 J	0.79 U	0.93 U	0.97 U	0.78 U	2 U	NA	NA	21 U	0.13 U	21 U	1.2 U	NA	29 U	31 UJT	6.2 U	7.7 U	4.99	--
	Heptachlor	ug/Kg		4 U	20 NJ	1.5 J	2	24	24	4.1 U	NA	NA	28 NJ	0.16 U	26 U	0.61 U	NA	29 UJ	31 UJT	9.1 NJ	1.6 U	10	--
	Heptachlor epoxide	ug/Kg		5.6 U	6.7 U	0.79 U	0.93 U	1.8 J	0.95 NJ	4.9 U	NA	NA	11 U	0.14 U	23 U	1.6 U	NA	29 UJ	31 UT	8.6 U	4.1 U	16	--
	Methoxychlor	ug/Kg		7.4 U	1.5 U	1.9	1.1 NJ	1.3 J	1 J	7.7 U	NA	NA	240	0.15 U	25 U	2.5 U	NA	29 U	31 UJT	4.9 U	1.6 U	--	--
	Mirex	ug/Kg		4 U	2.4 U	0.2 U	0.23 U	0.24 U	0.29 J	2.5 U	NA	NA	2.5 U	0.24 U	40 U	1.8 U	NA	29 U	31 UT	3 U	2.5 U	--	--
	oxy-Chlordane	ug/Kg		4 U	3.9 U	0.84 U	0.92 U	0.99 U	0.78 U	13 U	NA	NA	11 U	0.4 U	21 U	1.6 U	NA	29 UJ	31 UJT	1.5 U	4.1 U	--	--
	Toxaphene	ug/Kg		680 U	870 U	85 U	190 U	160 U	86 U	290 U	NA	NA	2600 U	44 U	1200 U	120 U	NA	1500 UJ	1600 UJT	550 U	240 U	--	--
	trans-Nonachlor	ug/Kg		23	12	1.3 J	2 U	3.6 J	2.7	6.9 J	NA	NA	210 J	0.3 U	12 U	4.6	NA	6.8 J	31 UJT	13 NJ	18 NJ	--	--

Appendix E. Summary of Chemical Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basins 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

Class	Analyte	Units	Outfall Basin	OF16	OF18					OF19	OF22	OF22B[1]		OF22C[2]	OF49		OF52C		OF53	OFM-1[2]	OFM-2	JSCS[3] Screening Level Values	
			Sample Location	AMZ120	AMZ088					AAP918	AAM077	AAJ650		AAJ602	AAG634		AAB511		AAC589	AAJ933	AAM179		
			Sample ID	LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	Duplicate LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW-S10-OF22B	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2		
				07/03/07	07/02/07	12/20/07	12/20/07	01/31/08	02/01/08	07/03/07	07/05/07	07/02/07	01/29/08	07/03/07	07/05/07	01/30/08	Winter/Spring 2005[6]	02/15/08	02/15/08	06/07/07	07/02/07	Toxicity	Bioaccumulation
Herbicides (EPA 8151A)																							
	2,4,5-T	ug/Kg		NA	NA	61 U	71 U	76 U	77 U	85 U	NA	NA	NA	78 U	NA	NA	NA	NA	NA	NA	NA	--	--
	2,4-D	ug/Kg		NA	NA	56 U	66 U	71 U	71 U	110 U	NA	NA	NA	72 U	NA	NA	NA	NA	NA	NA	NA	--	--
	2,4-DB	ug/Kg		NA	NA	110 U	130 U	140 U	140 U	800 U	NA	NA	NA	140 U	NA	NA	NA	NA	NA	NA	NA	--	--
	Dalapon	ug/Kg		NA	NA	470 U	550 U	590 U	600 U	660 U	NA	NA	NA	610 U	NA	NA	NA	NA	NA	NA	NA	--	--
	Dicamba	ug/Kg		NA	NA	53 U	62 U	67 U	67 U	75 U	NA	NA	NA	68 U	NA	NA	NA	NA	NA	NA	NA	--	--
	Dichlorprop	ug/Kg		NA	NA	46 U	53 U	57 U	58 U	64 U	NA	NA	NA	59 U	NA	NA	NA	NA	NA	NA	NA	--	--
	Dinoseb	ug/Kg		NA	NA	96 U	120 U	120 U	130 U	140 U	NA	NA	NA	130 U	NA	NA	NA	NA	NA	NA	NA	--	--
	MCPA	ug/Kg		NA	NA	7600 U	8900 U	9500 U	9600 U	11000 U	NA	NA	NA	9700 U	NA	NA	NA	NA	NA	NA	NA	--	--
	MCPP	ug/Kg		NA	NA	3800 U	4500 U	4800 U	4800 U	5400 U	NA	NA	NA	4900 U	NA	NA	NA	NA	NA	NA	NA	--	--
	Silvex	ug/Kg		NA	NA	55 U	64 U	69 U	69 U	77 U	NA	NA	NA	70 U	NA	NA	NA	NA	NA	NA	NA	--	--
Polychlorinated Biphenyls (PCBs) (EPA 8082)																							
	Aroclor 1016	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290 U	310 UT	NA	NA	530	--
	Aroclor 1221	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	570 U	620 UT	NA	NA	--	--
	Aroclor 1232	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290 U	310 UT	NA	NA	--	--
	Aroclor 1242	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	360	220 JT	NA	NA	--	--
	Aroclor 1248	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290 U	310 UT	NA	NA	1500	--
	Aroclor 1254	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	390	180 JT	NA	NA	300	--
	Aroclor 1260	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290	310 UT	NA	NA	200	--
	Aroclor 1262	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290 U	310 UT	NA	NA	--	--
	Aroclor 1268	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Note[6]	290 U	310 UT	NA	NA	--	--
	Total PCBs[11]	ug/Kg		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270[6]	**1040** T	**400** T	NA	NA	676	0.39
Polynuclear Aromatic Hydrocarbons (EPA 8270C)																							
	2-Methylnaphthalene	ug/Kg		150 U	300 U	44 U	51 U	56 U	41 U	R	NA	NA	240 U	4.3 U	NA	NA	Note[6]	98	31 T	NA	51 U	200	--
	Acenaphthene	ug/Kg		95 U	260 J	31 J	32 U	36 U	30 J	160 J	NA	NA	71 U	2.8 U	NA	NA	Note[6]	140	51 T	NA	33 U	300	--
	Acenaphthylene	ug/Kg		81 U	440 J	24 U	28 U	31 U	22 U	R	NA	NA	61 U	2.4 U	NA	NA	Note[6]	40	13 T	NA	53 J	200	--
	Anthracene	ug/Kg		270 J	370 J	140 J	37 U	82 J	100 J	300 J	NA	NA	82 U	4.7 J	NA	NA	Note[6]	340	96 JT	NA	120 J	845	--
	Benzo(a)anthracene	ug/Kg		910	1200 J	310	54 J	180 J	190	1100 J	NA	NA	1100	25	NA	NA	Note[6]	1200	510 T	NA	540	1050	--
	Benzo(a)pyrene	ug/Kg		1000	1600	260	54 J	150 J	170 J	1100 J	NA	NA	1300	28	NA	NA	Note[6]	1500	830 JT	NA	870	1450	--
	Benzo(b)fluoranthene	ug/Kg		1500	2100	330	75 J	230 J	250	1800 J	NA	NA	1500	36	NA	NA	Note[6]	2500	930 T	NA	1300	--	--
	Benzo(g,h,i)perylene	ug/Kg		1300	2400	230	85 J	180 J	200	1700 J	NA	NA	1200	24	NA	NA	Note[6]	1500	780 T	NA	1200	300	--
	Benzo(k)fluoranthene	ug/Kg		530 J	590 J	130 J	32 U	81 J	94 J	500 J	NA	NA	520	14	NA	NA	Note[6]	810	320 T	NA	540	13000	--
	Chrysene	ug/Kg		1500	1800	330	82 J	260 J	270	1700 J	NA	NA	1900	30	NA	NA	Note[6]	1800	750 T	NA	1300	1290	--
	Dibenzo(a,h)anthracene	ug/Kg		110 U	210 U	52 J	35 U	40 J	44 J	R	NA	NA	77 U	3 U	NA	NA	Note[6]	610	150 T	NA	35 U	1300	--
	Fluoranthene	ug/Kg		1900	2200	680	120 J	460	580	2200 J	NA	NA	3600	45	NA	NA	Note[6]	2600	1200 JT	NA	1600	2230	37000
	Fluorene	ug/Kg		140 J	150 U	46 U	26 U	49 U	64 U	130 J	NA	NA	56 U	2.2 U	NA	NA	Note[6]	120	41 T	NA	56 J	536	--
	Indeno(1,2,3-cd)pyrene	ug/Kg		1100	1400 J	240	51 J	110 J	180 J	1100 J	NA	NA	790	26	NA	NA	Note[6]	2200	790 T	NA	940	100	--
	Naphthalene	ug/Kg		160 U	320 U	46 U	53 U	59 U	43 U	R	NA	NA	380 J	4.5 U	NA	NA	Note[6]	110	40 JT	NA	81 J	561	--
	Phenanthrene	ug/Kg		1200	1300 J	590	130 U	380	540	1200 J	NA	NA	2900	22	NA	NA	Note[6]	1700	590 T	NA	760	1170	--
	Pyrene	ug/Kg		**3700**	**2900**	540	110 U	490	450	**2500** J	NA	NA	**4400**	49	NA	NA	Note[6]	**2400**	1100 T	NA	**3000**	1520	1900
	Total PAHs[11]	ug/Kg		15050	18560	3863	521	2643	3098	15490	NA	NA	19590	303.7	NA	NA	24000[6]	19668	8222 T	NA	12360	--	--
Phthalates (EPA 8270C)																							
	Bis(2-ethylhexyl) phthalate (BEHP)	ug/Kg		**18000**	**27000**	**890** J	**2200** J	**5400**	**3500**	**20000** J	NA	NA	**90000**	30 U	NA	NA	**8300**	**28000**	**8200** JT	NA	**12000**	800	330
	Butylbenzyl phthalate	ug/Kg		1900	2200	64 U	1300	640	520	2500 J	NA	NA	10000	6.3 U	NA	NA	NA	1800	670 T	NA	900	--	--
	Dibutyl phthalate	ug/Kg		**570** J	1100 U	160 U	190 U	200 U	150 U	**850** J	NA	NA	410 U	16 U	NA	NA	NA	2900 U	**360** JT	NA	**400** J	100	60
	Diethyl phthalate	ug/Kg		88 U	180 U	26 U	30 U	33 U	24 U	R	NA	NA	66 U	4 J	NA	NA	NA	1500 U	96 JT	NA	97 J	600	--
	Dimethyl phthalate	ug/Kg		350 J	270 J	20 U	23 U	26 U	19 U	3900 J	NA	NA	1600	2 U	NA	NA	NA	230 J	96 JT	NA	54 J	--	--
	Di-n-octyl phthalate	ug/Kg		120 U	240 U	34 U	39 U	43 U	32 U	1400 J	NA	NA	87 U	3.3 U	NA	NA	NA	1500 U	310 UT	NA	40 U	--	--

Appendix E. Summary of Chemical Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basins 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

		Outfall Basin	OF16	OF18					OF19	OF22	OF22B[1]		OF22C[2]	OF49		OF52C		OF53	OFM-1[2]	OFM-2		
		Sample Location	AMZ120	AMZ088					AAP918	AAM077	AAJ650		AAJ602	AAG634		AAB511		AAC589	AAJ933	AAM179		
		Sample ID	LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	Duplicate LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW-S10-OF22B	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2	JSCS[3] Screening Level Values	
Class	Analyte	Units	07/03/07	07/02/07	12/20/07	12/20/07	01/31/08	02/01/08	07/03/07	07/05/07	07/02/07	01/29/08	07/03/07	07/05/07	01/30/08	Winter/Spring 2005[6]	02/15/08	02/15/08	06/07/07	07/02/07	Toxicity	Bioaccumulation
Semi-Volatile Organic Compounds (EPA 8081A)																						
	Dibenzofuran (EPA 8270 SIM)	ug/Kg	100 J	170 U	28 J	28 U	31 U	27 J	R	NA	NA	140 J	2.4 U	NA	NA	NA	84	24 T	NA	37 J	--	--
	Hexachlorobenzene	ug/Kg	1.4 U	2.7 U	0.48 U	0.93 U	2.3	1.6	1.4 U	NA	NA	8.8 U	0.14 U	23 U	4.9	NA	29 UJ	31 UJT	4.9 U	1.4 U	100	19
	Hexachlorobutadiene	ug/Kg	2.8 U	2.8 U	0.26 U	0.51 J	0.32 U	0.26 U	2.9 U	NA	NA	22 J	0.28 U	47 U	0.68 U	NA	29 U	31 UT	3.5 U	4.5 U	600	--
	Hexachloroethane	ug/Kg	3.2 U	3.2 U	0.32 U	0.37 U	0.39 U	0.31 U	3.3 U	NA	NA	4.1 U	0.32 U	54 U	0.32 U	NA	29 U	31 UT	4 U	3.3 U	--	--

Notes:

J = Estimated value

N = Presumptive evidence of a compound

U = The analyte was not detected above the reported sample quantification limit

R = Rejected

T = Value is an average or selected result

NA = Not analyzed

ND = Not detected

-- = No JSCS screening level available.

ug/Kg = Micrograms per kilogram

mg/Kg = Milligrams per kilogram

(1) Results for the 1/29/08 sample from Basin 22B were listed in error under Basin 22 in the LWG database and inadvertently omitted from the data summary included in the LWG's Round 3A and 3B Stormwater Data Report (Anchor and Integral, 2008b).

(2) LWG sampling location does not represent all portions of this basin.

(3) JSCS = Portland Harbor Joint Source Control Strategy (DEQ/EPA Final December 2005, Amended July 2007)

(4) Puget Sound Estuary Program (PSEP), Recommended Protocols for Measuring Conventional Sediment Variables in Puget Sound

(5) Mercury analysis by 7471A

(6) Data obtained from Terminal 4 Recontamination Analysis (BBL, 2006). For PAHs, PCBs, and DDx, only the total values are presented in the table.

(7) The toxicity SLV represents the sum of the 2,4' and 4,4' isomers

(8) Estimated Total DDx is the sum of DDE, DDD and DDT

(9) Alpha-Chlordane also is known as cis-Chlordane. Beta-Chlordane is also known as trans-Chlordane.

(10) Total Chlordane is the sum of alpha-, and beta-isomers.

(11) Total PCBs and PAHs are calculated by assigning "0" to undetected constituents.

= concentration exceeds JSCS Toxicity Screening Level Value.

bold = concentration exceeds JSCS Bioaccumulation Screening Level Value.

Appendix E. Summary of Polychlorinated Biphenyl Congener Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basin 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

Outfall Basin			OF16	OF18					OF19	OF22		OF22B	OF22C [2]	OF49		OF52C		OF53	OFM-1 [2]	OFM-2	JSCS [3] Screening Level Values	
Sample Location			AMZ120	AMZ088					AAP918	AAM077		AAJ650	AAJ602	AAG634		AAB511		AAC614	AAJ933	AAM179		
IUPAC Number [1]	Chemical Name	Units	LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2	Toxicity	Bioaccumulation
			07/03/07	07/02/07	12/20/07	12/20/07	01/31/08	02/01/08	07/03/07	07/05/07	01/29/08	07/02/07	07/03/07	07/05/07	01/30/08	Winter/Spring 2005 [4]	02/15/08	02/15/08	06/07/07	07/02/07		
Polychlorinated Biphenyl Congeners (EPA 1668A)																						
PCB 1	2-MoCB	ug/Kg	0.554	0.197	0.253	0.0263	0.0415 T	0.0288	0.285	0.0798	NA	0.0767	0.0457 U	NA	0.0288 J	NA	0.812	0.146	0.0815 U	0.122 U	--	--
PCB 2	3-MoCB	ug/Kg	0.193	0.0537	0.0702	0.0117 J	0.0166 JT	0.0122 J	0.0823	0.0556	NA	0.0566 J	0.0457 U	NA	0.0181 J	NA	0.207	0.0547	0.0815 U	0.122 U	--	--
PCB 3	4-MoCB	ug/Kg	0.331	0.217	0.475	0.0254	0.0426 T	0.0345	0.211	0.0789	NA	0.100	0.0457 U	NA	0.0376	NA	0.731	0.143	0.0815 U	0.0300 J	--	--
PCB 4/10	2,2'-DiCB + 2,6-DiCB	ug/Kg	2.97	0.856	0.160	0.0877	0.111 UJT	0.217	0.0592 U	0.0923 U	NA	0.594	0.0915 U	NA	0.137 UJ	NA	3.48	0.969	0.247	0.245 U	--	--
PCB 5/8	2,3-DiCB + 2,4'-DiCB	ug/Kg	12.3	1.73	0.281	0.160	0.355 T	0.450	1.61	1.23	NA	3.26	0.0915 U	NA	0.369	NA	12.7	3.74	0.207 UJ	0.245 U	--	--
PCB 6	2,3'-DiCB	ug/Kg	2.53	0.336	0.0678	0.0493 U	0.0709 T	0.0952	0.0592 U	0.0923 U	NA	0.641	0.0915 U	NA	0.0834 UJ	NA	2.55	0.722	0.163 U	0.245 U	--	--
PCB 7/9	2,4-DiCB + 2,5-DiCB	ug/Kg	1.15	0.157	0.0509 U	0.0493 U	0.0554 UT	0.0491 U	0.0592 U	0.0923 U	NA	0.267	0.0915 U	NA	0.0600 U	NA	1.18	0.331	0.163 U	0.245 U	--	--
PCB 11	3,3'-DiCB	ug/Kg	37.4	1.79	0.204	0.217	0.671 T	0.444	2.73	2.40	NA	3.85	0.0915 U	NA	0.921	NA	5.91	1.43	1.93	1.94	--	--
PCB 12/13	3,4-DiCB + 3,4'-DiCB	ug/Kg	0.909	0.0967 U	0.0509 U	0.0493 U	0.0554 UT	0.0491 U	0.0592 U	0.0923 U	NA	0.246	0.0915 U	NA	0.0600 U	NA	1.29	0.338	0.163 U	0.245 U	--	--
PCB 14	3,5-DiCB	ug/Kg	0.261 U	0.0967 U	0.0509 U	0.0493 U	0.0554 UT	0.0491 U	0.0592 U	0.0923 U	NA	0.115 U	0.0915 U	NA	0.0600 U	NA	0.0463 U	0.029 U	0.163 U	0.245 U	--	--
PCB 15	4,4'-DiCB	ug/Kg	9.05	2.34	0.320	0.233	0.451 T	0.597	1.45	1.10	NA	1.66	0.0915 U	NA	0.405	NA	10.4	2.77	0.163 U	0.245 U	--	--
PCB 16/32	2,2',3-TriCB + 2,4',6-TriCB	ug/Kg	22.7	6.89	0.757	0.541	0.973 T	1.04	2.23	1.50	NA	4.35	0.0457 U	NA	0.501	NA	14.9	4.63	0.546	0.429	--	--
PCB 17	2,2',4-TriCB	ug/Kg	13.5	3.57	0.362	0.242	0.406 T	0.507	1.29	0.790	NA	2.63	0.0457 U	NA	0.286	NA	8.25	2.68	0.212 UJ	0.262	--	--
PCB 18	2,2',5-TriCB	ug/Kg	34.9	10.6	1.12	0.737	1.25 T	1.37	3.30	2.10	NA	6.70	0.0457 U	NA	0.739	NA	20.9	6.82	0.364	0.673	--	--
PCB 19	2,2',6-TriCB	ug/Kg	2.87	1.34	0.185	0.148	0.279 T	0.221	0.341	0.226	NA	0.503	0.0457 U	NA	0.0748	NA	2.05	0.620	0.274	0.0925 J	--	--
PCB 20/21/33	2,3,3'-TriCB + 2,3,4-TriCB + 2',3,4-TriCB	ug/Kg	10.8 UJ	4.59	0.501	0.420	0.747 T	0.737	2.08	1.94	NA	5.53	0.0209 J	NA	0.634	NA	18.3	6.14	0.251	0.392	--	--
PCB 22	2,3,4'-TriCB	ug/Kg	8.05 UJ	3.73	0.368	0.305	0.500 T	0.543	1.39	1.31	NA	3.13	0.0457 U	NA	0.416	NA	12.0	3.49	0.164	0.231	--	--
PCB 23	2,3,5-TriCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0401	0.0140 J	0.0815 U	0.122 U	--	--
PCB 24/27	2,3,6-TriCB + 2,3',6-TriCB	ug/Kg	2.50	0.830	0.105	0.0795	0.153 T	0.148	0.271	0.192	NA	0.462	0.0457 U	NA	0.0643	NA	1.84	0.565	0.0815 U	0.122 U	--	--
PCB 25	2,3',4-TriCB	ug/Kg	2.08	0.691	0.0655	0.0603	0.0920 T	0.122	0.277	0.288	NA	0.633	0.0457 U	NA	0.0882	NA	2.75	0.870	0.0815 U	0.0912 J	--	--
PCB 26	2,3',5-TriCB	ug/Kg	4.98	1.61	0.161	0.128	0.224 T	0.273	0.586	0.552	NA	1.25	0.0457 U	NA	0.153	NA	4.93	1.54	0.0815 U	0.122 J	--	--
PCB 28	2,4,4'-TriCB	ug/Kg	18.8	12.7	1.19	0.990	1.51 T	1.78	2.90	3.15	NA	7.67	0.0500	NA	0.987	NA	27.9	8.45	0.231	0.569	--	--
PCB 29	2,4,5-TriCB	ug/Kg	0.404 UJ	0.0484 U	0.0255 U	0.00601 J	0.00787 JT	0.00873 J	0.0296 U	0.0461 U	NA	0.136 UJ	0.0457 U	NA	0.00887 J	NA	0.243	0.0822	0.0815 U	0.122 U	--	--
PCB 30	2,4,6-TriCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0123 J	0.00352 J	0.0815 U	0.122 U	--	--
PCB 31	2,4',5-TriCB	ug/Kg	14.8 UJ	9.36	1.02	0.786	1.31 T	1.52	3.11	2.83	NA	6.47	0.0509	NA	0.791	NA	26.7	8.45	0.287	0.511	--	--
PCB 34	2',3,5-TriCB	ug/Kg	0.119 J	0.0455 J	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.102	0.0292	0.0815 U	0.122 U	--	--
PCB 35	3,3',4-TriCB	ug/Kg	0.469	0.155	0.0222 J	0.0189 J	0.0394 T	0.0341	0.110	0.134	NA	0.0573 U	0.0457 U	NA	0.0466	NA	0.761	0.193	0.0815 U	0.0453 J	--	--
PCB 36	3,3',5-TriCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0143 J	0.0116 J	0.0815 U	0.122 U	--	--
PCB 37	3,4,4'-TriCB	ug/Kg	4.78 UJ	3.53	0.381	0.304	0.587 T	0.547	1.39	1.45	NA	2.46	0.0457 U	NA	0.480	NA	13.2	3.15	0.141	0.277	--	--
PCB 38	3,4,5-TriCB	ug/Kg	0.269	0.117	0.0197 J	0.0171 J	0.0370 T	0.0222 J	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.279	0.0842	0.0815 U	0.122 U	--	--
PCB 39	3,4',5-TriCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0217 J	0.00664 J	0.0815 U	0.122 U	--	--
PCB 40	2,2',3,3'-TeCB	ug/Kg	2.68	6.02	0.627	0.513	1.03 T	0.745	0.809	0.665	NA	1.31	0.0457 U	NA	0.204	NA	4.52	1.65	0.131	0.122 U	--	--
PCB 41/64/71/72	2,2',3,4-TeCB + 2,3,4',6-TeCB + 2,3',4',6-TeCB + 2,3',5,5'-TeCB	ug/Kg	12.3	19.6	2.21	1.64	3.30 T	2.51	3.14	2.50	NA	5.86	0.0463 J	NA	0.990	NA	22.1	8.47	0.527	0.492	--	--
PCB 42/59	2,2',3,4'-TeCB + 2,3,3',6-TeCB	ug/Kg	5.24	8.81	0.957	0.766	1.59 T	1.14	1.35	0.993	NA	2.35	0.0457 U	NA	0.337	NA	7.98	2.67	0.168	0.190	--	--
PCB 43/49	2,2',3,5-TeCB + 2,2',4,5'-TeCB	ug/Kg	10.8	18.9	1.99	1.47	3.23 T	2.40	2.82	1.99	NA	5.09	0.0583 UJ	NA	0.819	NA	16.2	6.83	0.908	0.478	--	--
PCB 44	2,2',3,5'-TeCB	ug/Kg	17.7	29.9	2.91	2.24	5.02 T	3.58	4.94	3.51	NA	8.19	0.0922	NA	1.26	NA	24.5	11.7	0.981	0.670	--	--
PCB 45	2,2',3,6-TeCB	ug/Kg	2.64	6.05	0.715	0.576	1.09 T	0.774	0.727	0.540	NA	1.38	0.0457 U	NA	0.170	NA	3.87	1.38	0.0801 J	0.0866 J	--	--
PCB 46	2,2',3,6'-TeCB	ug/Kg	1.14	2.58	0.329	0.255	0.468 T	0.352	0.300	0.273	NA	0.608	0.0457 U	NA	0.0725	NA	1.64	0.604	0.0815 U	0.0697 J	--	--
PCB 47	2,2',4,4'-TeCB	ug/Kg	3.48	7.02	0.732	0.597	1.22 T	0.861	1.24	0.718	NA	1.77	0.0457 U	NA	0.231	NA	4.96	1.72	0.596	0.164	--	--
PCB 48/75	2,2',4,5-TeCB + 2,4,4',6-TeCB	ug/Kg	3.42	4.71	0.454	0.300	0.616 T	0.467	0.572	0.543	NA	1.57	0.0457 U	NA	0.214	NA	5.39	1.81	0.0815 U	0.105 J	--	--
PCB 50	2,2',4,6-TeCB	ug/Kg	0.0411 J	0.0860	0.0113 J	0.0102 J	0.0201 JT	0.0127 J	0.0296 U	0.0461 U	NA	0.0281 J	0.0457 U	NA	0.0300 U	NA	0.0590	0.0224	0.0815 U	0.122 U	--	--
PCB 51	2,2',4,6'-TeCB	ug/Kg	0.645	1.64	0.213	0.166	0.316 T	0.226	0.187	0.167	NA	0.364	0.0457 U	NA	0.0523	NA	1.12	0.387	0.338	0.122 U	--	--
PCB 52/69	2,2',5,5'-TeCB + 2,3',4,6-TeCB	ug/Kg	14.9	29.8	3.18	2.42	5.27 T	3.84	4.41	3.40	NA	7.75	0.148	NA	1.50	NA	22.7	14.5	1.66	0.705	--	--
PCB 53	2,2',5,6'-TeCB	ug/Kg	1.84	5.60	0.712	0.571	1.05 T	0.733	0.572	0.464	NA	1.13	0.0457 U	NA	0.150	NA	3.35	1.26	0.594	0.110 J	--	--
PCB 54	2,2',6,6'-TeCB	ug/Kg	0.0365 J	0.0685	0.0104 J	0.00909 J	0.0164 JT	0.0124 J	0.0296 U	0.0461 U	NA	0.0202 J	0.0457 U	NA	0.0300 U	NA	0.0525	0.0207	0.0815 U	0.122 U	--	--
PCB 55	2,3,3',4-TeCB	ug/Kg	0.254	0.586	0.0365	0.0304	0.0597 T	0.0475	0.0867	0.0625	NA	0.133	0.0457 U	NA	0.0324	NA	0.461	0.207	0.0815 U	0.0162 J	--	--
PCB 56/60	2,3,3',4'-TeCB + 2,3,4,4'-TeCB	ug/Kg	5.12	12.8	1.32	0.891	1.60 T	1.32	2.24	1.65	NA	3.47	0.0384 J	NA	0.769	NA	11.6	4.27	0.456	0.435	--	--
PCB 57	2,3,3',5-TeCB	ug/Kg	0.0736 J	0.0844	0.0107 J	0.00562 J	0.0130 JT	0.0103 J	0.0232 J	0.0461 U	NA	0.0429 J	0.0457 U	NA	0.0300 U	NA	0.139	0.0449	0.0815 U	0.122 U	--	--
PCB 58	2,3,3',5'-TeCB	ug/Kg	0.130 U	0.0484 U	0.00883 J	0.00598 J	0.0132 JT	0.00746 J	0.109	0.0843	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0435	0.0164	0.0815 U	0.122 U	--	--
PCB 61/70	2,3,4,5-TeCB + 2,3',4',5-TeCB	ug/Kg	12.5	26.9	2.42	1.67	3.66 T	2.77	4.41	3.48	NA	7.36	0.117	NA	1.61	NA	20.4	13.1	1.16	0.767	--	--
PCB 62	2,3,4,6-TeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0158 J	0.0145 U	0.0815 U	0.122 U	--	--
PCB 63	2,3,4',5-TeCB	ug/Kg	0.395	0.705	0.0669	0.0437	0.0756 T	0.0610	0.121	0.105	NA	0.233	0.0457 U	NA	0.0389	NA	0.774	0.273	0.0815 U	0.122 U	--	--
PCB 65	2,3,5,6-TeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0175 J	0.0145 U	0.0815 U	0.122 U	--	--
PCB 66/76	2,3',4,4'-TeCB + 2',3,4,5-TeCB	ug/Kg	8.23	22.5	2.01	1.44	2.98 T	2.19	3.05	2.44	NA	4.98	0.0457 U	NA	0.976	NA	14.9	6.34	0.880	0.567	--	--
PCB 67	2,3',4,5-TeCB	ug/Kg	0.478	0.543	0.0507	0.0376	0.0613 T	0.0528	0.0296 U	0.0461 U	NA	0.276	0.0457 U	NA	0.0392	NA	0.878	0.223	0.0815 U	0.122 U	--	--
PCB 68	2,3',4,5'-TeCB	ug/Kg	0.0559 J	0.0484 U	0.0132 J	0.0122 J	0.0201 JT	0.0128 J	0.0523	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0712	0.0216	0.0815 U	0.122 U	--	--
PCB 73	2,3',5',6-TeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 74	2,4,4',5-TeCB	ug/Kg	4.52	9.56	0.893	0.566	1.03 T	0.831	1.56	1.27	NA	2.79	0.0457 U	NA	0.524	NA	8.79	3.93	0.294	0.287	--	--
PCB 77	3,3',4,4'-TeCB	ug/Kg	**0.985**	**1.77**	**0.220**	**0.168**	**0.343** T	**0.262**	**0.502**	**0.419**	NA	**0.623**	0.0133 U	NA	**0.196**	NA	**1.62**	**0.541**	**0.0915**	**0.0990** J	--	0.052
PCB 78	3,3',4,5-TeCB	ug/Kg	0.0802 J	0.0819	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0241 J	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 79	3,3',4,5'-TeCB	ug/Kg	0.262	0.264	0.0395	0.0340	0.0690 T	0.0462	0.0788 UJ	0.0620	NA	0.0718	0.0457 U	NA	0.0320	NA	0.273	0.306	0.0815 U	0.122 U	--	--
PCB 80	3,3',5,5'-TeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 81	3,4,4',5-TeCB	ug/Kg	**0.258**	**0.391**	0.00423 J	0.00667 J	**0.0187** JT	0.0124 J	**0.0631**	**0.119**	NA	**0.150**	0.0125 U	NA	0.0119 J	NA	**0.0710**	**0.0515**	0.0544 U	0.0296 U	--	0.017
PCB 82	2,2',3,3',4-PeCB	ug/Kg	3.96	6.41	0.625	0.585	1.10 T	0.808	1.30	1.02	NA	1.58	0.0457 U	NA	0.406	NA	3.48	3.10	0.740	0.218	--	--
PCB 83	2,2',3,3',5-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 84/92	2,2',3,3',6-PeCB + 2,2',3,5,5'-PeCB	ug/Kg	10.3	13.7	1.77	1.68	3.14 T	2.22	3.31	0.0461 U	NA	3.94	0.0910	NA	1.23	NA	9.14	8.59	2.34	0.568	--	--
PCB 85/116	2,2',3,4,4'-PeCB + 2,3,4,5,6-PeCB	ug/Kg	3.60	5.39	0.789	0.767	1.39 T	0.971	1.03	0.894	NA	1.44	0.0580	NA	0.518	NA	3.99	4.21	0.510	0.169	--	--
PCB 86	2,2',3,4,5-PeCB	ug/Kg	0.130 U	0.0484 U	0.0467	0.0359	0.0545 T	0.0411	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.143	0.116	0.0815 U	0.122 U	--	--
PCB 87/117/125	2,2',3,4,5'-PeCB + 2,3,4',5,6-PeCB + 2',3,4,5,6'-PeCB	ug/Kg	10.4	11.1	1.36	1.27	2.64 T	1.85	3.62	2.33	NA	3.75	0.111	NA	1.22	NA	9.59	9.36	0.974	0.436	--	--
PCB 88/91	2,2',3,4,6-PeCB + 2,2',3,4',6-PeCB	ug/Kg	3.19	5.05	0.708	0.665	1.17 T	0.799	0.962	0.0461 U	NA	1.23	0.0311 J	NA	0.372	NA	3.34	3.07	0.817	0.197	--	--
PCB 89	2,2',3,4,6'-PeCB	ug/Kg	0.298	0.907	0.0966	0.0919	0.164 T	0.131	0.0745	2.66	NA	0.0988	0.0457 U	NA	0.0343	NA	0.319	0.207	0.0815 U	0.122 U	--	--
PCB 90/101	2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB	ug/Kg	28.0	28.3	3.47	3.19	6.50 T	4.44	8.96	5.61	NA	9.41	0.262	NA	2.99	NA	21.5	22.1	9.12 UJ	1.31	--	--
PCB 93	2,2',3,5,6-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	4.97	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 94	2,2',3,5,6'-PeCB	ug/Kg	0.133	0.200	0.0309	0.0292	0.0471 T	0.0356	0.0348	0.0461 U	NA	0.0510 J	0.0457 U	NA	0.0300 U	NA	0.135	0.0803	0.0815 U	0.122 U	--	--
PCB 95/98/102	2,2',3,5',6-PeCB + 2,2',3',4,6-PeCB + 2,2',4,5,6'-PeCB	ug/Kg	21.5	25.3	3.54	3.27	6.01 T	4.06	5.82	0.0461 U	NA	7.50	0.172	NA	2.20	NA	18.3	16.5	4.47	1.02	--	--

Appendix E. Summary of Polychlorinated Biphenyl Congener Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basin 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

Outfall Basin			OF16	OF18					OF19	OF22		OF22B	OF22C [2]	OF49		OF52C		OF53	OFM-1 [2]	OFM-2	JSCS [3] Screening Level Values	
Sample Location			AMZ120	AMZ088					AAP918	AAM077		AAJ650	AAJ602	AAG634		AAB511		AAC614	AAJ933	AAM179		
IUPAC Number [1]	Chemical Name	Units	LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2	Toxicity	Bioaccumulation
			07/03/07	07/02/07	12/20/07	12/20/07	01/31/08	02/01/08	07/03/07	07/05/07	01/29/08	07/02/07	07/03/07	07/05/07	01/30/08	Winter/Spring 2005 [4]	02/15/08	02/15/08	06/07/07	07/02/07		
PCB 96	2,2',3,6,6'-PeCB	ug/Kg	0.227	0.399	0.0596	0.0532	0.101 T	0.0688	0.0588	0.0461 U	NA	0.0826	0.0457 U	NA	0.0260 J	NA	0.278	0.149	0.0815 U	0.122 U	--	--
PCB 97	2,2',3',4,5-PeCB	ug/Kg	7.84	9.95	1.18	1.07	2.14 T	1.52	2.78	1.85	NA	2.85	0.0744	NA	0.859	NA	6.99	6.85	0.0815 U	0.370	--	--
PCB 99	2,2',4,4',5-PeCB	ug/Kg	9.77	13.6	1.55	1.46	2.87 T	1.97	3.44	2.36	NA	3.72	0.122	NA	1.14	NA	8.58	10.1	1.54	0.527	--	--
PCB 100	2,2',4,4',6-PeCB	ug/Kg	0.130 U	0.0839	0.0127 J	0.0114 J	0.0207 JT	0.0151 J	0.0176 J	0.0461 U	NA	0.0232 J	0.0457 U	NA	0.0300 U	NA	0.0638	0.0434	0.107 UJ	0.122 U	--	--
PCB 103	2,2',4,5',6-PeCB	ug/Kg	0.119 J	0.164	0.0279	0.0246 J	0.0434 T	0.0302	0.0390	0.0461 U	NA	0.0867 UJ	0.0457 U	NA	0.0145 J	NA	0.124	0.0930	0.0815 U	0.0293 J	--	--
PCB 104	2,2',4,6,6'-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 105	2,3,3',4,4'-PeCB	ug/Kg	**10.3**	**9.39**	**0.901**	**0.735**	**1.58** T	**1.20**	**3.49**	**2.63**	NA	**4.00**	0.109	NA	**1.17**	NA	**8.37**	**8.75**	**1.16**	**0.582**	--	0.17
PCB 106/118	2,3,3',4,5-PeCB + 2,3',4,4',5-PeCB	ug/Kg	**24.3**	**21.1**	**2.34**	**2.00**	**4.37** T	**3.20**	**9.24**	**5.66**	NA	**9.06**	**0.270**	NA	**2.84**	NA	**20.0**	**21.2**	**3.15**	**1.07**	--	0.12
PCB 107/109	2,3,3',4',5-PeCB + 2,3,3',4,6-PeCB	ug/Kg	1.64	1.30	0.162	0.143	0.296 T	0.222	0.307	0.368	NA	0.557	0.0215 J	NA	0.209	NA	1.42	1.30	0.201	0.0878 J	--	--
PCB 108/112	2,3,3',4,5'-PeCB + 2,3,3',5,6-PeCB	ug/Kg	1.04	1.55	0.199	0.193	0.353 T	0.243	0.397	0.267	NA	0.419	0.0457 U	NA	0.127	NA	1.01	0.890	0.200	0.0490 J	--	--
PCB 110	2,3,3',4',6-PeCB	ug/Kg	32.4	33.8	4.52	4.34	7.88 T	5.54	11.8	7.78	NA	11.4	0.317	NA	3.81	NA	27.8	25.6	5.35	1.50	--	--
PCB 111/115	2,3,3',5,5'-PeCB + 2,3,4,4',6-PeCB	ug/Kg	0.356	0.798	0.0685	0.0550	0.122 T	0.102	0.418	0.204	NA	0.203	0.0457 U	NA	0.0651	NA	0.528	0.361	1.47	0.122 U	--	--
PCB 113	2,3,3',5',6-PeCB	ug/Kg	0.130 U	0.0484 U	0.0272	0.0249	0.0231 JT	0.0218 J	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0555	0.0713	1.25 UJ	0.122 U	--	--
PCB 114	2,3,4,4',5-PeCB	ug/Kg	**0.549**	**0.521**	0.0537	0.0351	0.0833 T	0.0588	**0.205**	0.145	NA	**0.201**	0.0137 U	NA	0.0683	NA	**0.559**	**0.514**	0.0843 U	0.0460 U	--	0.17
PCB 119	2,3',4,4',6-PeCB	ug/Kg	0.268	0.474	0.0626	0.0545	0.108 T	0.0759	0.101	0.0748	NA	0.110	0.0457 U	NA	0.0374	NA	0.308	0.328	0.0815 U	0.122 U	--	--
PCB 120	2,3',4,5,5'-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0154 JT	0.0151 J	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0286	0.0920	0.0815 U	0.122 U	--	--
PCB 121	2,3',4,5',6-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.549	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 122	2',3,3',4,5-PeCB	ug/Kg	0.398	0.544	0.0525	0.0462	0.0897 T	0.0588	0.117	0.109	NA	0.139	0.0457 U	NA	0.0444	NA	0.289	0.237	0.0815 U	0.122 U	--	--
PCB 123	2',3,4,4',5-PeCB	ug/Kg	**0.365**	**0.523**	0.0702	0.0622	0.124 T	0.0934	**0.515**	0.0461 U	NA	0.184	0.00816 J	NA	0.0638	NA	**0.386**	**0.345**	0.0278 J	0.0292 U	--	0.21
PCB 124	2',3,4,5,5'-PeCB	ug/Kg	1.24	1.09	0.132	0.127	0.256 T	0.187	0.166	0.273	NA	0.442	0.0457 U	NA	0.142	NA	0.969	0.832	0.207	0.0670 J	--	--
PCB 126	3,3',4,4',5-PeCB	ug/Kg	**0.309**	0.135 UJ	**0.0212** J	**0.0168** J	**0.0376** T	**0.0327**	**0.0910**	**0.0891**	NA	**0.112**	0.0101 U	NA	**0.0351**	NA	**0.169**	**0.105**	0.107 U	**0.0265** J	--	0.00005
PCB 127	3,3',4,5,5'-PeCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 128/162	2,2',3,3',4,4'-HxCB + 2,3,3',4',5,5'-HxCB	ug/Kg	4.52	4.00	0.504	0.503	0.925 T	0.647	2.08	1.43	NA	1.90	0.0654	NA	0.696	NA	3.71	2.69	0.657	0.270	--	--
PCB 129	2,2',3,3',4,5-HxCB	ug/Kg	1.39	1.13	0.154	0.166	0.298 T	0.207	0.534	0.360	NA	0.569	0.0457 U	NA	0.213	NA	1.15	0.758	0.152	0.122 U	--	--
PCB 130	2,2',3,3',4,5'-HxCB	ug/Kg	2.00	1.40	0.209	0.214	0.391 T	0.281	0.505	0.308 UJ	NA	0.744	0.0457 U	NA	0.294	NA	0.930	0.598	0.238 UJ	0.118 J	--	--
PCB 131	2,2',3,3',4,6-HxCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 132/161	2,2',3,3',4,6'-HxCB + 2,3,3',4,5',6-HxCB	ug/Kg	8.56	7.45	1.05	1.03	1.79 T	1.27	3.53	2.21	NA	3.17	0.0740	NA	1.08	NA	5.96	4.09	1.34	0.475	--	--
PCB 133/142	2,2',3,3',5,5'-HxCB + 2,2',3,4,5,6-HxCB	ug/Kg	0.893	0.773	0.0904	0.0891	0.169 T	0.118	0.337	0.249	NA	0.301	0.0457 U	NA	0.105	NA	0.582	0.431	0.159	0.0651 J	--	--
PCB 134/143	2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	ug/Kg	1.70	1.42	0.182	0.175	0.326 T	0.226	0.619	0.443	NA	0.586	0.0457 U	NA	0.180	NA	1.13	0.812	0.305	0.0902 J	--	--
PCB 135	2,2',3,3',5,6'-HxCB	ug/Kg	3.89	3.31	0.523	0.528	0.809 T	0.591	1.62	0.889	NA	1.33	0.0457 U	NA	0.454	NA	2.33	1.27	0.551	0.220	--	--
PCB 136	2,2',3,3',6,6'-HxCB	ug/Kg	3.94	3.55	0.527	0.522	0.866 T	0.615	1.33	0.804	NA	1.35	0.0457 U	NA	0.397	NA	2.30	1.45	0.664 UJ	0.230	--	--
PCB 137	2,2',3,4,4',5-HxCB	ug/Kg	1.53	1.37	0.162	0.158	0.289 T	0.183	0.814	0.461	NA	0.574	0.0457 U	NA	0.193	NA	1.11	0.973	0.272	0.0635 J	--	--
PCB 138/163/164	2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB + 2,3,3',4',5',6-HxCB	ug/Kg	29.3	23.5	3.61	3.63	6.30 T	4.38	11.5	7.15	NA	10.6	0.303	NA	4.10	NA	20.2	14.1	3.62	1.52	--	--
PCB 139/149	2,2',3,4,4',6-HxCB + 2,2',3,4',5',6-HxCB	ug/Kg	23.0	17.8	3.40	3.32	5.25 T	3.83	8.49	4.73	NA	7.61	0.164	NA	2.85	NA	14.1	8.35	2.72	1.33	--	--
PCB 140	2,2',3,4,4',6'-HxCB	ug/Kg	0.130 U	0.105	0.0218 J	0.0200 J	0.0351 T	0.0314	0.0296 U	0.0921 UJ	NA	0.0473 J	0.0457 U	NA	0.0300 U	NA	0.0974	0.0578	0.0815 U	0.0151 J	--	--
PCB 141	2,2',3,4,5,5'-HxCB	ug/Kg	7.94	6.43	0.810	0.774	1.34 T	0.925	2.95	1.68	NA	2.63	0.0524	NA	0.751	NA	3.55	2.21	0.880	0.403	--	--
PCB 144	2,2',3,4,5',6-HxCB	ug/Kg	1.51	1.09	0.210	0.211	0.358 T	0.260	0.434	0.271	NA	0.496	0.0457 U	NA	0.159	NA	0.866	0.571	0.126 UJ	0.0679 J	--	--
PCB 145	2,2',3,4,6,6'-HxCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0120 J	0.00644 J	0.0815 U	0.122 U	--	--
PCB 146/165	2,2',3,4',5,5'-HxCB + 2,3,3',5,5',6-HxCB	ug/Kg	3.61	3.13	0.462	0.466	0.799 T	0.552	1.52	0.925	NA	1.33	0.0457 U	NA	0.499	NA	2.35	1.60	0.521	0.246	--	--
PCB 147	2,2',3,4',5,6-HxCB	ug/Kg	0.441	0.347	0.0644	0.0708	0.120 T	0.0904	0.160	0.119	NA	0.167	0.0457 U	NA	0.0781	NA	0.435	0.294	0.126	0.122 U	--	--
PCB 148	2,2',3,4',5,6'-HxCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0131 J	0.00860 J	0.0815 U	0.122 U	--	--
PCB 150	2,2',3,4',6,6'-HxCB	ug/Kg	0.130 U	0.0202 J	0.0255 U	0.0246 U	0.00690 JT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0201 J	0.0165	0.0815 U	0.122 U	--	--
PCB 151	2,2',3,5,5',6-HxCB	ug/Kg	7.18	5.87	1.01	0.967	1.54 T	1.10	2.54	1.39	NA	2.39	0.0510	NA	0.722	NA	3.46	1.87	0.953	0.438	--	--
PCB 152	2,2',3,5,6,6'-HxCB	ug/Kg	0.130 U	0.0219 J	0.0255 U	0.0246 U	0.0277 UT	0.00559 J	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0216 J	0.0152	0.0815 U	0.122 U	--	--
PCB 153	2,2',4,4',5,5'-HxCB	ug/Kg	30.9	25.8	3.42	3.30	5.69 T	3.98	12.0	7.00	NA	10.6	0.304	NA	3.38	NA	16.4	11.6	3.63	1.80	--	--
PCB 154	2,2',4,4',5,6'-HxCB	ug/Kg	0.248	0.161	0.0306	0.0274	0.0480 T	0.0374	0.0820	0.0663	NA	0.086	0.0457 U	NA	0.0349	NA	0.159	0.120	0.0815 U	0.0210 J	--	--
PCB 155	2,2',4,4',6,6'-HxCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 156	2,3,3',4,4',5-HxCB	ug/Kg	**3.48**	**2.39**	**0.266**	**0.249**	**0.501** T	**0.358**	**1.30**	**0.896**	NA	**1.21**	0.0533 UJ	NA	**0.426**	NA	**2.33**	**1.61**	**0.335**	0.187	--	0.21
PCB 157	2,3,3',4,4',5'-HxCB	ug/Kg	**0.726**	**0.572**	0.0672	0.0752	0.133 T	0.0922	**0.256**	0.182	NA	**0.265**	0.0265 U	NA	0.0990	NA	**0.530**	**0.372**	0.0598 U	0.0400 J	--	0.21
PCB 158/160	2,3,3',4,4',6-HxCB + 2,3,3',4,5,6-HxCB	ug/Kg	3.62	3.00	0.425	0.426	0.728 T	0.523	1.33	0.875	NA	1.26	0.0457 U	NA	0.497	NA	2.57	1.84	0.395	0.181	--	--
PCB 159	2,3,3',4,5,5'-HxCB	ug/Kg	0.410	0.228	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.122	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.0268 J	--	--
PCB 166	2,3,4,4',5,6-HxCB	ug/Kg	0.109 J	0.130	0.0116 J	0.0138 J	0.0241 JT	0.0169 J	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0214 J	NA	0.116	0.0845	0.0815 U	0.122 U	--	--
PCB 167	2,3',4,4',5,5'-HxCB	ug/Kg	**1.34**	**1.03**	0.132	0.137	**0.242** T	0.175	**0.544**	**0.357**	NA	**0.465**	0.0176 J	NA	0.184	NA	**0.889**	**0.614**	0.127	0.0838 J	--	0.21
PCB 168	2,3',4,4',5',6-HxCB	ug/Kg	0.0435 J	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0168 J	0.0117 J	0.0815 U	0.122 U	--	--
PCB 169	3,3',4,4',5,5'-HxCB	ug/Kg	0.0655 U	0.0825 UJ	0.00659 U	0.00505 U	0.00738 UT	0.00509 U	0.0552 U	0.104 UJ	NA	0.0499 U	0.0305 U	NA	0.00955 U	NA	0.0148 U	0.00947 U	0.0800 U	0.0207 U	--	0.00021
PCB 170	2,2',3,3',4,4',5-HpCB	ug/Kg	10.6	7.53	1.06	1.04	1.62 T	1.19	3.76	1.93	NA	3.14	0.0615	NA	0.998	NA	3.81	1.80	1.12	0.589	--	--
PCB 171	2,2',3,3',4,4',6-HpCB	ug/Kg	2.55	2.00	0.285	0.284	0.440 T	0.319	1.07	0.596	NA	0.841	0.0175 J	NA	0.255	NA	1.14	0.543	0.258	0.142	--	--
PCB 172	2,2',3,3',4,5,5'-HpCB	ug/Kg	1.64	1.25	0.189	0.177	0.297 T	0.214	0.605	0.0461 U	NA	0.532	0.0457 U	NA	0.180	NA	0.721	0.328	0.159	0.122 U	--	--
PCB 173	2,2',3,3',4,5,6-HpCB	ug/Kg	0.222 UJ	0.208	0.0294	0.0292	0.0439 T	0.0335	0.118	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0314	NA	0.114	0.0559	0.0815 U	0.122 U	--	--
PCB 174	2,2',3,3',4,5,6'-HpCB	ug/Kg	9.69	9.29	1.28	1.26	2.01 T	1.52	3.91	1.95	NA	3.44	0.0609 UJ	NA	1.14	NA	4.50	2.01	1.15	0.693	--	--
PCB 175	2,2',3,3',4,5',6-HpCB	ug/Kg	0.555	0.0484 U	0.0614	0.0631	0.0897 T	0.0722	0.840	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0526	NA	0.172	0.0636	0.0815 U	0.122 U	--	--
PCB 176	2,2',3,3',4,6,6'-HpCB	ug/Kg	1.25	1.12	0.171	0.164	0.255 T	0.198	0.396	0.225	NA	0.435	0.0457 U	NA	0.126	NA	0.261	0.150	0.144	0.0751 J	--	--
PCB 177	2,2',3,3',4',5,6-HpCB	ug/Kg	6.58	5.24	0.673	0.677	1.07 T	0.786	2.42	1.37	NA	2.20	0.0409 J	NA	0.627	NA	2.47	1.19	0.763	0.412	--	--
PCB 178	2,2',3,3',5,5',6-HpCB	ug/Kg	2.03	1.67	0.253	0.252	0.408 T	0.312	0.722	0.427	NA	0.758	0.0457 U	NA	0.220	NA	0.726	0.395	0.237	0.147	--	--
PCB 179	2,2',3,3',5,6,6'-HpCB	ug/Kg	4.56	4.03	0.583	0.550	0.876 T	0.680	1.74	0.893	NA	1.80	0.0270 J	NA	0.442	NA	1.57	0.880	0.531	0.295	--	--
PCB 180	2,2',3,4,4',5,5'-HpCB	ug/Kg	25.7	19.9	2.70	2.69	4.42 T	3.46	8.69	5.08	NA	8.42	0.148	NA	2.44	NA	10.2	5.19	2.53	1.59	--	--
PCB 181	2,2',3,4,4',5,6-HpCB	ug/Kg	0.130 U	0.0484 U	0.0116 J	0.0139 J	0.0239 JT	0.0135 J	0.180	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0333	0.0279	0.0815 U	0.122 U	--	--
PCB 182/187	2,2',3,4,4',5,6'-HpCB + 2,2',3,4',5,5',6-HpCB	ug/Kg	13.3	11.4	1.65	1.59	2.73 T	2.27	4.21	2.74	NA	5.10	0.113	NA	1.37	NA	5.01	2.96	1.69	0.914	--	--
PCB 183	2,2',3,4,4',5',6-HpCB	ug/Kg	6.73	5.09	0.727	0.703	1.13 T	0.867	2.28	1.25	NA	2.23	0.0457 U	NA	0.589	NA	2.21	1.07	0.750	0.406	--	--
PCB 184	2,2',3,4,4',6,6'-HpCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.00514 J	0.0815 U	0.122 U	--	--
PCB 185	2,2',3,4,5,5',6-HpCB	ug/Kg	1.30	1.07	0.145	0.146	0.240 T	0.186	0.652	0.310	NA	0.499	0.0457 U	NA	0.126	NA	0.560	0.316	0.108 UJ	0.0829 J	--	--
PCB 186	2,2',3,4,5,6,6'-HpCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 188	2,2',3,4',5,6,6'-HpCB	ug/Kg	0.0198 J	0.0109 J	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0102 J	0.00541 J	0.0815 U	0.122 U	--	--
PCB 189	2,3,3',4,4',5,5'-HpCB	ug/Kg	0.385	0.277	0.0369	0.0411	0.0617 T	0.0489	0.137	0.0892	NA	0.116	0.00578 U	NA	0.0431	NA	0.166	0.0723	0.0638 J	0.0229 J	--	1.2
PCB 190	2,3,3',4,4',5,6-HpCB	ug/Kg	1.99	1.53	0.253	0.236	0.379 T	0.267	0.588	0.324	NA	0.601	0.0161 J	NA	0.211	NA	0.719	0.383	0.187 UJ	0.129	--	--
PCB 191	2,3,3',4,4',5',6-HpCB	ug/Kg	0.388	0.296	0.0460	0.0436	0.0756 T	0.0555	0.118	0.0739	NA	0.122	0.0457 U	NA	0.0484	NA	0.172	0.0696	0.0815 U	0.0262 J	--	--

Appendix E. Summary of Polychlorinated Biphenyl Congener Analytical Results, LWG and Port of Portland Sediment Trap Solids Samples
Outfall Basin 16, 18, 19, 22, 22B, 22C, 49, 52C, 53, M-1, and M-2

	Outfall Basin	OF16	OF18					OF19	OF22		OF22B	OF22C [2]	OF49		OF52C		OF53	OFM-1 [2]	OFM-2	JSCS [3] Screening Level Values	
	Sample Location	AMZ120	AMZ088					AAP918	AAM077		AAJ650	AAJ602	AAG634		AAB511		AAC614	AAJ933	AAM179		
		LW3-STW-S10-OF16	LW3-STW-S10-OF18	LW3-STW2-S10-OF18T07	LW3-STW2-S10-OF18T07-2	LW3-STW2-S10-OF18T	LW3-STW2-S10-OF18S	LW3-STW-S10-OF19	LW3-STW-S10-OF22	LW3-STW2-S10-OF22B	LW3-STW-S10-OF22B	LW3-STW-S10-OF22C	LW3-STW-S10-OF49	LW3-STW2-S10-OF49	WLCT4C07BsnT_080215		WLCT4C07OF53_080215	LW3-STW-S10-OFM1	LW3-STW-S10-OFM2		
IUPAC Number [1]	Chemical Name	Units	07/03/07	07/02/07	12/20/07	12/20/07	01/31/08	02/01/08	07/03/07	07/05/07	01/29/08	07/02/07	07/03/07	07/05/07	01/30/08	Winter/Spring 2005 [4]	02/15/08	02/15/08	06/07/07	07/02/07	Toxicity	Bioaccumulation
PCB 192	2,3,3',4,5,5',6-HpCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.925	0.261	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 193	2,3,3',4',5,5',6-HpCB	ug/Kg	1.07	0.860	0.126	0.122	0.214 T	0.152	0.337	0.219	NA	0.342	0.0457 U	NA	0.124	NA	0.442	0.207	0.0967 UJ	0.0700 J	--	--
PCB 194	2,2',3,3',4,4',5,5'-OcCB	ug/Kg	4.45	5.59	0.588	0.583	1.21 T	1.29	1.59	1.54	NA	2.58	0.0398 J	NA	0.540	NA	2.95	2.25	0.399	0.509	--	--
PCB 195	2,2',3,3',4,4',5,6-OcCB	ug/Kg	2.32	2.19	0.232	0.233	0.429 T	0.324	1.11	0.786	NA	1.03	0.0457 U	NA	0.206	NA	1.26	0.730	0.240	0.192	--	--
PCB 196/203	2,2',3,3',4,4',5,6'-OcCB + 2,2',3,4,4',5,5',6-OcCB	ug/Kg	5.98	6.13	0.868	0.832	1.95 T	2.22	1.34	0.783	NA	2.98	0.0658	NA	0.753	NA	3.56	2.58	0.610	0.493	--	--
PCB 197	2,2',3,3',4,4',6,6'-OcCB	ug/Kg	0.269	0.184	0.0258	0.0240 J	0.0441 T	0.0382	0.0903 UJ	0.0612	NA	0.0891	0.0457 U	NA	0.0175 J	NA	0.104	0.0656	0.0815 U	0.0186 J	--	--
PCB 198	2,2',3,3',4,5,5',6-OcCB	ug/Kg	0.355	0.466	0.0432	0.0309	0.0538 T	0.0621	0.196	0.0637	NA	0.357	0.0457 U	NA	0.0483	NA	0.167	0.0904	0.0986	0.122 U	--	--
PCB 199	2,2',3,3',4,5,5',6'-OcCB	ug/Kg	6.51	6.68	0.810	0.809	1.99 T	2.35	1.56 UJ	0.933	NA	3.40	0.0815	NA	0.748	NA	3.58	2.94	0.640	0.584	--	--
PCB 200	2,2',3,3',4,5,6,6'-OcCB	ug/Kg	0.813	0.750	0.105	0.101	0.208 T	0.217	0.303	0.187	NA	0.377	0.0457 U	NA	0.0883	NA	0.457	0.364	0.109	0.0666 J	--	--
PCB 201	2,2',3,3',4,5',6,6'-OcCB	ug/Kg	0.788	0.877	0.0915	0.0881	0.200 T	0.211	0.369	0.245	NA	0.448	0.0457 U	NA	0.0816	NA	0.451	0.413	0.0815 U	0.122 U	--	--
PCB 202	2,2',3,3',5,5',6,6'-OcCB	ug/Kg	1.11	1.41	0.148	0.158	0.376 T	0.459	0.613	0.367	NA	0.774	0.0457 U	NA	0.148	NA	0.795	0.923	0.149	0.0997 J	--	--
PCB 204	2,2',3,4,4',5,6,6'-OcCB	ug/Kg	0.130 U	0.0484 U	0.0255 U	0.0246 U	0.0277 UT	0.0246 U	0.0296 U	0.0461 U	NA	0.0573 U	0.0457 U	NA	0.0300 U	NA	0.0232 U	0.0145 U	0.0815 U	0.122 U	--	--
PCB 205	2,3,3',4,4',5,5',6-OcCB	ug/Kg	0.197	0.161	0.0300	0.0296	0.0531 T	0.0388	0.0892	0.0461 U	NA	0.0675	0.0457 U	NA	0.0278 J	NA	0.109	0.0596	0.0815 U	0.0233 J	--	--
PCB 206	2,2',3,3',4,4',5,5',6-NoCB	ug/Kg	1.95	4.23	0.292	0.272	1.15 T	1.88	1.73	1.26	NA	3.30	0.100	NA	0.362	NA	2.67	3.16	0.212	0.393	--	--
PCB 207	2,2',3,3',4,4',5,6,6'-NoCB	ug/Kg	0.249	0.452	0.0407	0.0387	0.122 T	0.205	0.153 J	0.0461 U	NA	0.336	0.0457 U	NA	0.0479	NA	0.287	0.293	0.0815 U	0.122 U	--	--
PCB 208	2,2',3,3',4,5,5',6,6'-NoCB	ug/Kg	0.480	1.06	0.0765	0.0805	0.287 T	0.462	0.436 J	0.314 J	NA	0.958	0.0454 J	NA	0.116	NA	0.604	0.787	0.0815 U	0.0859 J	--	--
PCB 209	Decachlorobiphenyl	ug/Kg	1.69	0.832	0.0800	0.0602	0.223 T	0.284	1.06	0.445	NA	1.44	0.129	NA	0.218	NA	0.601	0.545	0.168	0.0754 J	--	--
	Total Monochlorobiphenyls	ug/Kg	1.08	0.468	0.798	0.0634	0.101	0.0755	0.578	0.214	NA	0.233	0.00	NA	0.0845	NA	1.75	0.344	0.00	0.0300	--	--
	Total Dichlorobiphenyls	ug/Kg	66.3	7.21	1.03	0.698	1.55	1.80	5.79	4.73	NA	10.5	0.00	NA	1.70	NA	37.5	10.3	2.18	1.94	--	--
	Total Trichlorobiphenyls	ug/Kg	103	59.8	6.26	4.78	8.12	8.87	19.3	16.5	NA	41.8	0.122	NA	5.27	NA	155	47.8	2.26	3.70	--	--
	Total Tetrachlorobiphenyls	ug/Kg	110	217	22.1	16.4	34.2	25.3	33.3	25.5	NA	57.6	0.442	NA	10.2	NA	178	82.3	8.86	5.24	--	--
	Total Pentachlorobiphenyls	ug/Kg	173	192	23.9	22.0	42.7	30.0	58.3	39.8	NA	62.5	1.65	NA	19.6	NA	148	145	23.2	8.23	--	--
	Total Hexachlorobiphenyls	ug/Kg	142	116	17.3	17.1	29.0	20.5	54.5	32.5	NA	49.8	1.03	NA	17.4	NA	87.3	58.4	16.7	7.89	--	--
	Total Heptachlorobiphenyls	ug/Kg	90.3	72.8	10.3	10.1	16.4	12.6	33.7	17.7	NA	30.6	0.424	NA	9.02	NA	35.0	17.7	9.40	5.59	--	--
	Total Octachlorobiphenyls	ug/Kg	22.8	24.4	2.94	2.89	6.51	7.21	5.61	4.97	NA	12.1	0.187	NA	2.66	NA	13.4	10.4	2.25	1.99	--	--
	Total Nonachlorobiphenyls	ug/Kg	2.68	5.74	0.409	0.391	1.56	2.55	2.32	1.57	NA	4.59	0.145	NA	0.526	NA	3.56	4.24	0.212	0.479	--	--
	Total Decachlorobiphenyls	ug/Kg	1.69	0.832	0.0800	0.0602	0.223	0.284	1.06	0.445	NA	1.44	0.129	NA	0.218	NA	0.601	0.545	0.168	0.0754	--	--
	Total PCBs [5]	ug/Kg	**713**	**696**	**85.2**	**74.5**	**140**	**109**	**214**	**144**	NA	**271**	**4.13**	NA	**66.7**	NA	**661**	**377**	**65.2**	**35.2**	676	0.39

Notes:
MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TriCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HeCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
J = Estimated Result
T = Value is an average or selected result
U = The analyte was not detected above the reported sample quantification limit
-- = No JSCS screening level available
NA = Not analyzed
ug/Kg = Micrograms per kilogram
[1] IUPAC - International Union of Pure and Applied Chemistry
[2] LWG sampling location does not represent all portions of this basin
[3] JSCS - Portland Harbor Joint Source Control Strategy (DEQ/EPA Final December 2005, Amended July 2007)
[4] Data obtained from Terminal 4 Recontamination Analysis (BBL, 2006).
[5] For the purposes of calculation of total PCBs, not detected results were assigned a value of 0.
bold = concentration exceeds JSCS Bioaccumulation Screening Level Value
= concentration exceeds JSCS Toxicity Screening Level Value