— CITY OF PORTLAND —
ENVIRONMENTAL SERVICES
1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204-1912 ▪ Sam Adams, Commissioner ▪ Dean Marriott, Director

TECHNICAL MEMORANDUM No. OF22-1

Outfall Basin 22
Inline Solids Sampling

TO: Karen Tarnow, Oregon Department of Environmental Quality (DEQ)

FROM: Dawn Sanders, City of Portland, Bureau of Environmental Services (BES)
Linda Scheffler, BES

COPIES: Kristine Koch, U.S. Environmental Protection Agency (EPA)
Grant Sprick, Arcadis BBL, Inc.
Mike Noll, Noll Environmental, Inc.
Brian Fletcher, Delta Environmental
Ted McCall, McCall Oil and Chemical Corp.
Julia Fowler, GSI Water Solutions, Inc.

DATE: April 3, 2008

SUBJECT: **Portland Harbor Source Control Investigation**

Introduction

This technical memorandum summarizes the results of the City of Portland BES source control investigation of inline solids in the Outfall Basin 22 stormwater conveyance system. The objectives of this investigation were to evaluate whether inline solids within Basin 22 may be contributing contaminants to river sediment and to assess whether the spatial distribution of contaminants within conveyance system solids indicates the presence of potential sources within the basin.

The Basin 22 system conveys stormwater flow to the river from Forest Park and the Willbridge industrial area. Samples were collected at the downstream ends of the two main branches of the stormwater conveyance system along NW Front and Doane Avenues as well as from one location adjacent to Forest Park. The investigation results indicate that metals (copper and zinc), polynuclear aromatic hydrocarbons (PAHs), and bis(2-ethylhexyl)phthalate (BEHP) slightly exceeding applicable screening levels are being discharged into the Basin 22 conveyance system.

This Basin 22 investigation, conducted in June 2006, is part of the City's ongoing source control program associated with the Portland Harbor City of Portland Outfalls Project. These investigation results are submitted pursuant to the August 13, 2003, Intergovernmental Agreement between DEQ and the City.

Basin 22 Configuration and Background

Figure 1 provides an overview of the Basin 22 stormwater conveyance system. The system consists of two main branches. The NW Doane Avenue branch extends southwest from NW Front Avenue in a 48-inch-diameter line. This branch conveys runoff from Forest Park, rights-of-way, industries on the west side of NW St. Helens Road, and two industrial facilities on NW Doane Avenue (Chevron Willbridge Distribution Center and ConocoPhillips Portland Terminal). The NW Front Avenue branch extends southeast from the intersection at NW Doane Avenue in a 30-inch-diameter line and conveys runoff from portions of the Paramount Petroleum (formerly Chevron USA Asphalt) and McCall Oil industrial facilities and the adjacent right-of-way. The two branches converge east of the intersection of these roads and discharge through a 60-inch-diameter pipe to Outfall 22.

According to the DEQ Environmental Cleanup Site Information (ECSI) database, there are three cleanup sites located within Basin 22 that comprise the majority of the basin. The Willbridge Bulk Fuel Area (ECSI No. 1549) extends along both sides of NW Doane Avenue and includes the ConocoPhillips, Chevron Willbridge, and Kinder Morgan Distribution Terminal sites. The McCall Oil (ECSI No. 134) and Chevron USA Asphalt Refinery (ECSI No. 1281) sites are located on NW Front Avenue. Contaminants of Interest (COI) for these sites include petroleum hydrocarbons, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls, PCBs, and metals (DEQ, 2005a-e).

Several facilities within Basin 22 have National Pollutant Discharge Elimination System (NPDES) stormwater permits including: Chevron Willbridge, ConocoPhillips, Brenntag Pacific (formerly Quadra and Great Western Chemical), and Paramount Petroleum (formerly Chevron USA Asphalt). The Brenntag Pacific site is included in the McCall Oil remedial investigation. DEQ cleanup sites and stormwater permittees are displayed on Figure 1.

Basin 22 was designated as a Priority 3 basin for source investigation based on elevated concentrations of polynuclear aromatic hydrocarbons (PAHs) detected in the surface sediment samples collected by the City near Outfall 22 in 2002 (CH2M HILL, 2004). Priority 3 designations were assigned to basins where significant concentrations of contaminants have been detected in sediment near the outfall and the contaminants likely are attributable to known upland sources which are currently being investigated under DEQ oversight. In 2005, based on a review of additional sediment data collected by the Lower Willamette Group (LWG) (Integral, 2005), EPA identified Willbridge Cove as an area of potential concern for polychlorinated biphenyls (PCBs) and cadmium (EPA, 2005). Outfall 22 discharges into Willbridge Cove.

In 2006, the City developed an analytical list for the basin source investigation from a review of sediment data collected in the vicinity of Outfall 22. Based on this evaluation, three metals (cadmium, copper and zinc), PCBs, PAHs, phthalates, and pesticides were selected as potential COI.

Field Activities

The City coordinated with DEQ regarding the source control investigation before conducting this work. Target sample locations were identified to represent solids from each main branch and from the portion of the basin above the Willbridge industrial area. An effort was made to collect additional samples at locations above and below known lateral connections, but final sampling

locations within the basin were limited by inline solids availability. Inline solids were sampled at three locations on June 27, 2006 (see Figure 1), with a duplicate sample collected at one location. Samples were collected using a stainless steel spoon and bowl, in accordance with BES Field Operations' Standard Operating Procedures. Photographs of the sampling locations and inline solids are included in Attachment A. Field notes recorded during sampling activities are provided in Attachment B. The three sampling locations are described as follows:

Forest Park (Trash Rack AAP844): Inline solids were sampled from the 24-inch line immediately upstream of a trash rack (see Photo 7 in Attachment A) located south of NW St. Helens Road, in a portion of the conveyance system that conveys runoff from Forest Park and a small residential area along NW Willbridge Avenue. Based on grain size analysis of the sample composition, the sample was comprised of primarily finer material (clay, silt, and fine sand) along with approximately 30% gravel. No odor or visual evidence of contamination was noted.

NW Doane Avenue Stormwater Branch (Manhole AAM080): Inline solids were sampled from the 48-inch line just upstream of manhole AAM080, representing contributions from Forest Park, the NW St. Helens Avenue and NW 57th Avenue rights-of-way and adjacent properties, and the NW Doane Avenue industrial area (Chevron–Willbridge and ConocoPhillips). Grain size analysis indicates that this sample was composed of sands and gravel, and had relatively no silt or clay. Water in the pipe exhibited a visible sheen, but no odor was noted in the sample.

NW Front Avenue Stormwater Branch (Manhole AAM078): Inline solids were sampled from the 30-inch line just upstream from manhole AAM078, representing contributions from the NW Front Avenue right-of-way and portions of the Chevron Asphalt and McCall Oil sites. Similar to the sample from NW Doane Avenue, grain size analysis indicates that the sample was composed of sands and gravel with virtually no silts or clay. No odor or visual evidence of contamination was noted. A duplicate sample was collected at this location.

In an attempt to evaluate whether grain size affects chemical concentrations detected in stormwater solids, the samples were split following collection. One split sample was submitted directly for laboratory analyses. The other split sample was brought to the field laboratory and sieved with a 500-micron sieve. The coarse fraction of the sieved sample was discarded and the finer fraction was submitted for chemical analytical testing. The chemical analytical results of the split samples were then compared. As the comparison was inconclusive with regard to grain size, no further evaluation of these data or pursuit of this concept is being considered by the City.

Summary of Results

The three inline solids samples and one duplicate sample obtained from the basin conveyance system were analyzed for three metals (cadmium, copper, and zinc), PCBs, PAHs, phthalates, pesticides, total organic carbon, and grain size. Table 1 summarizes the physical and chemical analytical data results from this investigation. The laboratory analytical results and data review memorandum for the samples are provided in Attachment C.

The chemical data from the Basin 22 sampling were compared with the Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLVs) for bioaccumulation and toxicity (DEQ/EPA, 2005), and DEQ's Default Background Metal Concentrations for Soil (DEQ, 2002). The results of the comparisons are summarized as follows:

- Metals: Samples from NW Front Avenue exceeded JSCS toxicity SLVs for copper and zinc in either the normal sample or the duplicate sample, but not both samples. The fact that the normal and duplicate sample results were significantly different for these two metals suggests that homogenization of this sample matrix may be difficult for metals analyses. Lowest metals concentrations were in the Forest Park solids sample, where results are either similar or less than the DEQ background concentrations for cadmium, copper, and zinc.
- PCBs: PCBs were not detected.
- PAHs: PAHs were detected at higher concentrations in the NW Doane Avenue branch. Benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene concentrations exceeded the JSCS toxicity SLVs at this location.
- Phthalates: BEHP was detected at similar concentrations at all three locations. The concentration in the trash rack sample exceeded the JSCS toxicity SLV.
- Pesticides: 4,4'-DDT was detected in the solids sample collected from the NW Doane Avenue branch sample (manhole AAM080) at a concentration greater than the JSCS bioaccumulation SLV. No pesticides were detected in the Forest Park sample or the NW Front Avenue samples.

Conclusions

The results of the Basin 22 source control investigation indicate that metals (copper and zinc), PAHs and BEHP are being discharged to the City stormwater conveyance system at concentrations that exceed JSCS SLVs, though exceedances were relatively small. The metals and PAH concentrations were the highest in the solid samples collected downstream of the industrial areas located along the NW Doane Avenue and NW Front Avenue branches. The NW Doane Avenue branch conveys runoff from several industrial sites that manufacture, store, and/or distribute petroleum products. The NW Front Avenue branch includes stormwater discharges from two permitted industries (Brenntag Pacific and Paramount Petroleum Corporation) that have exceeded permit benchmarks for copper and zinc (see Attachment D). These facilities represent potential sources of contaminants detected in the inline solids samples collected from the NW Doane Avenue and NW Front Avenue branches. BEHP concentrations were less than an order-of-magnitude above SLVs and did not present a distinct spatial pattern that indicated locations of significant sources.

Next Steps

Several facilities within Basin 22 are in the process of conducting stormwater pathway evaluations under DEQ oversight, including Chevron Willbridge, Chevron Asphalt, ConocoPhillips, and McCall Oil. Additionally, in 2007 the LWG collected stormwater and sediment trap samples in Basin 22. The City will evaluate data collected by the DEQ cleanup sites and the LWG to determine if additional source investigation is needed within Basin 22.

References

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Table

Table 1 - *Summary of Chemical Analytical Results, Inline Solids Sampling, Outfall Basin 22*

Figure

Figure 1 – *Basin 22, Inline Solids Sampling Locations*

Attachments

Attachment A - *Field Photographs*
Attachment B - *Field Notes*
Attachment C - *Laboratory Results*
Attachment D – *NW Front Avenue Branch 1200-Z Stormwater Monitoring Data*

Table 1
Summary of Chemical Analytical Results
Inline Solids Sampling
Outfall Basin 22

Class	Analyte	Units	Upstream: Forest Park Trash Rack AAP844 FO 060748 6/27/2006	Upstream: NW Doane Avenue Manhole AAM080 48" line FO 060747 6/27/2006	Downstream: NW Front Avenue Manhole AAM078 30" line FO 060746 6/27/2006	Downstream: NW Front Avenue Manhole AAM078 Duplicate FO 060749 6/27/2006	JSCS Screening Level Value[1] Toxicity	JSCS Screening Level Value[1] Bioaccumulation	DEQ Default Background Metal Concentrations in Soil[2]
Total Organic Carbon (TOC) (EPA 9060MOD)									
	TOC	mg/Kg	16400	5290	2860	4430	--	--	
Grain Size (ASTM D421/422)									
	Gravel (>4750 µm)	Fract %	29.8	18.8	21.4	47.7	--	--	
	Coarse Sand (4750-2000 µm)	Fract %	10	16.1	12.3	14.5	--	--	
	Medium Sand (2000-425 µm)	Fract %	14.2	24.3	24.6	22	--	--	
	Fine Sand (425-75 µm)	Fract %	16.9	16.5	20.6	15.5	--	--	
	Silt (3.2-75 µm)	Fract %	26.44	1.4	0.5	0.4	--	--	
	Clay (<3.2 µm)	Fract %	2.7	0	0	0	--	--	
Metals (EPA 6020)									
	Cadmium	mg/Kg	0.18	0.41	0.64	0.48	4.98	1	1
	Copper	mg/Kg	35.9	51.3	75.3	376	149	--	36
	Zinc	mg/Kg	79.6	316	670	336	459	--	86
Polychlorinated Biphenyls (PCBs) (EPA 8082)									
	PCB 1016	µg/Kg	12 U	12 U	11 U	11 U	530	--	
	PCB 1221	µg/Kg	12 U	12 U	11 U	11 U	--	--	
	PCB 1232	µg/Kg	12 U	12 U	11 U	11 U	--	--	
	PCB 1242	µg/Kg	12 U	12 U	11 U	11 U	--	--	
	PCB 1248	µg/Kg	12 U	12 U	11 U	11 U	1500	--	
	PCB 1254	µg/Kg	12 U	12 U	11 U	11 U	300	--	
	PCB 1260	µg/Kg	12 U	12 U	11 U	11 U	200	--	
	Total PCBs	µg/Kg	ND	ND	ND	ND	676	0.39	
Polynuclear Aromatic Hydrocarbons (PAHs) (EPA 8270C-SIM)									
	1-Methylnaphthalene	µg/Kg	6.2 U	6	5.8 U	5.6 U	--	--	
	2-Methylnaphthalene	µg/Kg	6.2 U	7.2	5.8 U	5.6 U	200	--	
	Acenaphthene	µg/Kg	6.2 U	58	5.8 U	5.6 U	300	--	
	Acenaphthylene	µg/Kg	6.2 U	5.9 U	5.8 U	6.7	200	--	
	Anthracene	µg/Kg	6.9	76	5.8 U	5.6 U	845	--	
	Benzo(a)anthracene	µg/Kg	44	610	33	92	1050	--	
	Benzo(a)pyrene	µg/Kg	63	710	40	110	1450	--	
	Benzofluoranthenes[3]	µg/Kg	56	650	41	110	13000	--	
	Benzo(g,h,i)perylene	µg/Kg	59	520	37	84	300	--	
	Chrysene	µg/Kg	62	700	44	140	1290	--	
	Dibenzo(a,h)anthracene	µg/Kg	10	160	10	23	1300	--	
	Fluoranthene	µg/Kg	65	1000	46	80	2230	37000	
	Fluorene	µg/Kg	6.2 U	42	5.8 U	5.6 U	536	--	
	Indeno(1,2,3-cd)pyrene	µg/Kg	65	600	39	100	100	--	
	Naphthalene	µg/Kg	6.2 U	17	5.8 U	5.6 U	561	--	
	Phenanthrene	µg/Kg	29	640	18	17	1170	--	
	Pyrene	µg/Kg	69	870	58	98	1520	1900	
Phthalates (EPA 8270C-SIM)									
	Bis(2-ethylhexyl)phthalate	µg/Kg	**950**	**790**	**360**	**380**	800	330	
	Butylbenzylphthalate	µg/Kg	25 U	45	740	23 U	--	--	
	Diethylphthalate	µg/Kg	12 U	12 U	12 U	11 U	600	--	
	Dimethylphthalate	µg/Kg	12 U	1600	12 U	11 U	--	--	
	Di-n-butylphthalate	µg/Kg	25 U	27	23 U	23 U	100	60	
	Di-n-octylphthalate	µg/Kg	25 U	74	68	34	--	--	

			Upstream		Downstream				
			Forest Park Trash Rack AAP844 FO 060748	NW Doane Avenue Manhole AAM080 48" line FO 060747	NW Front Avenue Manhole AAM078 30" line FO 060746	NW Front Avenue Manhole AAM078 Duplicate FO 060749	JSCS Screening Level Value[1]		DEQ Default Background Metal Concentrations in Soil[2]
Class	**Analyte**	**Units**	6/27/2006	6/27/2006	6/27/2006	6/27/2006	Toxicity	Bioaccumulation	
Pesticides (EPA 8081)									
	4,4'-DDD	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	28	0.33	
	4,4'-DDE	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	31.3	0.33	
	4,4'-DDT	µg/Kg	2.6 U	**5.7**	2.1 U	2.3 U	62.9	0.33	
	Total DDT[4]	µg/Kg	ND	**5.7**	ND	ND	--	0.33	
	Aldrin	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	40	--	
	Alpha-BHC	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	--	--	
	Alpha-Chlordane	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	--	--	
	Gamma-Chlordane	µg/Kg	1.3 U	1.9	1.1 U	1.1 U	--	--	
	Chlordane[5]	µg/Kg	ND	**1.9**	ND	ND	17.6	0.37	
	Beta-BHC	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	--	--	
	Delta-BHC	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	--	--	
	Dieldrin	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	61.8	0.0081	
	Endosulfan I	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	--	--	
	Endosulfan II	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	--	--	
	Endosulfan Sulfate	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	--	--	
	Endrin	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	207	--	
	Endrin aldehyde	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	--	--	
	Endrin ketone	µg/Kg	2.6 U	2.5 U	2.1 U	2.3 U	--	--	
	Gamma-BHC (Lindane)	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	4.99	--	
	Heptachlor	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	10	--	
	Heptachlor epoxide	µg/Kg	1.3 U	1.3 U	1.1 U	1.1 U	16	--	
	Methoxychlor	µg/Kg	13 U	13 U	11 U	11 U	--	--	
	Toxaphene	µg/Kg	130 U	130 U	110 U	110 U	--	--	

Notes:

ND = not detected at concentrations greater than the laboratory reporting limit.

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

Chemical units in micrograms per kilogram (µg/Kg) or milligrams per kilogram (mg/Kg) dry weight.

-- = No JSCS Screening Level Value has been established

µm = microns

Fract % = Percent of soil retained in grain size category during grain size analysis.

[1]JSCS - Portland Harbor Joint Source Control Strategy (DEQ/EPA Final December 2005, Amended July 2007).

[2]DEQ Environmental Cleanup Program Memorandum to Cleanup Project Managers, Default Background Metal Concentrations in Soil. October 28, 2002.

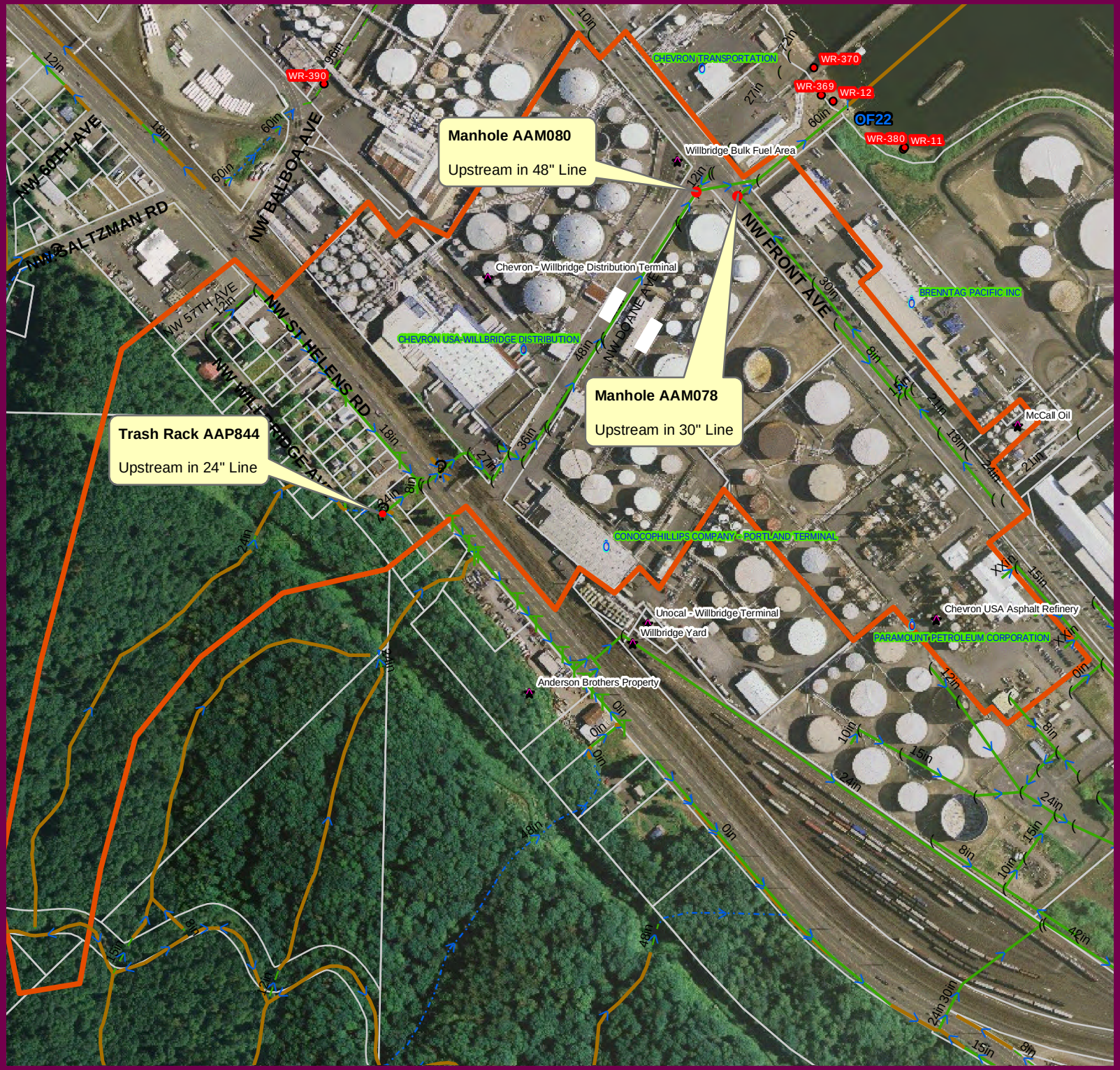
[3] SLV is for Benzo(k)fluoranthene.

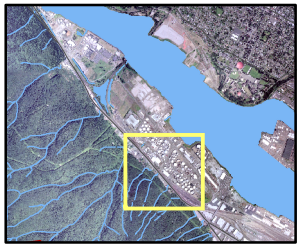
[4] This value reprepents the sum of DDD, DDE and DDT.

[5] This value reprepents the sum of chlordane isomers.

= concentration exceeds JSCS Toxicity Screening Level Value

bold = concentration exceeds JSCS Bioaccumulation Screening Level Value





Legend

- Storm Pipe
- Ditch
- Basin 22 Boundary
- Taxlot
- 1200Z Stormwater Permits
- Manhole
- Inlet
- Trash Rack
- Sample Location
- DEQ Environmental Cleanup Sites
- Non-City Outfalls

0 50 100 200 Feet

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

Figure 1
Basin 22
Inline Solids
Sampling Locations

Source: City of Portland BES Aerial photo 2006	Environmental Services City of Portland 1120 SW Fifth Avenue, Room 1000 Portland Oregon, 97204-1912
File Name: s:\gis\outfalls\outfall22\ of22inline.mxd	**Program Manager:** Dawn Sanders Portland Harbor Superfund
Sheet No. 1 OF 1	**Date Printed:** 02/20/2008 **Prepared by:** Sara Gardner

Attachment A
Field Photographs

Field Sampling Activities: June 27, 2006

Photo 1. Aboveground location of manhole AAM078, on NW Front Avenue looking east. Inline solids were collected from the 30-inch-diameter line, upstream of the manhole.

Photo 2. Looking upstream of manhole AAM078, in the 30-inch-diameter line.

Photo 3. Inline solids collected from upstream of manhole AAM078.

Photo 4. Aboveground location of manhole AAM080, on NW Doane Avenue looking northeast. Inline solids were collected from the 48-inch-diameter line, on the upstream side of this manhole.

Photo 5. Looking upstream from manhole AAM080, in the 48-inch-diameter line.

Photo 6. Inline solids collected from upstream of manhole AAM080.

Photo 7. Aboveground location of trash rack AAP844. Inline solids were collected in the 24-inch-diameter line between the trash rack and the overflow collector (to the right).

Photo 8. Looking from the trash rack upstream toward the overflow collector. Solids were collected from this 24-inch-diameter line.

Photo 9. Inline solids downstream of trash rack AAP844.

Photo 10. Inline solids collected from trash rack AAP844.

Attachment B
Field Notes

City of Portland
Environmental Services

DAILY FIELD REPORT

Project IN-LINE SED SAMP
Project No. 1020.001
Location BASIN 22
Date 6-27-06
Subject FIELD NOTES
By MJH

0700 PREPARE EQUIPMENT FOR TODAYS SAMPLING EVENT
DECONNED SAMPLING SPOONS + BOWLS PER SOP 701a.
REASSEMBLED COOLER, SAMPLE JARS, PAPERWORK

0830 ARRIVE AT NW GRANT + DOANE
LINDA ARRIVES. DISCUSS TODAYS ACTIVITIES
WE WILL START AT BASIN 22 THEN MOVE OVER TO NICOLAI

0900 SET UP AT AAM078.
LOTS OF TRAFFIC CONTROL HERE, BUT ITS OK.
BASIN ENDING MD. LOTS OF SEDS HERE. DECIDE TO COLLECT
A FULL BUCKET OF SEDIMENT, SEDS COLLECTED FROM THEIR
ENTIRE DEPTH.
COLLECT SAMPLE AND DUPLICATE AT THIS LOCATION.

1000 BRUCE + BRUCE ARRIVE. DISCUSS SIEVING W/ LINDA.
DECIDE TO PROVIDE BUCKET OF SEDIMENTS AT WPCL.
BRUCE WILL WORK W/ SEDS LATER IN THE WEEK.

1020 SET UP FOR ENTRY AT AAM080

1034 COMPLETE SAMPLE AT AAM080

1047 PROCEED TO NEXT SITE

1122 SET UP TO GO IN AAP785

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project IN-LINE SED SAMP
Project No. 1020.001
Location BASIN 22 + 15
Date 6-27-06
Subject FIELD NOTES
By MJP

1140 SMALL SPRING AT BOTTOM OF MH AAP785.
BEL THOUGHT THERE WERE SEDS IN THIS DOWNSTREAM
BUT IT WAS JUST LOOSE AGGREGATE.

1150 MOVE TO AAP 742.
NO SEDS. BREAK FOR LUNCH.

1234 ARRIVE AT AAP894. TRACK BACK, ENTER TRACK RADIO
AND OBSERVE LOTS OF SEDIMENTS THERE.
COLLECT MORE THAN NEEDED FOR SIEVING ANALYSIS PURPOSES.

1300 DRIVE AT CALBAG METALS ON NW NICOLAI.

1310 GO INTO ABS878, NO SEDS. NO SAMPLE COLLECTED.

1318 GO TO ABC003 (BASIN 15) SEDS IN LATERAL. COLLECT THESE

1345 COLLECTED SAMPLE IN 10" LATERAL FROM ESCO.

1359 LOOKED DOWN ABC018. NO HOPE OF SEDS
IN THE MAIN LINE SO WE DID NOT ENTER.
WE ARE REASONABLY CERTAIN THAT THIS IS
THE PIPE AT CALBAG TIES INTO.

Attachments

City of Portland
Environmental Services

DAILY FIELD REPORT

Project IN-LINE SED SAMP
Project No. 1020.001
Location BASIN 22 + 15
Date 6-27-06
Subject FIELD NOTES
By MJJ

1410 RETURN TO WPCL TO WRAP UP

1525 SAMPLES IN CHILLED COOLER SUBMITTED TO WPCL LAB FOR ANALYSIS UNDER CHAIN OF CUSTODY.

3 SAMPLES (FROM AAM078, AAM080, AAP844) HAD EXTRA MATERIAL THAT WAS SAVED IN ITS STAINLESS STEEL SAMPLING CONTAINER AND PUT INTO THE FOPS WPCL STAGING AREA FRIDGE FOR ARCHIVING AND POSSIBLE SIEVING LATER THIS WEEK. FOR EACH SAMPLE THIS ARCHIVED MATERIAL IS IDENTICAL FROM THE SAMPLE SUBMITTED TODAY TO THE LAB.

Attachments

CITY OF PORTLAND

ENVIRONMENTAL SERVICES

Water Pollution control Laboratory
6543 N. Burlington Ave.,
Portland, OR 97203-5452

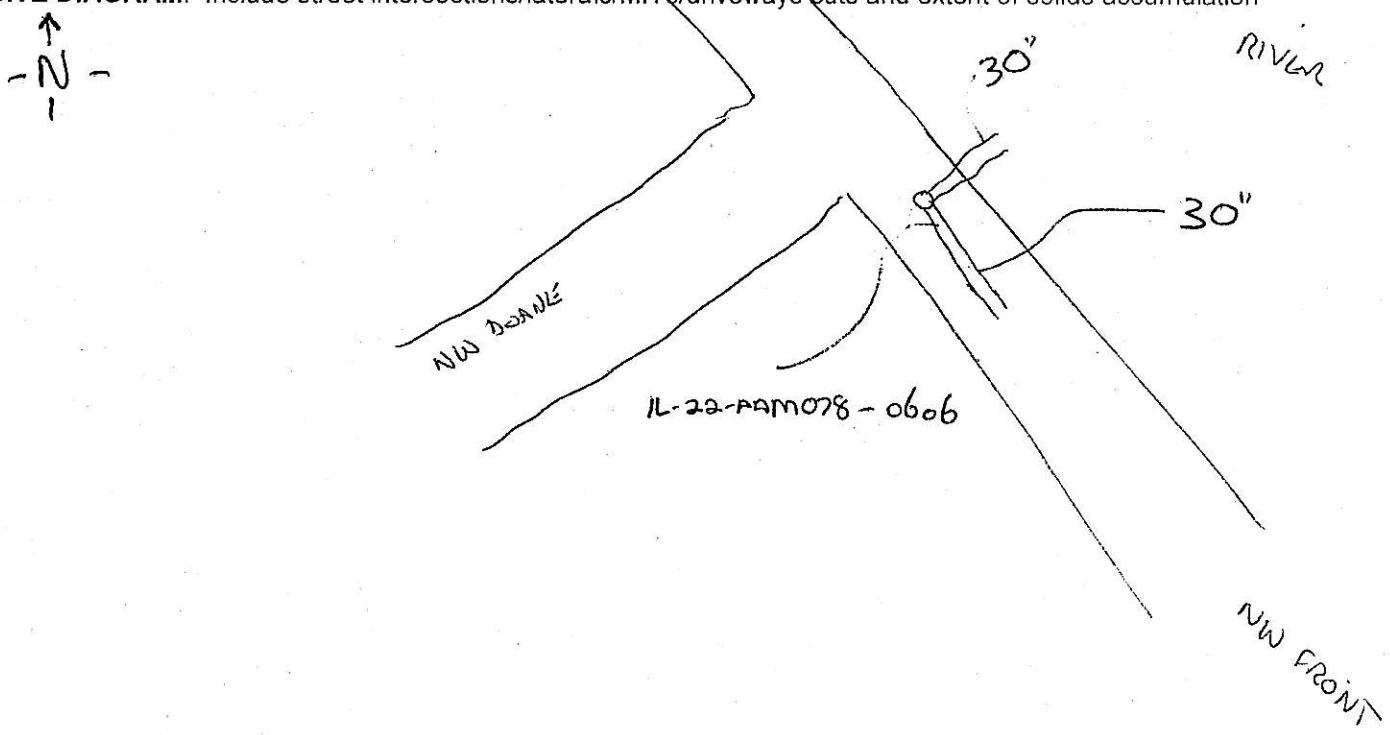
SEDIMENT SAMPLING FIELD DATA SHEET

Date: 6/27/06	Time: 0901	Current Weather conditions:	SUNNY 80's
Sampling Team Present:	MJH / BCC / JXB		
Basin: 22	Node: AAM 078	Subbasin:	
Sampling Location Description/Address:	JUST S OF INTERSECTION OF NW FRONT + DOANE		

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Describe any flowing or standing water observed in the line?	FLOW IS 2.9" DEEP. 0.1 - 0.2 CFS FLOW IS LINEAR
Does river appear to back up to this location? Describe rate/color/odor of flow:	NO (MAYBE)
Are sediments observed in the line?	YES
Are sample-able quantities of sediments present in the line?	YES
Describe lateral extent of sample-able sediments present in the line:	AS FAR AS VISABLE UPSTREAM NONE DOWN STREAM.

SITE DIAGRAM: Include street intersections/laterals/MH's/driveways cuts and extent of solids accumulation



Date: 6/27/06	**SECTION 2 - SAMPLE COLLECTION REPORT**	Node: AAM 078

Sampling Equipment:	☒ Stainless steel spoon & stainless steel bucket ☐ Other (Describe)
Equipment Decontamination process:	☒ Per SOP7.01a ☐ Other (Describe)
Sample date: 6-27-06	Sample time: 0917
Sample Identification: (IL-XX-NNNNNN-mmyy)	IL-22-AAM078-0606
Sample location description: (number of feet from node of entry)	3' UPSTREAM FROM M.H.
Sample collection technique:	SS SPOON INTO BUCKET
Describe Color of sample:	DARK GREY
Describe Texture/Particle size:	GRAVELS/COBBLES → SANDS
Describe visual or olfactory evidence of contamination:	NONE
Desacribe depth of solids in area where sample collected:	2" DEEP.
Describe amount and type of debris in sample:	—
Compositing notes:	

Sample Jars Collected 5 4oz, 2 8oz

If not enough sample to fill all of the jars, then fill jars in this order:				
	Metals	One 4oz glass jar		
	PAHs/SVOCs	One 4oz glass jar		
	PCBs	One 4oz glass jar		
	TPH (two jars)	Two 4oz glass jars		
	TOC	One 4oz glass jar		

Duplicate sample collected?	YES
Duplicate sample fictitious identification # on COC:	FO 060749
Samples placed in chilled cooler? (Y)/N	
Samples delivered to lab? (Y)N	Lab ID Number: FO 060746
Describe any deviations from standard procedures:	EXCESS SAMPLE SAVED FOR POSSIBLE SIEVING

CITY OF PORTLAND

ENVIRONMENTAL SERVICES

Water Pollution control Laboratory
6543 N. Burlington Ave.,
Portland, OR 97203-5452

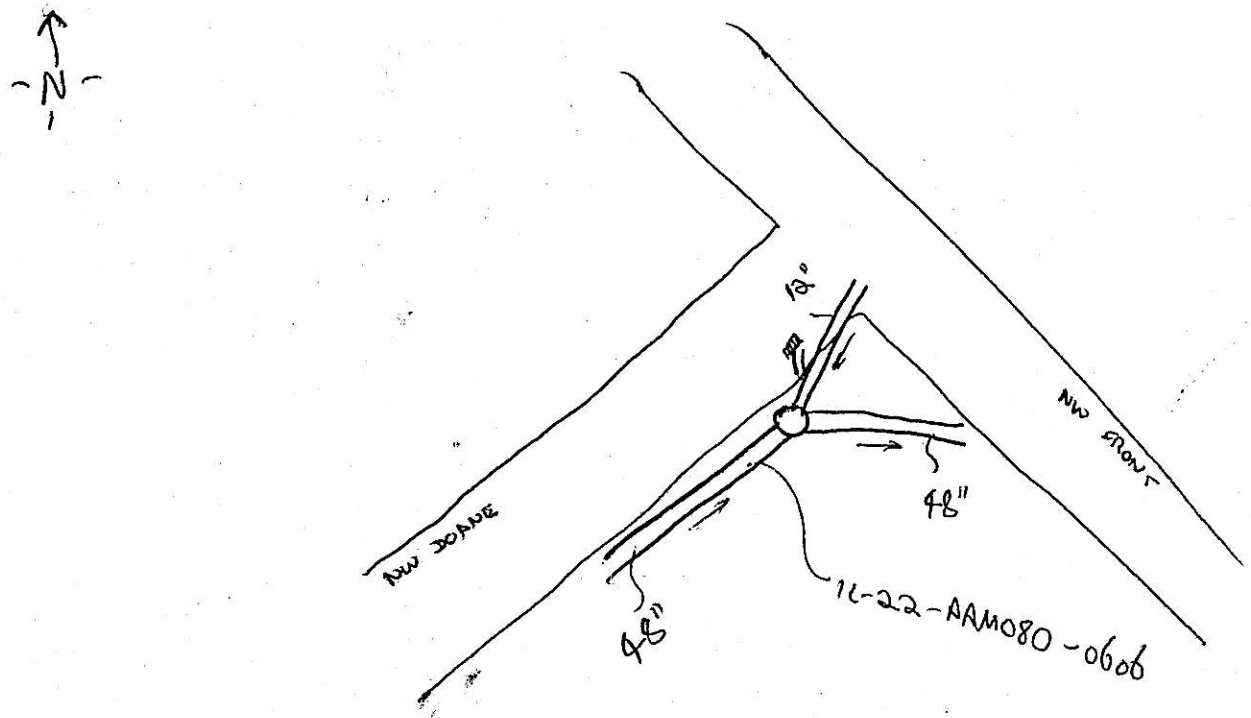
SEDIMENT SAMPLING FIELD DATA SHEET

Date: 6-27-06	Time: 1020	Current Weather conditions: SUNNY 80's
Sampling Team Present: MJH / JXB / BCL		
Basin: BASIN 22	Node: AAM080	Subbasin:
Sampling Location Description/Address: JUST S. OF INTERSECTION OF NW FRONT & DOANE		

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Describe any flowing or standing water observed in the line?	2/10 FPS, 1-7" DEEP
Does river appear to back up to this location? Describe rate/color/odor of flow:	NO
Are sediments observed in the line?	YES
Are sample-able quantities of sediments present in the line?	YES
Describe lateral extent of sample-able sediments present in the line:	AS FAR AS VISIBLE.

SITE DIAGRAM: Include street intersections/laterals/MH's/driveways cuts and extent of solids accumulation



Date: 6/27/06	SECTION 2 - SAMPLE COLLECTION REPORT	Node: AAM080

Sampling Equipment:	☒ Stainless steel spoon & stainless steel bucket ☐ Other (Describe)
Equipment Decontamination process:	☒ Per SOP7.01a ☐ Other (Describe)
Sample date: 6-27-06	Sample time: 1039
Sample Identification: (IL-XX-NNNNNN-mmyy)	IL-22-AAM080-0606
Sample location description: (number of feet from node of entry)	6' UPSTRAM OF NODE IN 48" LINE
Sample collection technique:	SS SPOON INTO BUCKET.
Describe Color of sample:	BROWN.
Describe Texture/Particle size:	GRAVELS - SANDS + FINES
Describe visual or olfactory evidence of contamination:	SHEEN OBSERVED ON WATER.
Desacribe depth of solids in area where sample collected:	2"
Describe amount and type of debris in sample:	
Compositing notes:	

Sample Jars Collected

If not enough sample to fill all of the jars, then fill jars in this order:				
	Metals	One 4oz glass jar		
	PAHs/SVOCs	One 4oz glass jar		
	PCBs	One 4oz glass jar		
	TPH (two jars)	Two 4oz glass jars		
	TOC	One 4oz glass jar		

Duplicate sample collected?	NO
Duplicate sample fictitious identification # on COC:	
Samples placed in chilled cooler? (Y)N	
Samples delivered to lab? (Y)N	Lab ID Number: FO 060747
Describe any deviations from standard procedures:	EXCESS SAMPLE SAVED FOR SIEVING

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ENVIRONMENTAL SERVICES

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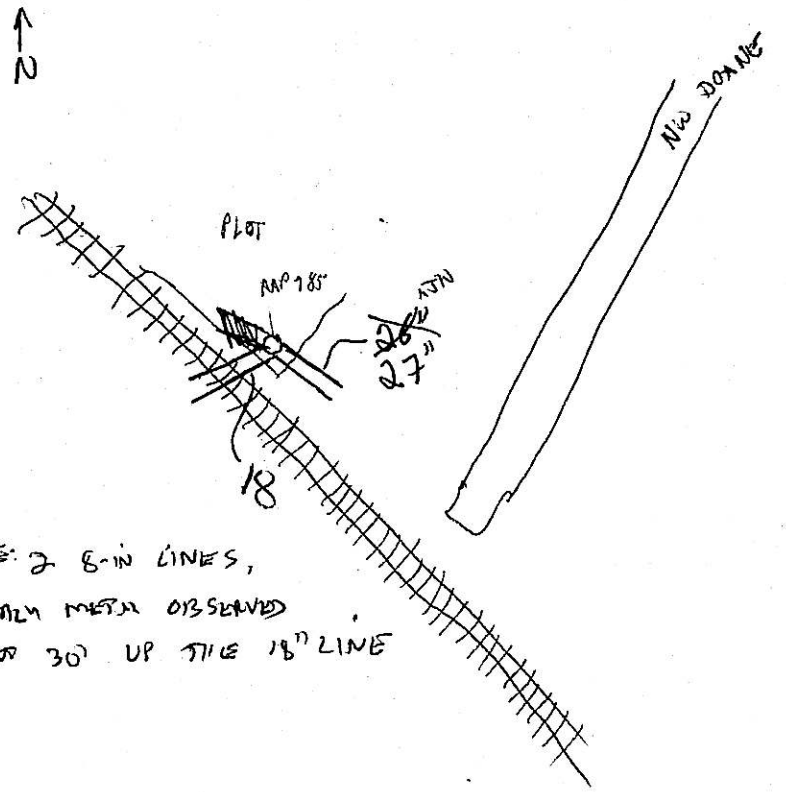
SEDIMENT SAMPLING FIELD DATA SHEET

Date: 6-27-06	Time: 1123	Current Weather conditions: SUNNY 80's
Sampling Team Present: MSH / JAB / BCL		
Basin: 22	Node: MP 785	Subbasin:
Sampling Location Description/Address: IN PARKING LOT AT TOP OF PLANT BY TRAIN TRACKS		

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Describe any flowing or standing water observed in the line?	SMALL ARTESIAN SPRING THROUGH A CRACK IN THE PIPE AT THE MID.
Does river appear to back up to this location? Describe rate/color/odor of flow:	NO
Are sediments observed in the line?	~~YES MINOR AMTS~~ DOWNSTREAM NO
Are sample-able quantities of sediments present in the line?	~~YES~~ NO WHAT WAS THOUGHT TO BE SEDS WAS, INFACT, EXPOSED AGGREGATE OF THE PIPE
Describe lateral extent of sample-able sediments present in the line:	DOWNSTREAM OF MH 3N 27"

SITE DIAGRAM: Include street intersections/laterals/MH's/driveways cuts and extent of solids accumulation



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ENVIRONMENTAL SERVICES

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Portland, OR 97203-5452

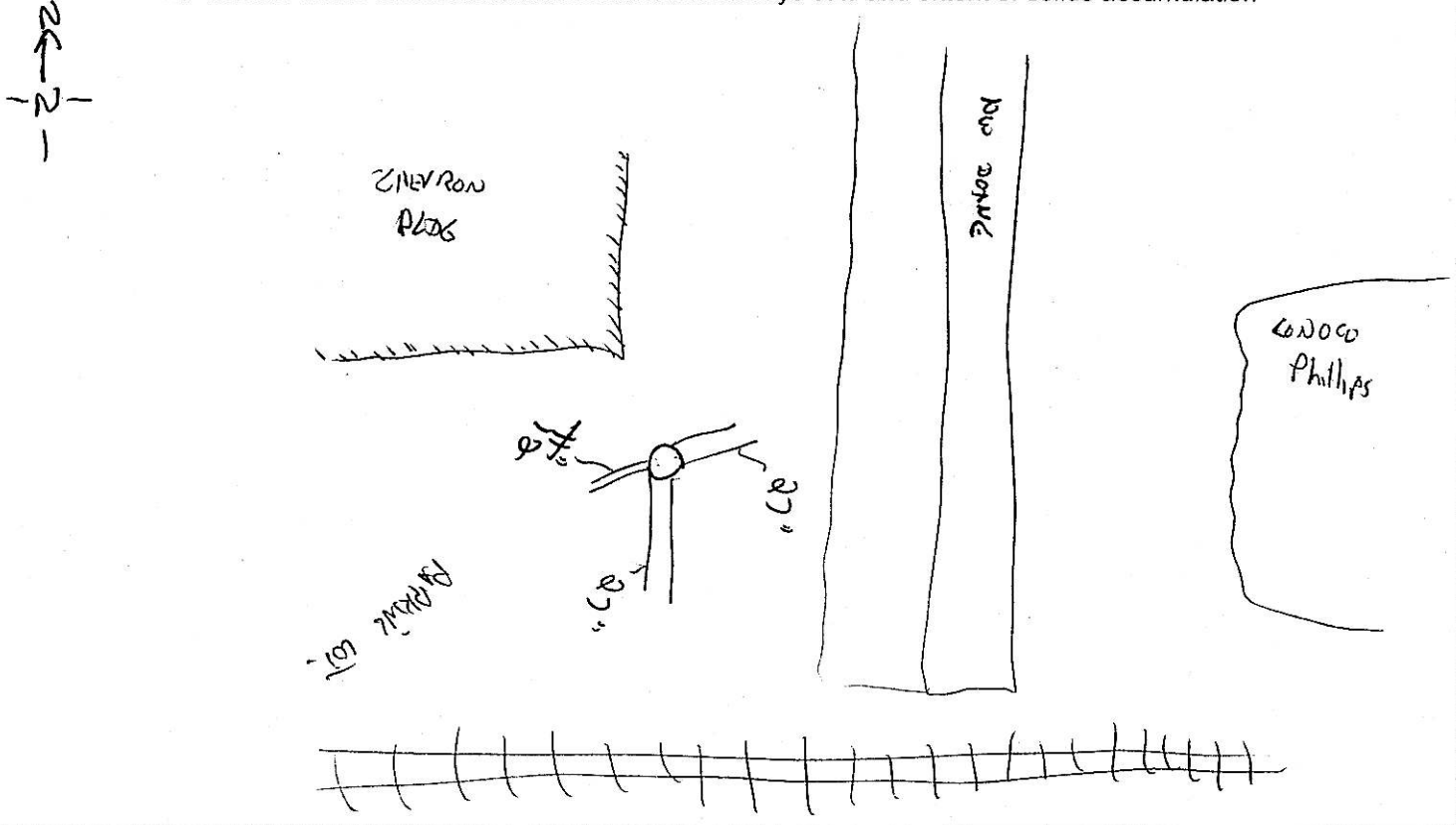
SEDIMENT SAMPLING FIELD DATA SHEET

Date: 6-27-06	Time: 1151	Current Weather conditions: SUNNY 90's	
Sampling Team Present: MJH | BCL | JXB			
Basin: 22	Node: AAP792	Subbasin:	
Sampling Location Description/Address: MH in YELLOW STRIPED AREA AT ENTRY GATE TO CHEVRON PLANT AT TOP OF NW DOANE.			

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Describe any flowing or standing water observed in the line?	MINOR FROM SPRING UPSTREAM
Does river appear to back up to this location? Describe rate/color/odor of flow:	NO
Are sediments observed in the line?	NO
Are sample-able quantities of sediments present in the line?	NO
Describe lateral extent of sample-able sediments present in the line:	—

SITE DIAGRAM: Include street intersections/laterals/MH's/driveways cuts and extent of solids accumulation



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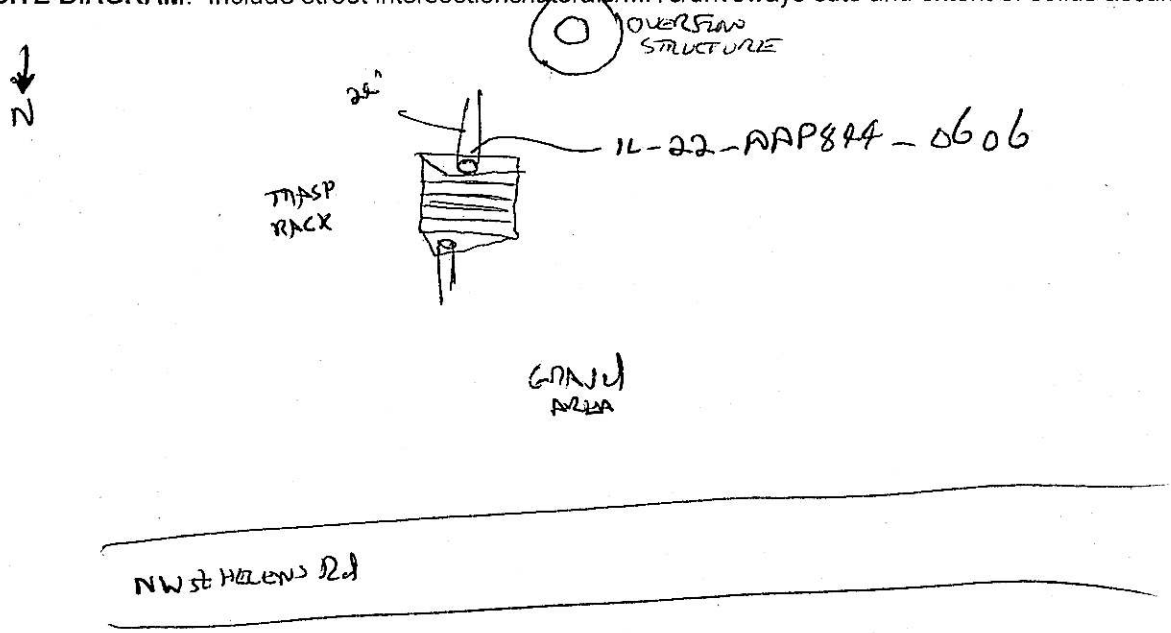
SEDIMENT SAMPLING FIELD DATA SHEET

Date: 6-27-06	Time: 1235	Current Weather conditions: SUNNY 90's
Sampling Team Present:		
Basin: BASIN 22	Node: AAP 844	Subbasin:
Sampling Location Description/Address: TRACK RACK AT NW St HELENS Rd + NW 55TH.		

SECTION 1 - PRE-SAMPLING VISUAL OBSERVATION REPORT

Describe any flowing or standing water observed in the line?	NO
Does river appear to back up to this location? Describe rate/color/odor of flow:	NO
Are sediments observed in the line?	YES ABOUT 1/3 FULL
Are sample-able quantities of sediments present in the line?	YES
Describe lateral extent of sample-able sediments present in the line:	AS FAR AS VISIBLE UP + DOWN STREAM

SITE DIAGRAM: Include street intersections/laterals/MH's/driveways cuts and extent of solids accumulation



Date: 6-27-06	SECTION 2 - SAMPLE COLLECTION REPORT	Node: AAP 844

Sampling Equipment:	☒ Stainless steel spoon & stainless steel bucket ☐ Other (Describe)
Equipment Decontamination process:	☒ Per SOP7.01a ☐ Other (Describe)
Sample date: 6-27-06	Sample time: 1238
Sample Identification: (IL-XX-NNNNNN-mmyy)	IL-22-AAP844-0606
Sample location description: (number of feet from node of entry)	JUST UPSTREAM OF TRASH RACK
Sample collection technique:	SS SPOON INTO SS BOWL
Describe Color of sample:	DK GRAY
Describe Texture/Particle size:	COBBLES ALL THE WAY TO FINE SANDS
Describe visual or olfactory evidence of contamination:	NO
Desacribe depth of solids in area where sample collected:	3"
Describe amount and type of debris in sample:	—
Compositing notes:	

Sample Jars Collected 2 8oz, 5 4oz

If not enough sample to fill all of the jars, then fill jars in this order:				
	Metals	One 4oz glass jar		
	PAHs/SVOCs	One 4oz glass jar		
	PCBs	One 4oz glass jar		
	TPH (two jars)	Two 4oz glass jars		
	TOC	One 4oz glass jar		

Duplicate sample collected?	NO
Duplicate sample fictitious identification # on COC:	—
Samples placed in chilled cooler? (Y)N	
Samples delivered to lab? (Y)N	Lab ID Number: FO 060748
Describe any deviations from standard procedures:	

Attachment C
Laboratory Results

Groundwater Solutions, Inc.
55 SW Yamhill Street, Suite 400 Portland, Oregon 97204
ph: 503.239.8799 fx: 503.239.8940 e: groundwatersolutions.com

Laboratory Data QA/QC Review
Upland Source Control Investigation
City Outfall Basin 22

To: File

From: Robyn Cook, GSI

Date: September 21, 2006

This memorandum presents a quality assurance/quality control (QA/QC) review of the laboratory data generated during source control investigation sampling and analyses recently conducted by the City of Portland (City) in Outfall Basin 22. This includes a sampling round conducted in June, 2006. Solid samples were collected in the field, and a subset of each sample was sieved using a 500 micron sieve. The sieved samples were analyzed on a later date. The results of the sampling and analysis are presented in the Technical Memorandum No. OF 22-1.

The laboratory analysis for these source control program samples were completed by the City's BES laboratory and three subcontracted laboratories. The following analyses were conducted each laboratory for each of the sampling rounds:

- BES Laboratory
  - Metals (EPA Method 6020)
- Analytical Resources, Inc.
  - Grain Size Analysis (ASTM D421/422)
- Test America
  - Total Organic Carbon (EPA Method 9060MOD)
- STL Laboratory
  - Semivolatile Organics (EPA Method 8270-SIM)
  - Pesticides (EPA Method 8081A)
  - Polychlorinated Biphenyls (EPA Method 8082)

Attachment C of the Technical Memorandum No. OF 22-1 presents the BES laboratory LIMS summary report for all analyses associated with this Outfall Basin investigation and the subcontracted laboratory's data reports.

This QA/QC review is based upon the available documentation supplied from each laboratory. The QA/QC review of the analytical data consisted of reviewing the following for each laboratory report:

- Chain-of-custody complete and correct
- Analysis within holding times
- Chemicals of interest in method blanks
- Surrogate recoveries within accuracy control limits
- Laboratory duplicates within analytical accuracy control limits
- Laboratory blank spike recoveries within accuracy control limits
- Laboratory blank spike duplicate results within analytical precision control limits
- Matrix spike recoveries within accuracy control limits
- Matrix spike duplicate results within analytical precision control limits

The results of the laboratory report QA/QC review are presented for each sampling round below.

Whole Samples

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

Semi-Volatile Organic Analyses
All samples were extracted and analyzed within the required holding times.

Pesticides Analyses
All samples were extracted and analyzed within the required holding times.

Polychlorinated Biphenyls (PCBs) Analyses
All samples were extracted and analyzed within the required holding times.

Metal Analyses
All samples were extracted and analyzed within the required holding times.

Total Organic Carbon Analyses
Only one sample had sufficient material for this analysis; this sample was analyzed within the required holding times.

Grain Size Analyses
Only one sample had sufficient material for this analysis; there are no required holding times for this analysis.

Method Blanks

Method blanks were processed during the laboratory analysis of SVOCs, pesticides, PCBs, total organic carbon (TOC) and metals. No chemicals were detected in the method blanks associated with TOC, metals, pesticides or PCBs. One analyte (bis(2-Ethylhexyl)phthalate) was detected in a method blank associated with the SVOC analysis. The samples contained bis(2-Ethylhexyl)phthalate at concentrations significantly higher than the method blank, therefore no data are qualified.

Surrogate Recoveries

Surrogate recoveries were completed during the laboratory analysis of SVOCs, pesticides and PCBs. All surrogate recoveries were within laboratory control limits for the analysis of SVOCs and PCBs. One of the surrogates analyzed with the pesticide blank and laboratory control sample during pesticide analysis (tetrachloro-m-xylene) was outside laboratory control limits. The surrogate recovery was just outside of the range of acceptable limits, and surrogate recoveries were within laboratory control limits for the sample analyses; therefore no data are qualified.

Laboratory Control Sample Recoveries

Laboratory control samples were processed during the laboratory analyses of SVOCs, PCBs, TOC, and metals. All laboratory blank spike recoveries were within laboratory control limits.

Laboratory Control Sample Duplicates

Laboratory blank spike duplicates were processed during the laboratory analysis of PCBs and SVOCs. The relative percent difference (RPD) between the laboratory blank and the laboratory blank spike duplicates were within quality control limits for both analyses.

Matrix Spike Recoveries

Laboratory matrix spikes and matrix spike duplicates were processed during the laboratory analysis of SVOCs, PCBs and TOC. The RPDs between the matrix spike and the matrix spike duplicates were within quality control limits all three analyses.

Sieved Samples

Chain-of-Custody

The chain-of-custody forms showed continuous custody of the samples. The chain-of-custody procedures were adequate and sample integrity was maintained through the sample collection and delivery process.

Analysis Holding Times

Semi-Volatile Organic Analyses

All samples were extracted and analyzed within the required holding times.

Pesticides Analyses
All samples were extracted and analyzed within the required holding times.

Polychlorinated Biphenyls (PCBs) Analyses
All samples were extracted and analyzed within the required holding times.

Metal Analyses
All samples were extracted and analyzed within the required holding times.

Total Organic Carbon Analyses
All samples were analyzed within the required holding times.

Grain Size Analyses
There are no required holding times for this analysis.

Method Blanks

Method blanks were processed during the laboratory analysis of SVOCs, pesticides, PCBs, total organic carbon (TOC) and metals. No chemicals were detected in the method blanks associated with TOC, metals, pesticides or PCBs. Three analytes (bis(2-Ethylhexyl)phthalate, di-n-octyl phthalate and pyrene) were detected in a method blank associated with the SVOC analysis. Only phthalates are reported for this sampling event. The samples contained bis(2-ethylhexyl) phthalate at concentrations significantly higher than the method blank, therefore the samples are not qualified for that analyte. However, the samples contained di-n-octyl phthalate at concentrations that are not significantly higher than the method blank, and the samples are qualified by flagging the detected concentrations with a "J."

Surrogate Recoveries

Surrogate recoveries were completed during the laboratory analysis of SVOCs, pesticides and PCBs. All surrogate recoveries were within laboratory control limits.

Laboratory Control Sample Recoveries

Laboratory control samples were processed during the laboratory analyses of TOC, SVOCs, pesticides and PCBs. All laboratory blank spike recoveries were within laboratory control limits.

Laboratory Control Sample Duplicates

Laboratory blank spike duplicates were processed during the laboratory analysis of TOC, pesticides, PCBs and SVOCs. The relative percent difference (RPD) between the laboratory blank and the laboratory blank spike duplicates were within quality control limits for the analysis of TOC, SVOCs, pesticides and PCBs.

Matrix Spike Recoveries

Laboratory matrix spikes and matrix spike duplicates were processed during the laboratory analysis of TOC, SVOCs, pesticides, PCBs. The RPDs between the matrix spike and the matrix spike duplicates associated with SVOC, pesticide and PCB analysis were within quality control limits. The RPDs for the matrix spike and matrix spike duplicate associated with the TOC analysis exceeded quality control limits. Visual examination indicated that the RPD was outside

of quality control limits because the sample was not homogeneous, therefore no data are qualified.

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

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 6-27-06
Page: 1 of 1
Collected By: MJN | JXB
BCL

Project Name: PORTLAND HARBOR INLINE SAMP
File Number: 1020.001 **Matrix:** OTHER

Requested Analyses

OUTFALL 22

*STL will perform Pesticide /PCB and PAH analysis
STL - Please send invoice to Howard Holmes at Northcreek and lab reports to Renee Chauvin or Jennifer Shackleford

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Pesticides\PCBs*	General: PAH*	General: Total Organic Carbon	General: Grain size	Metals: Total Metals (Cd, Cu, Zn)	Field Comments
FO 060746	IL-22-AAM078-0606 upstream of node	22_1	27-Jun-06	0917	G	●	●	●	●	●	EXTRA SAMPLE ARCHIVED IN STAGING AREA FRIDGE
FO 060747	IL-22-AAM080-0606 upstream of node	22_2	27-Jun-06	1089	G	●	●	●	●	●	EXTRA SAMPLE ARCHIVED IN STAGING AREA FRIDGE
FO 060748	-22-AAP844-0606 pstream of trash rack	22_3	27-Jun-06	1238	G	●	●	●	●	●	EXTRA SAMPLE ARCHIVED IN STAGING AREA FRIDGE
FO 060749	Duplicate	Dup	27-Jun-06		G	●	●	●	●	●	
5											
6											
7											
8											
9											
10											

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1534	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: MICHAEL HOUSER Date: 6-27-06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1534	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kluch Date: 6/27/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060746** **Sample Collected:** 6/27/2006 09:17 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM078-0606
UPSTREAM OF NODE
Sample Point Code: 22_1
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05618
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.64	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	75.3	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	670	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	2860	mg/Kg dry wt	50	EPA 9060 MOD	07/07/06
GRAIN SIZE BY SIEVE - ARI					
Coarse Sand (4750-2000 µm)	12.3	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (150-75 µm)	1.4	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (250-150 µm)	6.0	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (425-250 µm)	13.2	Fract %	0.1	ASTM D422	07/12/06
Gravel (1/2-3/8 in)	9.2	Fract %	0.1	ASTM D422	07/12/06
Gravel (1-3/4 in)	<0.1	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/4-1/2 in)	12.2	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/8 in-#4)	20.6	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (2000-850 µm)	12.7	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (850-425 µm)	11.9	Fract %	0.1	ASTM D422	07/12/06
Silt (<75)	0.5	Fract %	0.1	ASTM D422	07/12/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
4,4'-DDE	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
4,4'-DDT	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Aldrin	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Alpha-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Alpha-Chlordane	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Beta-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Delta-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Dieldrin	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Endosulfan I	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Endosulfan II	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Endosulfan Sulfate	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Endrin	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Endrin Aldehyde	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060746** **Sample Collected:** 6/27/2006 09:17 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM078-0606
UPSTREAM OF NODE
Sample Point Code: 22_1
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05618
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Endrin ketone	<2.1	µg/Kg dry wt	2.1	EPA 8081	07/06/06
Gamma-BHC(Lindane)	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Gamma-Chlordane	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Heptachlor	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Heptachlor Epoxide	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Methoxychlor	<11	µg/Kg dry wt	11	EPA 8081	07/06/06
Toxaphene	<110	µg/Kg dry wt	110	EPA 8081	07/06/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1221	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1232	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1242	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1248	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1254	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1260	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Acenaphthene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Acenaphthylene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Anthracene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	33	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	40	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	37	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzofluoranthenes	41	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	360	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	740	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Chrysene	44	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	10	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Diethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Dimethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	<23	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	68	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060746** **Sample Collected:** 6/27/2006 09:17 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name:	PORTLAND HARBOR INLINE SAMP	**Report Page:**	Page 3 of 3
Address/Location:	IL-22-AAM078-0606 UPSTREAM OF NODE	**System ID:**	AK05618
Sample Point Code:	22_1	**EID File # :**	1020.001
Sample Type:	GRAB	**LocCode:**	PORTHARI
Sample Matrix:	SEDIMENT	**Collected By:**	MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	46	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Fluorene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	39	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Naphthalene	<5.8	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Phenanthrene	18	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Pyrene	58	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060746

Report Date: 08/29/06 **Validated By: Signature on File**

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Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID:	**FO060747**	**Sample Collected:**	6/27/2006 10:39	**Sample Status:**	**COMPLETE AND VALIDATED**
		Sample Received:	06/27/06		

Proj./Company Name:	PORTLAND HARBOR INLINE SAMP	**Report Page:**	Page 1 of 3
Address/Location:	IL-22-AAM080-0606		
	UPSTREAM OF NODE	**System ID:**	AK05619
Sample Point Code:	22_2	**EID File # :**	1020.001
Sample Type:	GRAB	**LocCode:**	PORTHARI
Sample Matrix:	SEDIMENT	**Collected By:**	MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.41	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	51.3	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	316	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	5290	mg/Kg dry wt	50	EPA 9060 MOD	07/07/06
GRAIN SIZE BY SIEVE - ARI					
Coarse Sand (4750-2000 µm)	16.1	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (150-75 µm)	1.4	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (250-150 µm)	3.6	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (425-250 µm)	11.5	Fract %	0.1	ASTM D422	07/12/06
Gravel (1/2-3/8 in)	16.3	Fract %	0.1	ASTM D422	07/12/06
Gravel (1-3/4 in)	<0.1	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/4-1/2 in)	2.5	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/8 in-#4)	22.9	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (2000-850 µm)	13.2	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (850-425 µm)	11.1	Fract %	0.1	ASTM D422	07/12/06
Silt (<75)	1.4	Fract %	0.1	ASTM D422	07/12/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
4,4'-DDE	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
4,4'-DDT	5.7	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Aldrin	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Alpha-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Alpha-Chlordane	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Beta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Delta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Dieldrin	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Endosulfan I	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Endosulfan II	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Endosulfan Sulfate	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Endrin	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Endrin Aldehyde	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060747** **Sample Collected:** 6/27/2006 10:39 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM080-0606
UPSTREAM OF NODE
Sample Point Code: 22_2
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05619
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Endrin ketone	<2.5	µg/Kg dry wt	2.5	EPA 8081	07/06/06
Gamma-BHC(Lindane)	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Gamma-Chlordane	1.9	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Heptachlor	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Heptachlor Epoxide	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Methoxychlor	<13	µg/Kg dry wt	13	EPA 8081	07/06/06
Toxaphene	<130	µg/Kg dry wt	130	EPA 8081	07/06/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1221	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1232	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1242	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1248	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1254	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1260	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	6.0	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	7.2	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Acenaphthene	58	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Acenaphthylene	<5.9	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Anthracene	76	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	610	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	710	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	520	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Benzofluoranthenes	650	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	790	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	45	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Chrysene	700	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	160	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Diethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Dimethyl phthalate	1600	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	27	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	74	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060747** **Sample Collected:** 6/27/2006 10:39 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM080-0606
UPSTREAM OF NODE
Sample Point Code: 22_2
Sample Type: GRAB
Sample Matrix: SEDIMENT

Report Page: Page 3 of 3
System ID: AK05619
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	1000	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Fluorene	42	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	600	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Naphthalene	17	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Phenanthrene	640	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06
Pyrene	870	µg/Kg dry wt	5.9	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060747

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
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LABORATORY ANALYSIS REPORT

Sample ID: **FO060748** **Sample Collected:** 6/27/2006 12:38 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAP844-0606
UPSTREAM OF TRASH RACK
Sample Point Code: 22_3
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05620
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.18	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	35.9	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	79.6	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	16400	mg/Kg dry wt	50	EPA 9060 MOD	07/07/06
GRAIN SIZE BY ASTM - ARI					
Clay (<3.2 µm)	2.7	Fract %	0.1	ASTM D421/422	07/12/06
Coarse Sand (4750-2000 µm)	10.0	Fract %	0.1	ASTM D421/422	07/12/06
Fine Sand (425-75 µm)	16.9	Fract %	0.1	ASTM D421/422	07/12/06
Gravel (>4750 µm)	29.8	Fract %	0.1	ASTM D421/422	07/12/06
Medium Sand (2000-425 µm)	14.2	Fract %	0.1	ASTM D421/422	07/12/06
Silt (13-9 µm)	1.3	Fract %	0.1	ASTM D421/422	07/12/06
Silt (22-13 µm)	2.2	Fract %	0.1	ASTM D421/422	07/12/06
Silt (32-22 µm)	5.8	Fract %	0.1	ASTM D421/422	07/12/06
Silt (7-3.2 µm)	<0.1	Fract %	0.1	ASTM D421/422	07/12/06
Silt (75-32 µm)	15.8	Fract %	0.1	ASTM D421/422	07/12/06
Silt (9-7 µm)	1.3	Fract %	0.1	ASTM D421/422	07/12/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
4,4'-DDE	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
4,4'-DDT	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Aldrin	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Alpha-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Alpha-Chlordane	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Beta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Delta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Dieldrin	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Endosulfan I	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Endosulfan II	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Endosulfan Sulfate	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Endrin	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Endrin Aldehyde	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06
Endrin ketone	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/06/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060748** **Sample Collected:** 6/27/2006 12:38 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAP844-0606
UPSTREAM OF TRASH RACK
Sample Point Code: 22_3
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05620
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Gamma-BHC(Lindane)	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Gamma-Chlordane	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Heptachlor	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Heptachlor Epoxide	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/06/06
Methoxychlor	<13	µg/Kg dry wt	13	EPA 8081	07/06/06
Toxaphene	<130	µg/Kg dry wt	130	EPA 8081	07/06/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1221	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1232	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1242	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1248	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1254	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1260	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Acenaphthene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Acenaphthylene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Anthracene	6.9	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	44	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	63	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	59	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Benzofluoranthenes	56	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	950	µg/Kg dry wt	25	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	<25	µg/Kg dry wt	25	EPA 8270-SIM	07/07/06
Chrysene	62	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	10	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Diethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Dimethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	<25	µg/Kg dry wt	25	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	<25	µg/Kg dry wt	25	EPA 8270-SIM	07/07/06
Fluoranthene	65	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Fluorene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	65	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID:	**FO060748**	**Sample Collected:**	6/27/2006 12:38	**Sample Status:**	**COMPLETE AND VALIDATED**
		Sample Received:	06/27/06		

Proj./Company Name:	PORTLAND HARBOR INLINE SAMP	**Report Page:**	Page 3 of 3
Address/Location:	IL-22-AAP844-0606		
	UPSTREAM OF TRASH RACK	**System ID:**	AK05620
Sample Point Code:	22_3	**EID File # :**	1020.001
Sample Type:	GRAB	**LocCode:**	PORTHARI
Sample Matrix:	SEDIMENT	**Collected By:**	MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Naphthalene	<6.2	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Phenanthrene	29	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06
Pyrene	69	µg/Kg dry wt	6.2	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060748

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060749** **Sample Collected:** 6/27/2006 00:00 **Sample Received:** 06/27/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05621
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.48	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	376	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	336	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	4430	mg/Kg dry wt	50	EPA 9060 MOD	07/07/06
GRAIN SIZE BY SIEVE - ARI					
Coarse Sand (4750-2000 µm)	14.5	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (150-75 µm)	1.1	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (250-150 µm)	4.3	Fract %	0.1	ASTM D422	07/12/06
Fine Sand (425-250 µm)	10.1	Fract %	0.1	ASTM D422	07/12/06
Gravel (1/2-3/8 in)	9.2	Fract %	0.1	ASTM D422	07/12/06
Gravel (1-3/4 in)	3.5	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/4-1/2 in)	17.1	Fract %	0.1	ASTM D422	07/12/06
Gravel (3/8 in-#4)	17.9	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (2000-850 µm)	11.9	Fract %	0.1	ASTM D422	07/12/06
Medium Sand (850-425 µm)	10.1	Fract %	0.1	ASTM D422	07/12/06
Silt (<75)	0.4	Fract %	0.1	ASTM D422	07/12/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
4,4'-DDE	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
4,4'-DDT	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Aldrin	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Alpha-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Alpha-Chlordane	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Beta-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Delta-BHC	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Dieldrin	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Endosulfan I	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Endosulfan II	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Endosulfan Sulfate	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Endrin	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Endrin Aldehyde	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060749** **Sample Collected:** 6/27/2006 00:00 **Sample Received:** 06/27/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05621
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Endrin ketone	<2.3	µg/Kg dry wt	2.3	EPA 8081	07/06/06
Gamma-BHC(Lindane)	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Gamma-Chlordane	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Heptachlor	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Heptachlor Epoxide	<1.1	µg/Kg dry wt	1.1	EPA 8081	07/06/06
Methoxychlor	<11	µg/Kg dry wt	11	EPA 8081	07/06/06
Toxaphene	<110	µg/Kg dry wt	110	EPA 8081	07/06/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1221	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1232	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1242	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1248	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1254	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
Aroclor 1260	<11	µg/Kg dry wt	11	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Acenaphthene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Acenaphthylene	6.7	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Anthracene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	92	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	110	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	84	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Benzofluoranthenes	110	µg/Kg dry wt	11	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	380	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	<23	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Chrysene	140	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	23	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Diethyl phthalate	<11	µg/Kg dry wt	11	EPA 8270-SIM	07/07/06
Dimethyl phthalate	<11	µg/Kg dry wt	11	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	<23	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	34	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06

Report Date: 08/29/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060749** **Sample Collected:** 6/27/2006 00:00 **Sample Received:** 06/27/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: DUPLICATE

Sample Point Code: DUP
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05621
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH/JXB/BCL

Comments:
QA/QC: Unless otherwise noted, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. One phthalate was detected in the method blank but at insignificant concentration compared to the sample. LAB: Grain size analysis for this sample was by sieve only; the sample did not contain enough fines for the hydrometer portion of the analysis.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Fluoranthene	80	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Fluorene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	100	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Naphthalene	<5.6	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Phenanthrene	17	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06
Pyrene	98	µg/Kg dry wt	5.6	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060749

Report Date: 08/29/06 **Validated By: Signature on File**

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

August 24, 2006

Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 06/28/06 15:55. The following list is a summary of the Work Orders contained in this report, generated on 08/24/06 16:31.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPF1182	Portland Harbor	36238

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/24/06 16:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FO 060746	PPF1182-01	Soil	06/27/06 09:17	06/28/06 15:55
FO 060747	PPF1182-02	Soil	06/27/06 10:39	06/28/06 15:55
FO 060748	PPF1182-03	Soil	06/27/06 12:38	06/28/06 15:55
FO 060749	PPF1182-04	Soil	06/27/06 00:00	06/28/06 15:55

TestAmerica - Portland, OR

Howard Holmes, Project Manager

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City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	08/24/06 16:31

Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1182-01 (FO 060746)		**Soil**				**Sampled: 06/27/06 09:17**				
Total Organic Carbon	EPA 9060 mod.	**2860**	-----	569	mg/kg dry	1x	6G14068	07/07/06 21:50	07/14/06 18:19	
PPF1182-02 (FO 060747)		**Soil**				**Sampled: 06/27/06 10:39**				
Total Organic Carbon	EPA 9060 mod.	**5290**	-----	661	mg/kg dry	1x	6G14068	07/07/06 21:50	07/14/06 18:52	
PPF1182-03 (FO 060748)		**Soil**				**Sampled: 06/27/06 12:38**				
Total Organic Carbon	EPA 9060 mod.	**16400**	-----	678	mg/kg dry	1x	6G14068	07/07/06 21:50	07/14/06 18:58	
PPF1182-04 (FO 060749)		**Soil**				**Sampled: 06/27/06 00:00**				
Total Organic Carbon	EPA 9060 mod.	**4430**	-----	587	mg/kg dry	1x	6G15011	07/07/06 20:48	07/15/06 13:06	

TestAmerica - Portland, OR

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Howard Holmes, Project Manager

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ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	08/24/06 16:31

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPF1182-01 (FO 060746)		**Soil**				**Sampled: 06/27/06 09:17**				
Dry Weight	BSOPSPL003R08	**87.9**	-----	1.00	%	1x	6G07017	07/07/06 08:34	07/08/06 00:00	
PPF1182-02 (FO 060747)		**Soil**				**Sampled: 06/27/06 10:39**				
Dry Weight	BSOPSPL003R08	**75.6**	-----	1.00	%	1x	6G07017	07/07/06 08:34	07/08/06 00:00	
PPF1182-03 (FO 060748)		**Soil**				**Sampled: 06/27/06 12:38**				
Dry Weight	BSOPSPL003R08	**73.7**	-----	1.00	%	1x	6G07017	07/07/06 08:34	07/08/06 00:00	
PPF1182-04 (FO 060749)		**Soil**				**Sampled: 06/27/06 00:00**				
Dry Weight	BSOPSPL003R08	**85.2**	-----	1.00	%	1x	6G07017	07/07/06 08:34	07/08/06 00:00	

TestAmerica - Portland, OR

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BEAVERTON, OR 97008-7132
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City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

Project Name: **Portland Harbor**
Project Number: 36238
Project Manager: Jennifer Shackelford

Report Created: 08/24/06 16:31

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6G14068 **Soil Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6G14068-BLK1)									**Extracted: 07/14/06 17:13**					
Total Organic Carbon	EPA 9060 mod.	ND	---	500	mg/kg wet	1x	--	--	--	--	--	--	07/14/06 17:13	
LCS (6G14068-BS1)									**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	25700	---	500	mg/kg wet	1x	--	29900	86.0%	(72-130)	--	--	07/14/06 17:19	
Duplicate (6G14068-DUP1)					**QC Source: BPG0022-01**				**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	16600	---	753	mg/kg dry	1x	8050	--	--	--	69.4%	(35)	07/14/06 17:35	Q-14
Duplicate (6G14068-DUP2)					**QC Source: BPG0023-01**				**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	15600	---	942	mg/kg dry	1x	11500	--	--	--	30.3%	(35)	07/14/06 17:57	
Duplicate (6G14068-DUP3)					**QC Source: BPG0024-01**				**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	22400	---	947	mg/kg dry	1x	23200	--	--	--	3.51%	(35)	07/14/06 18:12	
Duplicate (6G14068-DUP4)					**QC Source: PPF1182-01**				**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	3160	---	569	mg/kg dry	1x	2860	--	--	--	9.97%	(35)	07/14/06 18:45	
Matrix Spike (6G14068-MS1)					**QC Source: BPG0022-01**				**Extracted: 07/07/06 21:50**					
Total Organic Carbon	EPA 9060 mod.	25600	---	753	mg/kg dry	1x	8050	12900	136%	(40-160)	--	--	07/14/06 17:42	

QC Batch: 6G15011 **Soil Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6G15011-BLK1)									**Extracted: 07/15/06 12:50**					
Total Organic Carbon	EPA 9060 mod.	ND	---	500	mg/kg wet	1x	--	--	--	--	--	--	07/15/06 12:50	
LCS (6G15011-BS1)									**Extracted: 07/07/06 20:48**					
Total Organic Carbon	EPA 9060 mod.	27600	---	500	mg/kg wet	1x	--	29900	92.3%	(72-130)	--	--	07/15/06 12:57	
Duplicate (6G15011-DUP1)					**QC Source: BPG0064-01**				**Extracted: 07/07/06 20:48**					
Total Organic Carbon	EPA 9060 mod.	18500	---	1150	mg/kg dry	1x	20800	--	--	--	11.7%	(35)	07/15/06 13:27	
Matrix Spike (6G15011-MS1)					**QC Source: BPG0064-01**				**Extracted: 07/07/06 20:48**					

TestAmerica - Portland, OR

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/24/06 16:31

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6G15011 **Soil Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (6G15011-MS1)					**QC Source: BPG0064-01**								**Extracted: 07/07/06 20:48**	
Total Organic Carbon	EPA 9060 mod.	28800	---	1150	mg/kg dry	1x	20800	9540	83.9%	(40-160)	--	--	07/15/06 13:36	

TestAmerica - Portland, OR

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Howard Holmes, Project Manager

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/24/06 16:31

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6G07017 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6G07017-BLK1)								**Extracted: 07/07/06 08:34**						
Dry Weight	BSOPSPL003R08	100	---	1.00	%	1x	--	--	--	--	--	--	07/08/06 00:00	

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/24/06 16:31

Notes and Definitions

Report Specific Notes:

Q-14 - Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 ✓
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPE1182

Called TestAmer @ 0830 on 6/28. RAK

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor
PROJECT NUMBER: Inline Samp
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] [4] [3] [2] [1] [<1] STD
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE: Pest/PCBs EPA 8081-LOW-LEVEL (*)	PRESERVATIVE: PAH 8270-SIM LOW-LEVEL (*)	REQUESTED ANALYSES: TOC	REQUESTED ANALYSES: Grain Size	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	FO 060746	6/27/06 0917	X	X	X	X	S	5		
2	FO 060747	1039	X	X	X	X	S	5		
3	FO 060748	1238	X	X	X	X	S	5		
4	FO 060749	—	X	X	X	X	S	5		
5										
6										
7										
8										
9										
10										

RELEASED BY: Rona Klneh — DATE: 6/28/06
PRINT NAME: Rona Klneh — FIRM: City of Portland — TIME: 1430

RECEIVED BY: Bob F — DATE: 6/28/06
PRINT NAME: Bob F — FIRM: TAP — TIME: 14:30

RELEASED BY: — DATE:
PRINT NAME: — FIRM: — TIME:

RECEIVED BY: — DATE: lab
PRINT NAME: — FIRM: — TIME: 15.55

ADDITIONAL REMARKS: (*) Send Low-Level Pesticides/PCBs and Low-Level PAH to STL

TEMP: 1.7

COC REV 09/2004

TAT: _____

Non-Conformances?
Circle Y or N
(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)
Date: 6/28/06
Time: 14:30
Initials: JH

Logged-in By:
Date: 6/28/
Initials: CE

Unpacked/Labeled By:
Date: 6/28
Initials: CE

Cooler ID: ____ (___ of ___)

Work Order No. PPE1182
Client: City of Portland
Project: _____

Container Type:
1 Cooler
___ Box
___ None/Other _____

COC Seals:
___ Ship. Container ___ Sign By
___ On Bottles ___ Date
✓ None

Packing Material
___ Bubble Bags ___ Styrofoam
___ Foam Packs
___ None/Other Other bubble wrap

Refrigerant:
___ Gel Ice Pack _____ ___ None
✓ Loose Ice
___ None/Other _____

Received Via: Bill# _____
___ Fed Ex ___ Client
___ UPS ✓ NCA Courier
___ DHL ___ Mid Valley
___ Senvoy ___ TDP
___ GS ___ Other _____

Cooler Temperature (*IR*): 1.7 °C Plastic Glass (circle one) (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? _____ °C or NA

Trip Blank? Y or N or NA

Sample Containers:		ID			ID
Intact?	Y or N	_____	Metals Preserved?	Y or N or NA	_____
Provided by NCA?	Y or N	_____	Client QAPP Preserved?	Y or N or NA	_____
Correct Type?	Y or N	_____	Adequate Volume? (for tests requested)	Y or N	_____
#Containers match COC?	Y or N	_____	Water VOAs: Headspace?	Y or N or NA	_____
IDs/time/date match COC?	Y or N	_____	Comments:		
Hold Times in hold?	Y or N	_____			

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems _____

Total access set up? Y or N
Has client been contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

PM Initials: _____ Date: _____ Time: _____

(rev 3, 09/12/05)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 13, 2006

Mr. Howard Holmes
Test America, Inc.
9405 SW Nimbus Ave.
Beaverton, OR 97008

Subject: Project No.: PPF1182;
ARI Project No.: JO49

Dear Mr. Holmes;

The following pages provide the information you requested. The report consists of tables, plots, and a narrative describing the testing methods. Please call me to discuss any questions, or comments you may have on the data or its presentation.

Best Regards,
Analytical Resources Incorporated

Harold Benny
Geotechnical Division Manager
206-695-6246
haroldb@arilabs.com

Enclosures

cc: File JO49

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Test America	ARI Project No.: JO49
Client Project: PPF1182	

Case Narrative

1. Four samples were received on June 30, 2006, and were in good condition.
2. The samples were tested for grain size distribution according to ASTM D-422.
3. A visual examination of the grain size was performed on each sample. It was determined that all the samples would be tested by sieve only method except for PPF1182-03. This sample contained enough fines to be tested by hydrometer and sieve, and was prepared using the dry prep method ASTM D-421.
4. A specific gravity of 2.65 was assumed for the calculations. This appeared to be a reasonable assumption.
5. A "milkshake" mixer was used to disperse the hydrometer portion of the sample.
6. The data is provided in summary tables and plots.
7. There were no perceived anomalies to the samples or testing.

Approved by: Taylor McKenzie Date: 7/12/06
Title: Lead Technician

SUBCONTRACT ORDER

J049

TestAmerica - Portland, OR

PPF1182

5.2°

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Rosa Environmental & Geotechnical Laboratory/ARI
4611 S. 134th Place Suite 100
Tukwila, WA 98168
Phone :(206) 695-6200
Fax: (206) 695-6201

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPF1182-01	**Soil**	**Sampled:06/27/06 09:17**	J049A	
Grain Size (ASTM) - SUB	07/12/06 23:59	12/24/06 09:17		
Containers Supplied:				
8 oz. jar (A)				
Sample ID: PPF1182-02	**Soil**	**Sampled:06/27/06 10:39**	J049B	
Grain Size (ASTM) - SUB	07/12/06 23:59	12/24/06 10:39		
Containers Supplied:				
8 oz. jar (A)				
Sample ID: PPF1182-03	**Soil**	**Sampled:06/27/06 12:38**	J049C	
Grain Size (ASTM) - SUB	07/12/06 23:59	12/24/06 12:38		
Containers Supplied:				
8 oz. jar (A)				
Sample ID: PPF1182-04	**Soil**	**Sampled:06/27/06 00:00**	J049D	
Grain Size (ASTM) - SUB	07/12/06 23:59	12/24/06 00:00		
Containers Supplied:				
8 oz. jar (A)				

Released By	Date	Received By	Date
	6/28/06		6/30/06 1015
Released By	Date	Received By	Date

Cooler Receipt Form

ANALYTICAL RESOURCES INCORPORATED

RI Client: TEST Am Project Name: _____

OC NO.: _____ Delivered By: UPS

racking NO.: _____ Date: _____

RI Job No.: 5049 Lims NO.: _____

reliminary Examination Phase:

1. Were intact, properly signed and dated custody seals attached
   To the outside of the cooler? ..... YES (NO)
2. Were custody papers included with the cooler ..... (YES) NO
3. Were custody papers properly filled out (ink, signed etc.)? ..... (YES) NO
4. Complete custody forms and attach all shipping documents ..... OK (NA)

ooler Accepted BY: JBG Cong Co Date: 6/30/06 Time: 1015

og-IN Phase:

5. Was a temperature blank include in the cooler? ..... YES (NO)
6. Record Cooler Temperature ..... 5.2 °C
7. What kind of packing material was used? ..... ICE
8. Was sufficient ice used (if appropriate)? ..... (YES) NO
9. Were all bottles sealed in separate plastic bags? ..... YES (NO)
10. Did all bottles arrive in good condition (unbroken)? ..... (YES) NO
11. Were all bottle labels complete and legible? ..... (YES) NO
12. Did all bottle labels and tags agree with custody papers? ..... (YES) NO
13. Were all bottles used correct for the requested analyses? ..... (YES) NO
14. Do any of the analyses (bottles) require preservative?
    (If so, Preservation checklist must be attached) ..... YES (NO)
15. Were all VOA vials free of air bubbles? ..... ~~YES~~ ~~NO~~
16. Was sufficient amount of sample sent in each bottle? ..... (YES) NO
17. Notify Project Manager of any discrepancies or concerns ..... (OK) NA

ooler Opened By: JBG Cong Co Date: 6/30/06 Time 1015

plain any discrepancies or negative responses:

ANALYTICAL RESOURCES INCORPORATED

Test America
PPF1182

Percent Finer Than Indicated Size, By ASTM D422

Sample ID	Moisture Content (%)	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200
PPF1182-01	13.4	100.0	100.0	87.8	78.6	58.1	45.7	33.1	21.2	7.9	2.0	0.5
PPF1182-02	30.1	100.0	100.0	97.5	81.2	58.3	42.2	28.9	17.8	6.3	2.8	1.4
PPF1182-04	13.0	100.0	96.5	79.4	70.3	52.4	37.9	26.0	15.9	5.8	1.5	0.4

Test America
PPF1182

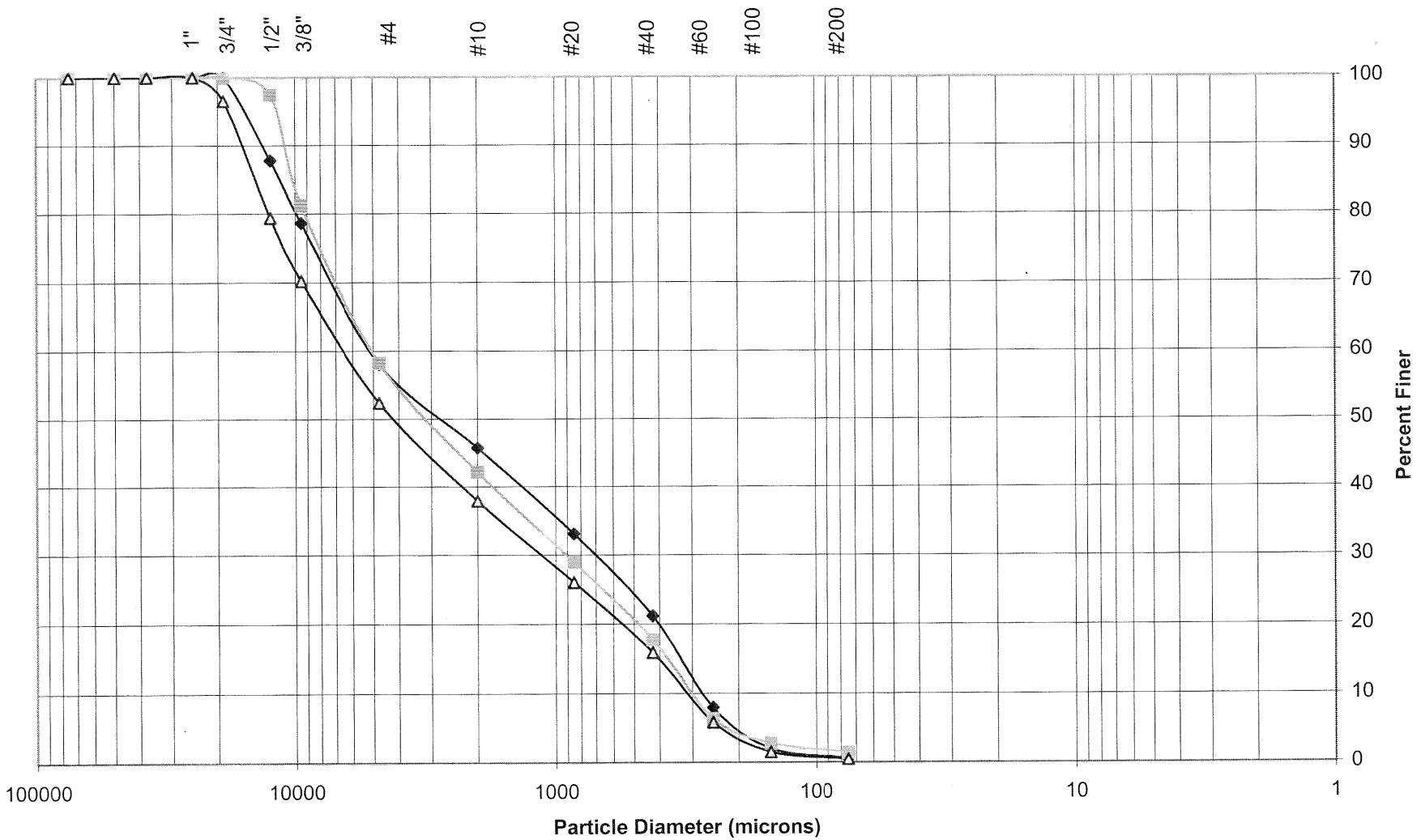
Percent Retained in Each Size Fraction, By ASTM D422

Sieve Size (microns)	1-3/4"	3/4-1/2"	1/2-3/8"	3/8-#4	4750-2000	2000-850	850-425	425-250	250-150	150-75	<75
PPF1182-01	0.0	12.2	9.2	20.6	12.3	12.7	11.9	13.2	6.0	1.4	0.5
PPF1182-02	0.0	2.5	16.3	22.9	16.1	13.2	11.1	11.5	3.6	1.4	1.4
PPF1182-04	3.5	17.1	9.2	17.9	14.5	11.9	10.1	10.1	4.3	1.1	0.4

JO49

ANALYTICAL RESOURCES INCORPORATED

Grain Size Distribution By ASTM D422



ANALYTICAL RESOURCES INCORPORATED

Test America
PPF1182

Percent Finer (Passing) Than the Indicated Size

Sieve Size (microns)	3/4"	1/2"	3/8"	#4 (4750)	#10 (2000)	#20 (850)	#40 (425)	#60 (250)	#100 (150)	#200 (75)	32	22	13	9	7	3.2	1.3
PPF1182-03	100.0	90.3	83.1	70.2	60.2	52.2	46.0	40.7	36.1	29.1	13.3	7.5	5.3	4.0	2.7	2.7	2.7

Testing performed according to ASTM D421/D422

JO49

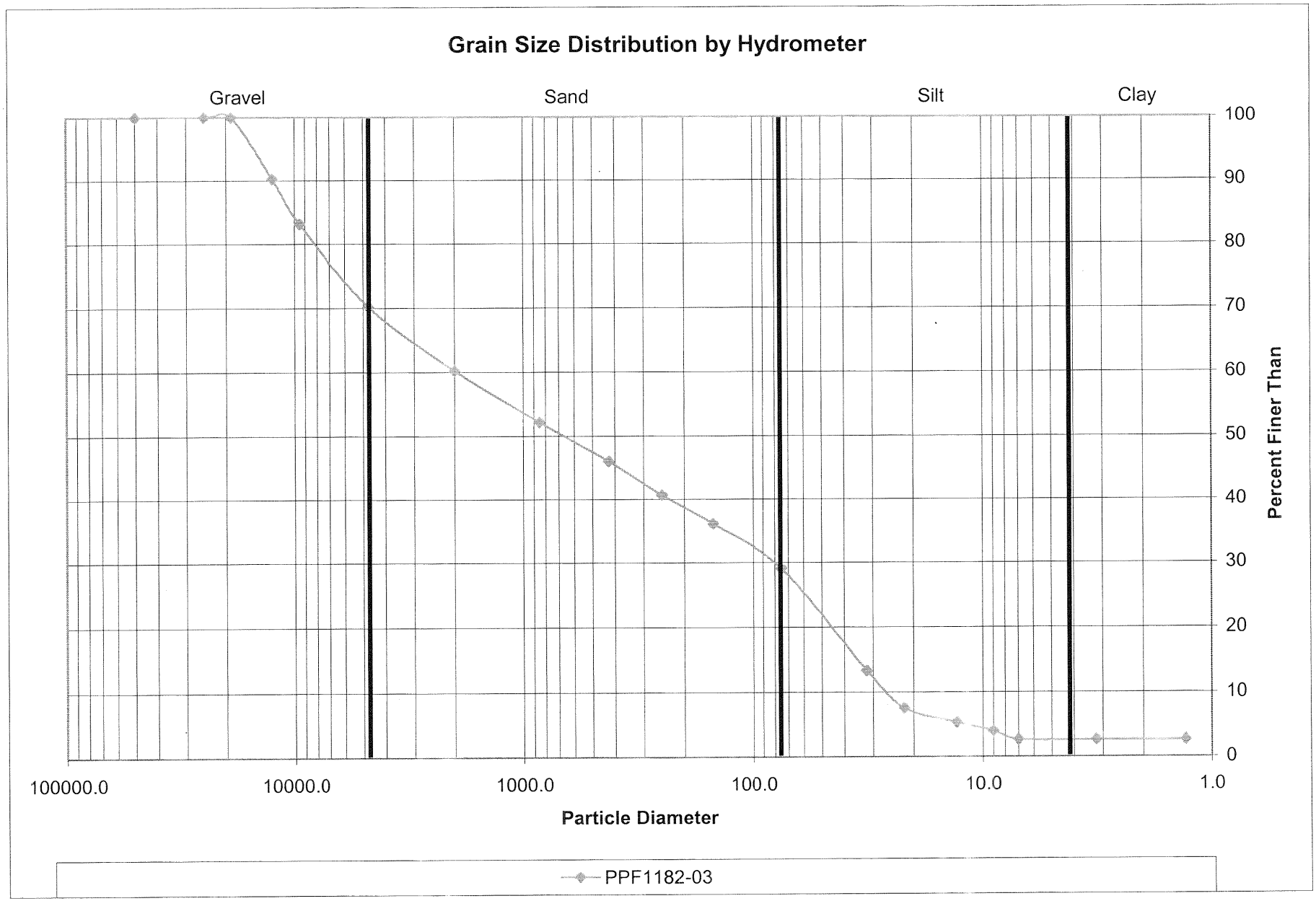
ANALYTICAL RESOURCES INCORPORATED

Test America
PPF1182

Percent Retained in Each Size Fraction

Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Very Coarse Silt	% Coarse Silt	% Medium Silt	% Fine Silt	% Fine Silt	% Very Fine Silt	% Clay
Particle Size (microns)	> 4750	4750-2000	2000-425	425-75	75-32	32-22	22-13	13-9	9-7	7-3.2	<3.2
PPF1182-03	29.8	10.0	14.2	16.9	15.8	5.8	2.2	1.3	1.3	0.0	2.7

ANALYTICAL RESOURCES INCORPORATED



TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 ✓
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPF1182

Called Test Amer @ 0850 on 6/28. RNK

CLIENT: City of Portland

REPORT TO: Jennifer Shackelford
ADDRESS:

PHONE: FAX:

INVOICE TO: Charles Lytle

P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor
PROJECT NUMBER: Inline Samp.
SAMPLED BY:

TURNAROUND REQUEST
in Business Days *
Organic & Inorganic Analyses
~~10~~ STD. | 7 | 5 | 4 | 3 | 2 | 1 | < 1
Petroleum Hydrocarbon Analyses
5 STD. | 4 | 3 | 2 | 1 | < 1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	Pest/PCBs EPA 8081 LOW-LEVEL (*)	PAH 8270-SIM LOW-LEVEL (*)	TOC	Grain Size	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	FO 060746	6/27/06 0917		X	X	X	X	S	5		
2	FO 060747	1039		X	X	X	X	S	5		
3	FO 060748	1238		X	X	X	X	S	5		
4	FO 060749	—		X	X	X	X	S	5		
5											
6											
7											
8											
9											
10											

REQUESTED ANALYSES

RELEASED BY: [signature] DATE: 6/28/06
PRINT NAME: Rona Klneh FIRM: City of Portland TIME: 1430

RECEIVED BY: [signature] DATE: 6/28/06
PRINT NAME: Bob F FIRM: TAP TIME: 14:30

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE: lab
PRINT NAME: FIRM: TIME: 15:55

ADDITIONAL REMARKS: (*) Send Low-Level Pesticides/PCBs and LOW-Level PAH to STL.

TEMP: 1.7

COC REV 09/2004

ANALYTICAL REPORT

Job Number: 580-2965-1

Job Description: PPF1182

For:
TestAmerica Analytical Testing Corp.
9405 SW Nimbus Ave
Beaverton, OR 97008

Attention: Howard Holmes

Tom Coyner
Project Manager I
tcoyner@stl-inc.com
07/25/2006

Project Manager: Tom Coyner

STL Seattle is a part of Severn Trent Laboratories, Inc.

Case Narrative for project: 580-2965

CHLORINATED PESTICIDES

Samples 580-2965-1 through 580-2965-4 were analyzed for chlorinated pesticides in accordance with EPA SW-846 Method 8081A. The samples were prepared on 07/06/2006 and analyzed on 07/12/2006, which was within the method required holding time. **Tetrachloro-m-xylene had a recovery of 129%, which failed the LCS recovery criteria of 49 - 123%.**

----LCS 580-8618/2-A-----

Tetrachloro-m-xylene had a recovery of 130%, which failed the LCS recovery criteria of 49 - 123%.

No difficulties were encountered during the chlorinated pesticides analyses.

POLYCHLORINATED BIPHENYLS (PCB'S)

Samples 580-2965-1 through 580-2965-4 were analyzed for polychlorinated biphenyls (PCB's) in accordance with EPA SW-846 Method 8082. The samples were prepared on 07/07/2006 and analyzed on 07/10/2006, which was within the method required holding time. No difficulties were encountered during the PCB analyses.

SEMIVOLATILE ORGANICS

Samples 580-2965-1 through 580-2965-4 were analyzed for semivolatile organics in accordance with EPA SW-846 Method 8270C. The samples were prepared on 07/07/2006 and analyzed on 07/14/2006 and 07/25/2006, which was within the method required holding time. Bis(2-ethylhexyl) phthalate was detected in method blank MB 580-8685/1-A at a level exceeding the reporting limit. The associated sample results have been flagged "B".

METHOD SUMMARY

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)	STL-SEA	SW846 8270C	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Organochlorine Pesticides by Gas Chromatography	STL-SEA	SW846 8081A	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	STL-SEA	SW846 8082	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Percent Moisture	STL-SEA	EPA PercentMoisture	

LAB REFERENCES:

STL-SEA = STL-Seattle

METHOD REFERENCES:

EPA - US Environmental Protection Agency

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-2965-1	PPF1182-01	Solid	06/27/2006 0917	06/30/2006 0900
580-2965-2	PPF1182-02	Solid	06/27/2006 1039	06/30/2006 0900
580-2965-3	PPF1182-03	Solid	06/27/2006 1238	06/30/2006 0900
580-2965-4	PPF1182-04	Solid	06/27/2006 0000	06/30/2006 0900

SAMPLE RESULTS

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-01

Lab Sample ID: 580-2965-1 Date Sampled: 06/27/2006 0917
Client Matrix: Solid % Moisture: 13.9 Date Received: 06/30/2006 0900

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C Analysis Batch: 580-8140 Instrument ID: SEA023
Preparation: 3550B Prep Batch: 580-8685 Lab File ID: HP01938.D
Dilution: 1.0 Initial Weight/Volume: 10.0493 g
Date Analyzed: 07/14/2006 1656 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.8
2-Methylnaphthalene		ND		5.8
1-Methylnaphthalene		ND		5.8
Acenaphthylene		ND		5.8
Acenaphthene		ND		5.8
Fluorene		ND		5.8
Phenanthrene		18		5.8
Anthracene		ND		5.8
Fluoranthene		46		5.8
Pyrene		58		5.8
Benzo[a]anthracene		33		5.8
Chrysene		44		5.8
Benzofluoranthene		41		12
Benzo[a]pyrene		40		5.8
Indeno[1,2,3-cd]pyrene		39		5.8
Dibenz(a,h)anthracene		10		5.8
Benzo[g,h,i]perylene		37		5.8
Bis(2-ethylhexyl) phthalate		360	B	23
Butyl benzyl phthalate		740		23
Diethyl phthalate		ND		12
Dimethyl phthalate		ND		12
Di-n-butyl phthalate		ND		23
Di-n-octyl phthalate		68		23

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	89	42 - 140
Terphenyl-d14	83	42 - 151

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-02

Lab Sample ID: 580-2965-2 Date Sampled: 06/27/2006 1039
Client Matrix: Solid % Moisture: 22.3 Date Received: 06/30/2006 0900

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C Analysis Batch: 580-8140 Instrument ID: SEA023
Preparation: 3550B Prep Batch: 580-8685 Lab File ID: HP01958.D
Dilution: 1.0 Initial Weight/Volume: 10.8685 g
Date Analyzed: 07/25/2006 0932 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		17		5.9
2-Methylnaphthalene		7.2		5.9
1-Methylnaphthalene		6.0		5.9
Acenaphthylene		ND		5.9
Acenaphthene		58		5.9
Fluorene		42		5.9
Phenanthrene		640		5.9
Anthracene		76		5.9
Fluoranthene		1000		5.9
Pyrene		870		5.9
Benzo[a]anthracene		610		5.9
Chrysene		700		5.9
Benzofluoranthene		650		12
Benzo[a]pyrene		710		5.9
Indeno[1,2,3-cd]pyrene		600		5.9
Dibenz(a,h)anthracene		160		5.9
Benzo[g,h,i]perylene		520		5.9
Bis(2-ethylhexyl) phthalate		790		24
Butyl benzyl phthalate		45		24
Diethyl phthalate		ND		12
Dimethyl phthalate		1600		12
Di-n-butyl phthalate		27		24
Di-n-octyl phthalate		74		24

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	98	38 - 141
2-Fluorobiphenyl	94	42 - 140
Terphenyl-d14	94	42 - 151

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-03

Lab Sample ID: 580-2965-3 Date Sampled: 06/27/2006 1238
Client Matrix: Solid % Moisture: 26.5 Date Received: 06/30/2006 0900

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C Analysis Batch: 580-8140 Instrument ID: SEA023
Preparation: 3550B Prep Batch: 580-8685 Lab File ID: HP01956.D
Dilution: 1.0 Initial Weight/Volume: 10.9233 g
Date Analyzed: 07/25/2006 0847 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		6.2
2-Methylnaphthalene		ND		6.2
1-Methylnaphthalene		ND		6.2
Acenaphthylene		ND		6.2
Acenaphthene		ND		6.2
Fluorene		ND		6.2
Phenanthrene		29		6.2
Anthracene		6.9		6.2
Fluoranthene		65		6.2
Pyrene		69		6.2
Benzo[a]anthracene		44		6.2
Chrysene		62		6.2
Benzofluoranthene		56		12
Benzo[a]pyrene		63		6.2
Indeno[1,2,3-cd]pyrene		65		6.2
Dibenz(a,h)anthracene		10		6.2
Benzo[g,h,i]perylene		59		6.2
Bis(2-ethylhexyl) phthalate		950		25
Butyl benzyl phthalate		ND		25
Diethyl phthalate		ND		12
Dimethyl phthalate		ND		12
Di-n-butyl phthalate		ND		25
Di-n-octyl phthalate		ND		25

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	110	38 - 141
2-Fluorobiphenyl	117	42 - 140
Terphenyl-d14	120	42 - 151

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: **PPF1182-04**

Lab Sample ID: 580-2965-4 Date Sampled: 06/27/2006 0000
Client Matrix: Solid % Moisture: 15.5 Date Received: 06/30/2006 0900

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C Analysis Batch: 580-8140 Instrument ID: SEA023
Preparation: 3550B Prep Batch: 580-8685 Lab File ID: HP01957.D
Dilution: 1.0 Initial Weight/Volume: 10.4781 g
Date Analyzed: 07/25/2006 0909 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		5.6
2-Methylnaphthalene		ND		5.6
1-Methylnaphthalene		ND		5.6
Acenaphthylene		6.7		5.6
Acenaphthene		ND		5.6
Fluorene		ND		5.6
Phenanthrene		17		5.6
Anthracene		ND		5.6
Fluoranthene		80		5.6
Pyrene		98		5.6
Benzo[a]anthracene		92		5.6
Chrysene		140		5.6
Benzofluoranthene		110		11
Benzo[a]pyrene		110		5.6
Indeno[1,2,3-cd]pyrene		100		5.6
Dibenz(a,h)anthracene		23		5.6
Benzo[g,h,i]perylene		84		5.6
Bis(2-ethylhexyl) phthalate		380		23
Butyl benzyl phthalate		ND		23
Diethyl phthalate		ND		11
Dimethyl phthalate		ND		11
Di-n-butyl phthalate		ND		23
Di-n-octyl phthalate		34		23

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	96	38 - 141
2-Fluorobiphenyl	95	42 - 140
Terphenyl-d14	96	42 - 151

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-01

Lab Sample ID: 580-2965-1 Date Sampled: 06/27/2006 0917
Client Matrix: Solid % Moisture: 13.9 Date Received: 06/30/2006 0900

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A Analysis Batch: 580-8899 Instrument ID: SEA035
Preparation: 3550B Prep Batch: 580-8618 Lab File ID: ECD20276.D
Dilution: 1.0 Initial Weight/Volume: 10.8104 g
Date Analyzed: 07/12/2006 1538 Final Weight/Volume: 10 mL
Date Prepared: 07/06/2006 0915 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		1.1
alpha-BHC		ND		1.1
beta-BHC		ND		1.1
delta-BHC		ND		1.1
gamma-BHC (Lindane)		ND		1.1
4,4'-DDD		ND		2.1
4,4'-DDE		ND		2.1
4,4'-DDT		ND		2.1
Dieldrin		ND		2.1
Endosulfan I		ND		1.1
Endosulfan II		ND		2.1
Endosulfan sulfate		ND		2.1
Endrin		ND		2.1
Endrin aldehyde		ND		2.1
Heptachlor		ND		1.1
Heptachlor epoxide		ND		1.1
Methoxychlor		ND		11
Endrin ketone		ND		2.1
Toxaphene		ND		110
alpha-Chlordane		ND		1.1
gamma-Chlordane		ND		1.1

Surrogate	%Rec		Acceptance Limits
Tetrachloro-m-xylene	47	I	49 - 123
DCB Decachlorobiphenyl	49		40 - 158

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-02

Lab Sample ID: 580-2965-2 Date Sampled: 06/27/2006 1039
Client Matrix: Solid % Moisture: 22.3 Date Received: 06/30/2006 0900

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A Analysis Batch: 580-8899 Instrument ID: SEA035
Preparation: 3550B Prep Batch: 580-8618 Lab File ID: ECD20277.D
Dilution: 1.0 Initial Weight/Volume: 10.2289 g
Date Analyzed: 07/12/2006 1557 Final Weight/Volume: 10 mL
Date Prepared: 07/06/2006 0915 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		1.3
alpha-BHC		ND		1.3
beta-BHC		ND		1.3
delta-BHC		ND		1.3
gamma-BHC (Lindane)		ND		1.3
4,4'-DDD		ND		2.5
4,4'-DDE		ND		2.5
4,4'-DDT		5.7		2.5
Dieldrin		ND		2.5
Endosulfan I		ND		1.3
Endosulfan II		ND		2.5
Endosulfan sulfate		ND		2.5
Endrin		ND		2.5
Endrin aldehyde		ND		2.5
Heptachlor		ND		1.3
Heptachlor epoxide		ND		1.3
Methoxychlor		ND		13
Endrin ketone		ND		2.5
Toxaphene		ND		130
alpha-Chlordane		ND		1.3
gamma-Chlordane		1.9	M	1.3

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	54	49 - 123
DCB Decachlorobiphenyl	50	40 - 158

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-03

Lab Sample ID: 580-2965-3 Date Sampled: 06/27/2006 1238
Client Matrix: Solid % Moisture: 26.5 Date Received: 06/30/2006 0900

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A Analysis Batch: 580-8899 Instrument ID: SEA035
Preparation: 3550B Prep Batch: 580-8618 Lab File ID: ECD20278.D
Dilution: 1.0 Initial Weight/Volume: 10.5849 g
Date Analyzed: 07/12/2006 1617 Final Weight/Volume: 10 mL
Date Prepared: 07/06/2006 0915 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		1.3
alpha-BHC		ND		1.3
beta-BHC		ND		1.3
delta-BHC		ND		1.3
gamma-BHC (Lindane)		ND		1.3
4,4'-DDD		ND		2.6
4,4'-DDE		ND		2.6
4,4'-DDT		ND		2.6
Dieldrin		ND		2.6
Endosulfan I		ND		1.3
Endosulfan II		ND		2.6
Endosulfan sulfate		ND		2.6
Endrin		ND		2.6
Endrin aldehyde		ND		2.6
Heptachlor		ND		1.3
Heptachlor epoxide		ND		1.3
Methoxychlor		ND		13
Endrin ketone		ND		2.6
Toxaphene		ND		130
alpha-Chlordane		ND		1.3
gamma-Chlordane		ND		1.3

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	123	49 - 123
DCB Decachlorobiphenyl	81	40 - 158

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-04

Lab Sample ID: 580-2965-4 Date Sampled: 06/27/2006 0000
Client Matrix: Solid % Moisture: 15.5 Date Received: 06/30/2006 0900

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A Analysis Batch: 580-8899 Instrument ID: SEA035
Preparation: 3550B Prep Batch: 580-8618 Lab File ID: ECD20279.D
Dilution: 1.0 Initial Weight/Volume: 10.5006 g
Date Analyzed: 07/12/2006 1636 Final Weight/Volume: 10 mL
Date Prepared: 07/06/2006 0915 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aldrin		ND		1.1
alpha-BHC		ND		1.1
beta-BHC		ND		1.1
delta-BHC		ND		1.1
gamma-BHC (Lindane)		ND		1.1
4,4'-DDD		ND		2.3
4,4'-DDE		ND		2.3
4,4'-DDT		ND		2.3
Dieldrin		ND		2.3
Endosulfan I		ND		1.1
Endosulfan II		ND		2.3
Endosulfan sulfate		ND		2.3
Endrin		ND		2.3
Endrin aldehyde		ND		2.3
Heptachlor		ND		1.1
Heptachlor epoxide		ND		1.1
Methoxychlor		ND		11
Endrin ketone		ND		2.3
Toxaphene		ND		110
alpha-Chlordane		ND		1.1
gamma-Chlordane		ND		1.1

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	53	49 - 123
DCB Decachlorobiphenyl	46	40 - 158

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-01

Lab Sample ID: 580-2965-1 Date Sampled: 06/27/2006 0917
Client Matrix: Solid % Moisture: 13.9 Date Received: 06/30/2006 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 Analysis Batch: 580-8967 Instrument ID: SEA034
Preparation: 3550B Prep Batch: 580-8673 Lab File ID: PCB1950.D
Dilution: 1.0 Initial Weight/Volume: 10.8121 g
Date Analyzed: 07/10/2006 1854 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1126 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	98	60 - 123
DCB Decachlorobiphenyl	88	65 - 126

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-02

Lab Sample ID: 580-2965-2 Date Sampled: 06/27/2006 1039
Client Matrix: Solid % Moisture: 22.3 Date Received: 06/30/2006 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 Analysis Batch: 580-8967 Instrument ID: SEA034
Preparation: 3550B Prep Batch: 580-8673 Lab File ID: PCB1951.D
Dilution: 1.0 Initial Weight/Volume: 10.4825 g
Date Analyzed: 07/10/2006 1917 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1126 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	101	60 - 123
DCB Decachlorobiphenyl	93	65 - 126

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-03

Lab Sample ID: 580-2965-3 Date Sampled: 06/27/2006 1238
Client Matrix: Solid % Moisture: 26.5 Date Received: 06/30/2006 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 Analysis Batch: 580-8967 Instrument ID: SEA034
Preparation: 3550B Prep Batch: 580-8673 Lab File ID: PCB1952.D
Dilution: 1.0 Initial Weight/Volume: 10.8933 g
Date Analyzed: 07/10/2006 1941 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1126 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.012
PCB-1221		ND		0.012
PCB-1232		ND		0.012
PCB-1242		ND		0.012
PCB-1248		ND		0.012
PCB-1254		ND		0.012
PCB-1260		ND		0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	101	60 - 123
DCB Decachlorobiphenyl	91	65 - 126

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Client Sample ID: PPF1182-04

Lab Sample ID: 580-2965-4 Date Sampled: 06/27/2006 0000
Client Matrix: Solid % Moisture: 15.5 Date Received: 06/30/2006 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082 Analysis Batch: 580-8967 Instrument ID: SEA034
Preparation: 3550B Prep Batch: 580-8673 Lab File ID: PCB1953.D
Dilution: 1.0 Initial Weight/Volume: 10.8224 g
Date Analyzed: 07/10/2006 2004 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1126 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
PCB-1016		ND		0.011
PCB-1221		ND		0.011
PCB-1232		ND		0.011
PCB-1242		ND		0.011
PCB-1248		ND		0.011
PCB-1254		ND		0.011
PCB-1260		ND		0.011

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	94	60 - 123
DCB Decachlorobiphenyl	90	65 - 126

General Chemistry

Client Sample ID: PPF1182-01

Lab Sample ID: 580-2965-1 Date Sampled: 06/27/2006 0917
Client Matrix: Solid Date Received: 06/30/2006 0900

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	86		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			
Percent Moisture	14		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			

Client Sample ID: PPF1182-02

Lab Sample ID: 580-2965-2 Date Sampled: 06/27/2006 1039
Client Matrix: Solid Date Received: 06/30/2006 0900

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	78		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			
Percent Moisture	22		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			

Client Sample ID: PPF1182-03

Lab Sample ID: 580-2965-3 Date Sampled: 06/27/2006 1238
Client Matrix: Solid Date Received: 06/30/2006 0900

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	73		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			
Percent Moisture	27		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

General Chemistry

Client Sample ID: PPF1182-04

Lab Sample ID: 580-2965-4 Date Sampled: 06/27/2006 0000
Client Matrix: Solid Date Received: 06/30/2006 0900

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Solids	84		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			
Percent Moisture	16		%	0.10	1.0	PercentMoisture
	Anly Batch: 580-8555	Date Analyzed	07/03/2006 0823			

DATA REPORTING QUALIFIERS

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
GC Semi VOA		
	I	Indicates the presence of an interference, recovery is not calculated.
	M	Manual integrated compound.
	X	Surrogate exceeds the control limits

QUALITY CONTROL RESULTS

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS Semi VOA				
Prep Batch: 580-8685				
LCS 580-8685/2-A	Lab Control Spike	Solid	3550B	
LCSD 580-8685/3-A	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8685/1-A	Method Blank	Solid	3550B	
580-2965-1	PPF1182-01	Solid	3550B	
580-2965-2	PPF1182-02	Solid	3550B	
580-2965-3	PPF1182-03	Solid	3550B	
580-2965-4	PPF1182-04	Solid	3550B	
Analysis Batch:580-8140				
LCS 580-8685/2-A	Lab Control Spike	Solid	8270C	580-8685
LCSD 580-8685/3-A	Lab Control Spike Duplicate	Solid	8270C	580-8685
MB 580-8685/1-A	Method Blank	Solid	8270C	580-8685
580-2965-1	PPF1182-01	Solid	8270C	580-8685
580-2965-2	PPF1182-02	Solid	8270C	580-8685
580-2965-3	PPF1182-03	Solid	8270C	580-8685
580-2965-4	PPF1182-04	Solid	8270C	580-8685

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC Semi VOA				
Prep Batch: 580-8618				
LCS 580-8618/2-A	Lab Control Spike	Solid	3550B	
LCSD 580-8618/3-A	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8618/1-A	Method Blank	Solid	3550B	
580-2965-1	PPF1182-01	Solid	3550B	
580-2965-2	PPF1182-02	Solid	3550B	
580-2965-3	PPF1182-03	Solid	3550B	
580-2965-4	PPF1182-04	Solid	3550B	
Prep Batch: 580-8673				
LCS 580-8673/2-A	Lab Control Spike	Solid	3550B	
LCSD 580-8673/3-A	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8673/1-A	Method Blank	Solid	3550B	
580-2965-1	PPF1182-01	Solid	3550B	
580-2965-2	PPF1182-02	Solid	3550B	
580-2965-3	PPF1182-03	Solid	3550B	
580-2965-4	PPF1182-04	Solid	3550B	
Analysis Batch:580-8899				
LCS 580-8618/2-A	Lab Control Spike	Solid	8081A	580-8618
LCSD 580-8618/3-A	Lab Control Spike Duplicate	Solid	8081A	580-8618
MB 580-8618/1-A	Method Blank	Solid	8081A	580-8618
580-2965-1	PPF1182-01	Solid	8081A	580-8618
580-2965-2	PPF1182-02	Solid	8081A	580-8618
580-2965-3	PPF1182-03	Solid	8081A	580-8618
580-2965-4	PPF1182-04	Solid	8081A	580-8618
Analysis Batch:580-8967				
LCS 580-8673/2-A	Lab Control Spike	Solid	8082	580-8673
LCSD 580-8673/3-A	Lab Control Spike Duplicate	Solid	8082	580-8673
MB 580-8673/1-A	Method Blank	Solid	8082	580-8673
580-2965-1	PPF1182-01	Solid	8082	580-8673
580-2965-2	PPF1182-02	Solid	8082	580-8673
580-2965-3	PPF1182-03	Solid	8082	580-8673
580-2965-4	PPF1182-04	Solid	8082	580-8673
General Chemistry				
Analysis Batch:580-8555				
580-2965-1	PPF1182-01	Solid	PercentMoisture	
580-2965-2	PPF1182-02	Solid	PercentMoisture	
580-2965-3	PPF1182-03	Solid	PercentMoisture	
580-2965-4	PPF1182-04	Solid	PercentMoisture	

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Surrogate Recovery Report

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Client Matrix: Solid

Lab Sample ID	Client Sample	(FBP) (%Rec)	(NBZ) (%Rec)	(TPH) (%Rec)
580-2965-1	PPF1182-01	89	98	83
580-2965-2	PPF1182-02	94	98	94
580-2965-3	PPF1182-03	117	110	120
580-2965-4	PPF1182-04	95	96	96
LCS 580-8685/2-A		102	106	98
LCSD 580-8685/3-A		106	109	97
MB 580-8685/1-A		99	104	99

Surrogate		Acceptance Limits
(FBP)	2-Fluorobiphenyl	42 - 140
(NBZ)	Nitrobenzene-d5	38 - 141
(TPH)	Terphenyl-d14	42 - 151

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Surrogate Recovery Report

8081A Organochlorine Pesticides by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample	(DCB 1) (%Rec)	(TCX 1) (%Rec)
580-2965-1	PPF1182-01	49	47 I
580-2965-2	PPF1182-02	50	54
580-2965-3	PPF1182-03	81	123
580-2965-4	PPF1182-04	46	53
LCS 580-8618/2-A		127	130 X
LCSD 580-8618/3-A		124	129 X
MB 580-8618/1-A		125	130 X

Surrogate		Acceptance Limits
(DCB 1)	DCB Decachlorobiphenyl	40 - 158
(TCX 1)	Tetrachloro-m-xylene	49 - 123

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample	(DCB 1) (%Rec)	(TCX 1) (%Rec)
580-2965-1	PPF1182-01	88	98
580-2965-2	PPF1182-02	93	101
580-2965-3	PPF1182-03	91	101
580-2965-4	PPF1182-04	90	94
LCS 580-8673/2-A		99	105
LCSD 580-8673/3-A		106	109
MB 580-8673/1-A		97	106

Surrogate		Acceptance Limits
(DCB 1)	DCB Decachlorobiphenyl	65 - 126
(TCX 1)	Tetrachloro-m-xylene	60 - 123

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Method Blank - Batch: 580-8685

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-8685/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1352
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01930.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	RL
Naphthalene	ND		5.0
2-Methylnaphthalene	ND		5.0
1-Methylnaphthalene	ND		5.0
Acenaphthylene	ND		5.0
Acenaphthene	ND		5.0
Fluorene	ND		5.0
Phenanthrene	ND		5.0
Anthracene	ND		5.0
Fluoranthene	ND		5.0
Pyrene	ND		5.0
Benzo[a]anthracene	ND		5.0
Chrysene	ND		5.0
Benzofluoranthene	ND		10
Benzo[a]pyrene	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		5.0
Dibenz(a,h)anthracene	ND		5.0
Benzo[g,h,i]perylene	ND		5.0
Bis(2-ethylhexyl) phthalate	35		20
Butyl benzyl phthalate	ND		20
Diethyl phthalate	ND		10
Dimethyl phthalate	ND		10
Di-n-butyl phthalate	ND		20
Di-n-octyl phthalate	ND		20

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	104	38 - 141
2-Fluorobiphenyl	99	42 - 140
Terphenyl-d14	99	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8685

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8685/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1415
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01931.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-8685/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1438
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01932.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	103	112	54 - 131	9	26		
2-Methylnaphthalene	118	129	51 - 138	9	27		
1-Methylnaphthalene	117	126	50 - 150	8	30		
Acenaphthylene	107	117	52 - 130	9	28		
Acenaphthene	102	112	50 - 144	9	27		
Fluorene	109	121	50 - 134	11	31		
Phenanthrene	101	110	55 - 133	8	28		
Anthracene	107	113	52 - 135	6	27		
Fluoranthene	98	106	54 - 135	7	36		
Pyrene	101	109	47 - 152	8	31		
Benzo[a]anthracene	117	125	55 - 135	7	27		
Chrysene	90	96	59 - 133	7	26		
Benzofluoranthene	53	55	43 - 154	5	31		
Benzo[a]pyrene	107	113	54 - 138	6	30		
Indeno[1,2,3-cd]pyrene	105	117	45 - 153	11	29		
Dibenz(a,h)anthracene	108	122	50 - 150	12	30		
Benzo[g,h,i]perylene	97	112	54 - 142	14	28		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Nitrobenzene-d5	106	109	38 - 141
2-Fluorobiphenyl	102	106	42 - 140
Terphenyl-d14	98	97	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Method Blank - Batch: 580-8618

Method: 8081A
Preparation: 3550B

Lab Sample ID: MB 580-8618/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/12/2006 1439
Date Prepared: 07/06/2006 0915

Analysis Batch: 580-8899
Prep Batch: 580-8618
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20273.D
Initial Weight/Volume: 10.0 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aldrin	ND		1.0
alpha-BHC	ND		1.0
beta-BHC	ND		1.0
delta-BHC	ND		1.0
gamma-BHC (Lindane)	ND		1.0
4,4'-DDD	ND		2.0
4,4'-DDE	ND		2.0
4,4'-DDT	ND		2.0
Dieldrin	ND		2.0
Endosulfan I	ND		1.0
Endosulfan II	ND		2.0
Endosulfan sulfate	ND		2.0
Endrin	ND		2.0
Endrin aldehyde	ND		2.0
Heptachlor	ND		1.0
Heptachlor epoxide	ND		1.0
Methoxychlor	ND		10
Endrin ketone	ND		2.0
Toxaphene	ND		100
alpha-Chlordane	ND		1.0
gamma-Chlordane	ND		1.0

Surrogate	% Rec		Acceptance Limits
Tetrachloro-m-xylene	130	X	49 - 123
DCB Decachlorobiphenyl	125		40 - 158

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8618

Method: 8081A
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8618/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/12/2006 1459
Date Prepared: 07/06/2006 0915

Analysis Batch: 580-8899
Prep Batch: 580-8618
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20274.D
Initial Weight/Volume: 10.0 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-8618/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/12/2006 1518
Date Prepared: 07/06/2006 0915

Analysis Batch: 580-8899
Prep Batch: 580-8618
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20275.D
Initial Weight/Volume: 10.0 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aldrin	96	98	53 - 126	2	24		
alpha-BHC	77	78	41 - 128	1	28		
beta-BHC	92	94	48 - 121	3	32		
delta-BHC	85	88	22 - 153	4	36		
gamma-BHC (Lindane)	84	86	50 - 127	2	29		
4,4'-DDD	81	85	44 - 141	4	41		
4,4'-DDE	79	82	47 - 140	3	40		
4,4'-DDT	74	75	34 - 159	1	47		
Dieldrin	81	83	53 - 134	2	32		
Endosulfan I	80	82	52 - 122	2	31		
Endosulfan II	96	99	53 - 132	3	36		
Endosulfan sulfate	82	84	42 - 128	2	43		
Endrin	83	91	46 - 138	10	36		
Endrin aldehyde	93	96	12 - 179	3	47		
Heptachlor	103	107	50 - 130	4	31		
Heptachlor epoxide	84	86	49 - 123	2	31		
Methoxychlor	92	93	46 - 154	1	46		
Endrin ketone	88	89	45 - 127	1	45		
alpha-Chlordane	80	81	46 - 118	2	33		
gamma-Chlordane	83	85	49 - 122	2	32		

Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits
Tetrachloro-m-xylene	130	X	129	X	49 - 123
DCB Decachlorobiphenyl	127		124		40 - 158

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Method Blank - Batch: 580-8673

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-8673/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1434
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1939.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
PCB-1016	ND		0.010
PCB-1221	ND		0.010
PCB-1232	ND		0.010
PCB-1242	ND		0.010
PCB-1248	ND		0.010
PCB-1254	ND		0.010
PCB-1260	ND		0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	106	60 - 123
DCB Decachlorobiphenyl	97	65 - 126

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8673

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8673/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1457
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1940.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-8673/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1521
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1941.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1260	99	107	65 - 132	8	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	105	109	60 - 123
DCB Decachlorobiphenyl	99	106	65 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

#2965

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PPF1182

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :253-922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPF1182-01	**Soil**	**Sampled:06/27/06 09:17**		
8270 SIM PAH	07/12/06 23:59	07/11/06 09:17		Low Level
8081A/8082 Pest/PCB	07/12/06 23:59	07/11/06 09:17		Low Level
Containers Supplied:				
4 oz. jar (C)	4 oz. jar (D)			
Sample ID: PPF1182-02	**Soil**	**Sampled:06/27/06 10:39**		
8270 SIM PAH	07/12/06 23:59	07/11/06 10:39		Low Level
8081A/8082 Pest/PCB	07/12/06 23:59	07/11/06 10:39		Low Level
Containers Supplied:				
4 oz. jar (C)	4 oz. jar (D)			
Sample ID: PPF1182-03	**Soil**	**Sampled:06/27/06 12:38**		
8270 SIM PAH	07/12/06 23:59	07/11/06 12:38		Low Level
8081A/8082 Pest/PCB	07/12/06 23:59	07/11/06 12:38		Low Level
Containers Supplied:				
4 oz. jar (C)	4 oz. jar (D)			
Sample ID: PPF1182-04	**Soil**	**Sampled:06/27/06 00:00**		
8270 SIM PAH	07/12/06 23:59	07/11/06 00:00		Low Level
8081A/8082 Pest/PCB	07/12/06 23:59	07/11/06 00:00		Low Level
Containers Supplied:				
4 oz. jar (C)	4 oz. jar (D)			

Released By	Date	Received By	Date
[signature]	6/28/06	[signature]	6/30/06 0900
Released By	Date	Received By	Date

TestAmerica
ANALYTICAL TESTING CORPORATION

7.4°C

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 ✓
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPF1182

CLIENT: City of Portland
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Inline Samp
SAMPLED BY:

INVOICE TO: Charles Lytle
P.O. NUMBER: 36238

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] STD. 7 5 4 3 2 1 <1
Petroleum Hydrocarbon Analyses: 5 STD. 4 3 2 1 <1
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE / REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Pest/PCBs EPA 8081-LOW LEVEL (*)	PAH 8270-SIM LOW-LEVEL (*)	TOC	Grain Size									MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1	FO 060746	6/27/06 0917	X	X	X	X									S	5		
2	FO 060747	↓ 1039	X	X	X	X									S	5		
3	FO 060748	↓ 1238	X	X	X	X									S	5		
4	FO 060749	↓ —	X	X	X	X									S	5		
5																		
6																		
7																		
8																		
9																		
10																		

RELEASED BY: [signature] DATE: 6/28/06
PRINT NAME: Rona Klueh FIRM: City of Portland TIME: 1430
RECEIVED BY: [signature] DATE: 6/28/06
PRINT NAME: Bob F FIRM: TAP TIME: 14:30

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:
RECEIVED BY: DATE: lab
PRINT NAME: FIRM: TIME: 15:55

ADDITIONAL REMARKS: (*) Send Low-Level Pesticides/PCBs and LOW-Level PAH to STL.

TEMP: 1.7 PAGE 1 OF 1

COC REV 09/2004

Called Test Amer. @ 0850 ... 6/29 RAK.

LOGIN SAMPLE RECEIPT CHECK LIST

Client: TestAmerica Analytical Testing Corp. Job Number: 580-2965-1

Login Number: 2965

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	temp above 6.0 c
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

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

City of Portland Chain-of-Custody

Bureau of Environmental Services

Date: 6/30/06
Page: 1 of 1
Collected By: MJH

Project Name: PORTLAND HARBOR INLINE SAMP
File Number: 1020.001 Matrix: OTHER

OUTFALL 22

*STL will perform Pesticide /PCB and PAH analysis
STL - Please send invoice to Howard Holmes at Northcreek and lab reports to Renee Chauvin or Jennifer Shackleford

Change SIC's / no "5" per PHA 7/14 CG

Requested Analyses

WPCL Sample I.D.	Location	Point Code	Sample Date	Sample Time	Sample Type	General: Pesticides/PCBs*	General: PAH*	General: Total Organic Carbon	Metals: Total Metals (Cd, Cu, Zn)	Field Comments
FC 060767	IL-22-AAM078-0606-S upstream of node	1a 22_A	27-Jun-06	0917	G	●	●	●	●	FC 060767 ⇒ FC 060746 (22-1) 0768 — 0747 (22-2) 0769 — 0748 (22-3) sieved / not sieved
FC 060768	IL-22-AAM080-0606-S upstream of node	2a 22_B	27-Jun-06	1039	G	●	●	●	●	NOTE: THESE SAMPLES WERE CREATED FROM THE UN-SUBMITTED PORTION OF MAT SEDIMENTS COLLECTED
FC 060769	IL-22-AAP844-0606-S upstream of trash rack	3a 22_B	27-Jun-06	1238	G	●	●	●	●	FROM BASIN 22 ON 6-27-06. FOR EACH OF THESE SAMPLES, THE SEDIMENTS WERE SIEVED USING A 500-MICRON STAINLESS STEEL SIEVE.
6										THESE SAMPLES ARE COMPRISED OF THE MATERIAL THAT PASSED
5										THROUGH THE SIEVE. -MJH
7										NOTE: Samples were sieved by adding
8										1-1½L DI water. The water was
9										discarded.
10										

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.	Relinquished By: 4.
Signature: [signature] Time: 1449	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: MICHAEL HAUSER Date: 6-30-06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Received By: 1.	**Received By:** 2.	**Received By:** 3.	**Received By:** 4.
Signature: [signature] Time: 1449	Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Rona Kluch Date: 6/30/06	Printed Name: Date:	Printed Name: Date:	Printed Name: Date:

s:\eid\1000\1020.001\Sampdoc\Portland Harbor Water COC - OF 22a.xls

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060767** **Sample Collected:** 6/27/2006 09:17 **Sample Received:** 06/30/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM078-0606 RINSED/SIEVED SED UPSTREAM OF NODE
Sample Point Code: 22_1a
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05744
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample.
NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.67	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	385	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	390	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	4070	mg/Kg dry wt	50	EPA 9060 MOD	07/10/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	EST 0.48	µg/Kg dry wt	2.4	EPA 8081	07/07/06
4,4'-DDE	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
4,4'-DDT	EST 2.2	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Aldrin	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Alpha-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Alpha-Chlordane	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Beta-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Delta-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Dieldrin	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endosulfan I	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Endosulfan II	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endosulfan Sulfate	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin Aldehyde	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin ketone	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Gamma-BHC(Lindane)	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Gamma-Chlordane	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Heptachlor	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Heptachlor Epoxide	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Methoxychlor	<12	µg/Kg dry wt	12	EPA 8081	07/07/06
Toxaphene	<120	µg/Kg dry wt	120	EPA 8081	07/07/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1221	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1232	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1242	<12	µg/Kg dry wt	12	EPA 8082	07/07/06

Report Date: 09/06/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060767** **Sample Collected:** 6/27/2006 09:17 **Sample Received:** 06/30/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM078-0606 RINSED/SIEVED SED UPSTREAM OF NODE
Sample Point Code: 22_1a
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05744
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample. NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1248	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1254	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1260	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	EST 3.8	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	EST 3.5	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Acenaphthene	EST 2.7	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Acenaphthylene	EST 3.4	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Anthracene	EST 5.6	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	58	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	69	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	61	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Benzofluoranthenes	70	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	860	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	150	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Chrysene	73	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	15	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Diethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Dimethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	EST 6.4	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	EST 54	µg/Kg dry wt	24	EPA 8270-SIM	07/07/06
Fluoranthene	79	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Fluorene	EST 3.4	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	63	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Naphthalene	EST 3.9	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Phenanthrene	34	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06
Pyrene	96	µg/Kg dry wt	6.1	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060767

Report Date: 09/06/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060768** **Sample Collected:** 6/27/2006 10:39 **Sample Received:** 06/30/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM080-0606 RINSED/SIEVED SED UPSTREAM OF NODE
Sample Point Code: 22_2a
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05745
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample.
NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.46	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	49.5	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	320	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	7490	mg/Kg dry wt	50	EPA 9060 MOD	07/10/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
4,4'-DDE	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
4,4'-DDT	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Aldrin	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Alpha-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Alpha-Chlordane	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Beta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Delta-BHC	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Dieldrin	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Endosulfan I	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Endosulfan II	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Endosulfan Sulfate	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Endrin	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Endrin Aldehyde	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Endrin ketone	<2.6	µg/Kg dry wt	2.6	EPA 8081	07/07/06
Gamma-BHC(Lindane)	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Gamma-Chlordane	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Heptachlor	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Heptachlor Epoxide	<1.3	µg/Kg dry wt	1.3	EPA 8081	07/07/06
Methoxychlor	<13	µg/Kg dry wt	13	EPA 8081	07/07/06
Toxaphene	<130	µg/Kg dry wt	130	EPA 8081	07/07/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<13	µg/Kg dry wt	13	EPA 8082	07/07/06
Aroclor 1221	<13	µg/Kg dry wt	13	EPA 8082	07/07/06
Aroclor 1232	<13	µg/Kg dry wt	13	EPA 8082	07/07/06
Aroclor 1242	<13	µg/Kg dry wt	13	EPA 8082	07/07/06

Report Date: 09/06/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060768** **Sample Collected:** 6/27/2006 10:39 **Sample Received:** 06/30/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAM080-0606 RINSED/SIEVED SED UPSTREAM OF NODE
Sample Point Code: 22_2a
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05745
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample. NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1248	<13	µg/Kg dry wt	13	EPA 8082	07/07/06
Aroclor 1254	<13	µg/Kg dry wt	13	EPA 8082	07/07/06
Aroclor 1260	EST 3.9	µg/Kg dry wt	13	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	EST 2.3	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	EST 2.0	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Acenaphthene	EST 3.7	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Acenaphthylene	EST 3.1	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Anthracene	7.8	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	61	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	73	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	60	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Benzofluoranthenes	62	µg/Kg dry wt	14	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	370	µg/Kg dry wt	28	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	EST 13	µg/Kg dry wt	28	EPA 8270-SIM	07/07/06
Chrysene	61	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	13	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Diethyl phthalate	<14	µg/Kg dry wt	14	EPA 8270-SIM	07/07/06
Dimethyl phthalate	EST 2.0	µg/Kg dry wt	14	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	<28	µg/Kg dry wt	28	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	EST 24	µg/Kg dry wt	28	EPA 8270-SIM	07/07/06
Fluoranthene	86	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Fluorene	EST 3.3	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	63	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Naphthalene	7.9	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Phenanthrene	37	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06
Pyrene	99	µg/Kg dry wt	6.9	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060768

Report Date: 09/06/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060769** **Sample Collected:** 6/27/2006 12:38 **Sample Received:** 06/30/06 **Sample Status:** COMPLETE AND VALIDATED

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAP844-0606 RINSED/SIEVED SED UPSTREAM OF TRASH RACK
Sample Point Code: 22_3a
Sample Type: GRAB
Sample Matrix: SEDIMENT

Report Page: Page 1 of 2
System ID: AK05746
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample.
NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
METALS					
CADMIUM	0.14	mg/Kg dry wt	0.10	EPA 6020	07/05/06
COPPER	27.6	mg/Kg dry wt	0.25	EPA 6020	07/05/06
ZINC	62.5	mg/Kg dry wt	0.50	EPA 6020	07/05/06
OUTSIDE ANALYSIS					
TOTAL ORGANIC CARBON	16000	mg/Kg dry wt	50	EPA 9060 MOD	07/10/06
PESTICIDES BY EPA 8081 - STL					
4,4'-DDD	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
4,4'-DDE	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
4,4'-DDT	2.9	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Aldrin	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Alpha-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Alpha-Chlordane	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Beta-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Delta-BHC	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Dieldrin	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endosulfan I	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Endosulfan II	EST 1.3	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endosulfan Sulfate	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin Aldehyde	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Endrin ketone	<2.4	µg/Kg dry wt	2.4	EPA 8081	07/07/06
Gamma-BHC(Lindane)	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Gamma-Chlordane	1.3	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Heptachlor	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Heptachlor Epoxide	<1.2	µg/Kg dry wt	1.2	EPA 8081	07/07/06
Methoxychlor	<12	µg/Kg dry wt	12	EPA 8081	07/07/06
Toxaphene	<120	µg/Kg dry wt	120	EPA 8081	07/07/06
POLYCHLORINATED BIPHENYLS (PCBs) - STL					
Aroclor 1016	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1221	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1232	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1242	<12	µg/Kg dry wt	12	EPA 8082	07/07/06

Report Date: 09/06/06 **Validated By: Signature on File**

City of Portland
Water Pollution Control Laboratory
6543 N. Burlington Ave. / Portland OR 97203 (503) 823-5600 fax (503) 823-5656

LABORATORY ANALYSIS REPORT

Sample ID: **FO060769** **Sample Collected:** 6/27/2006 12:38 **Sample Received:** 06/30/06 **Sample Status:** **COMPLETE AND VALIDATED**

Proj./Company Name: PORTLAND HARBOR INLINE SAMP
Address/Location: IL-22-AAP844-0606 RINSED/SIEVED SED UPSTREAM OF TRASH RACK
Sample Point Code: 22_3a
Sample Type: GRAB
Sample Matrix: SEDIMENT

System ID: AK05746
EID File # : 1020.001
LocCode: PORTHARI
Collected By: MJH

Comments:
QA/QC: Except as follows, all analytical QA/QC criteria were met for this sample including holding times, calibration, method blanks, laboratory control sample recoveries, duplicate precision, matrix spike recoveries, and surrogate recoveries, as applicable. Di-n-octylphthalate was detected in the method blank at more than 1/10th the amount in the samples. Two other semi-volatile analytes were also detected in the blank but at insignificant levels compared to concentrations in the sample.
NOTE: Other results flagged as EST are above the MDL but less than the MRL.

Test Parameter	Result	Units	MRL	Method	Analysis Date
Aroclor 1248	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1254	12	µg/Kg dry wt	12	EPA 8082	07/07/06
Aroclor 1260	<12	µg/Kg dry wt	12	EPA 8082	07/07/06
SEMI-VOLATILE ORGANICS, CUSTOM - STL					
1-Methylnaphthalene	EST 4.9	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
2-Methylnaphthalene	7.5	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Acenaphthene	14	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Acenaphthylene	EST 5.7	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Anthracene	24	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(a)anthracene	250	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(a)pyrene	300	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzo(g,h,i)perylene	260	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Benzofluoranthenes	320	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Bis(2-ethylhexyl) phthalate	980	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Butylbenzylphthalate	350	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Chrysene	300	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Dibenzo(a,h)anthracene	71	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Diethyl phthalate	<12	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Dimethyl phthalate	EST 4.1	µg/Kg dry wt	12	EPA 8270-SIM	07/07/06
Di-n-butyl phthalate	EST 4.0	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Di-n-octyl phthalate	EST 130	µg/Kg dry wt	23	EPA 8270-SIM	07/07/06
Fluoranthene	400	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Fluorene	17	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Indeno(1,2,3-cd)pyrene	310	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Naphthalene	10	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Phenanthrene	200	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06
Pyrene	390	µg/Kg dry wt	5.8	EPA 8270-SIM	07/07/06

End of Report for Sample ID: FO060769

Report Date: 09/06/06 **Validated By: Signature on File**

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

September 01, 2006

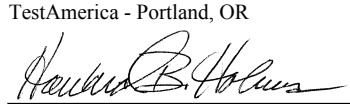
Jennifer Shackelford
City of Portland Water Pollution Laboratory
6543 N. Burlington Ave.
Portland, OR 97203

RE: Portland Harbor

Enclosed are the results of analyses for samples received by the laboratory on 07/03/06 11:15. The following list is a summary of the Work Orders contained in this report, generated on 08/31/06 20:00.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPG0024	Portland Harbor	36238



Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/31/06 20:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
F0060767	PPG0024-01	Soil	06/27/06 09:17	07/03/06 11:15
F0060768	PPG0024-02	Soil	06/27/06 10:39	07/03/06 11:15
F0060769	PPG0024-03	Soil	06/27/06 12:38	07/03/06 11:15

TestAmerica - Portland, OR

Howard Holmes, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	08/31/06 20:00

Conventional Chemistry Parameters by APHA/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPG0024-01 (F0060767)		**Soil**					**Sampled: 06/27/06 09:17**			
Total Organic Carbon	EPA 9060 mod.	**4070**	-----	689	mg/kg dry	1x	6G18030	07/10/06 12:48	07/17/06 12:51	
PPG0024-02 (F0060768)		**Soil**					**Sampled: 06/27/06 10:39**			
Total Organic Carbon	EPA 9060 mod.	**7490**	-----	923	mg/kg dry	1x	6G18030	07/10/06 12:48	07/17/06 13:21	
PPG0024-03 (F0060769)		**Soil**					**Sampled: 06/27/06 12:38**			
Total Organic Carbon	EPA 9060 mod.	**16000**	-----	813	mg/kg dry	1x	6G18030	07/10/06 12:48	07/17/06 13:36	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name: **Portland Harbor**	
6543 N. Burlington Ave.	Project Number: 36238	Report Created:
Portland, OR 97203	Project Manager: Jennifer Shackelford	08/31/06 20:00

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPG0024-01	**(F0060767)**		**Soil**				**Sampled: 06/27/06 09:17**				
Dry Weight		BSOPSPL003R08	**72.6**	-----	1.00	%	1x	6G11058	07/11/06 14:48	07/12/06 00:00	
PPG0024-02	**(F0060768)**		**Soil**				**Sampled: 06/27/06 10:39**				
Dry Weight		BSOPSPL003R08	**54.2**	-----	1.00	%	1x	6G11058	07/11/06 14:48	07/12/06 00:00	
PPG0024-03	**(F0060769)**		**Soil**				**Sampled: 06/27/06 12:38**				
Dry Weight		BSOPSPL003R08	**61.5**	-----	1.00	%	1x	6G11058	07/11/06 14:48	07/12/06 00:00	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/31/06 20:00

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6G18030 **Soil Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6G18030-BLK1)								**Extracted: 07/17/06 10:59**						
Total Organic Carbon	EPA 9060 mod.	ND	---	500	mg/kg wet	1x	--	--	--	--	--	--	07/17/06 10:59	
LCS (6G18030-BS1)								**Extracted: 07/07/06 12:48**						
Total Organic Carbon	EPA 9060 mod.	28200	---	500	mg/kg wet	1x	--	29900	94.3%	(72-130)	--	--	07/17/06 11:08	
Duplicate (6G18030-DUP1)							**QC Source: BPG0096-21**		**Extracted: 07/10/06 12:48**					
Total Organic Carbon	EPA 9060 mod.	22300	---	611	mg/kg dry	1x	21700	--	--	--	2.73%	(35)	07/17/06 12:20	
Duplicate (6G18030-DUP2)							**QC Source: PPG0024-01**		**Extracted: 07/10/06 12:48**					
Total Organic Carbon	EPA 9060 mod.	4120	---	689	mg/kg dry	1x	4070	--	--	--	1.22%	(35)	07/17/06 13:12	
Duplicate (6G18030-DUP3)							**QC Source: BPG0281-02**		**Extracted: 07/13/06 12:48**					
Total Organic Carbon	EPA 9060 mod.	986	---	715	mg/kg dry	1x	1770	--	--	--	56.9%	(35)	07/17/06 15:17	Q-14
Matrix Spike (6G18030-MS1)							**QC Source: BPG0096-21**		**Extracted: 07/10/06 12:48**					
Total Organic Carbon	EPA 9060 mod.	60400	---	611	mg/kg dry	1x	21700	18800	206%	(40-160)	--	--	07/17/06 12:23	Q-14

TestAmerica - Portland, OR

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/31/06 20:00

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 6G11058 **Soil Preparation Method: Dry Weight**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6G11058-BLK1)							**Extracted: 07/11/06 14:48**							
Dry Weight	BSOPSPL003R08	100	---	1.00	%	1x	--	--	--	--	--	--	07/12/06 00:00	

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

City of Portland Water Pollution Laboratory	Project Name:	**Portland Harbor**	
6543 N. Burlington Ave.	Project Number:	36238	Report Created:
Portland, OR 97203	Project Manager:	Jennifer Shackelford	08/31/06 20:00

Notes and Definitions

Report Specific Notes:

Q-14 - Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.

Laboratory Reporting Conventions:

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA - Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Howard Holmes, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W. International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPG0334

CLIENT: City of Portland
INVOICE TO: Charles Lytle
REPORT TO: Jennifer Shackelford
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 36238
PROJECT NAME: Portland Harbor
PROJECT NUMBER: Inline Samp
SAMPLED BY:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] STD [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5] STD [4] [3] [2] [1] [<1]
[OTHER] Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Pest/PCBs EPA 8081 - Low Level (*)	PAH 8270-SIM - Low Level (*)	TOC	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	LA WO ID
1	F0060767	6/27/06 0917	X	X	X	S	3	(*)	
2	F0060768	1039	X	X	X	S	3	(*)	
3	F0060769	1238	X	X	X	S	3	(*)	
4									
5									
6									
7									
8									
9									
10									

PRESERVATIVE
REQUESTED ANALYSES

RELEASED BY:		DATE: 7/3/06	RECEIVED BY:		DATE:
PRINT NAME: Daniel K. VanMeter	FIRM: City of Portland	TIME: 0948	PRINT NAME:	FIRM:	TIME: 7-3-06
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME: 9:48

ADDITIONAL REMARKS: (*) Send Low-level Pest/PCBs and Low-level PAH to STL.
TEMP:
COC REV 05 2006
PAGE 1 OF 1

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

38

Non-Conformances?
Circle Y or N
(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)
Date: 7-3-06
Time: 1415
Initials:

Logged-in By:
Date: 7/3
Initials: SM

Unpacked/Labeled By:
Date: 7/3
Initials: SM

Cooler ID: ____ (___ of ___)

Work Order No: PPG0024
Client: COP
Project: Portland Harbor

Container Type:
1 Cooler
___ Box
___ None/Other ____

COC Seals:
___ Ship. Container ____ Sign By
___ On Bottles ____ Date
1 None
taped shut

Packing Material
6 Bubble Bags ___ Styrofoam
___ Foam Packs
___ None/Other Other ____

Refrigerant:
Gel Ice Pack ____
___ Loose Ice
None/Other Blue
___ None

Received Via: Bill#
___ Fed Ex ___ Client
___ UPS ___ NCA Courier
___ DHL ___ Mid Valley
Senvoy ___ TDP
___ GS ___ Other ____

Cooler Temperature (*IR*): 3.8 °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)
(circle one)

Temperature Blank? ____ °C or NA

Trip Blank? Y or N or NA

Sample Containers:		ID			ID
Intact?	Y or N	____	Metals Preserved?	Y or N or NA	____
Provided by NCA?	Y or N	____	Client QAPP Preserved?	Y or N or NA	____
Correct Type?	Y or N	____	Adequate Volume? (for tests requested)	Y or N	____
#Containers match COC?	Y or N	____	Water VOAs: Headspace?	Y or N or NA	____
IDs/time/date match COC?	Y or N	____	Comments:		
Hold Times in hold?	Y or N	____			

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems ____

Total access set up? Y or N
Has client been contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

PM Initials: ____ Date: ____ Time: ____

(rev 3, 09/12/05)

ANALYTICAL REPORT

Job Number: 580-2989-1

Job Description: Portland Harbor Inline Samp

For:
City of Portland BES
6543 N. Burlington Ave
Portland, OR 97203

Attention: Peter Abrams

Tom Coyner
Project Manager I
tcoyner@stl-inc.com
07/19/2006

Project Manager: Tom Coyner

STL Seattle is a part of Severn Trent Laboratories, Inc.

Case Narrative for: 580-2989

CHLORINATED PESTICIDES

Samples 580-2989-1 through 580-2989-3 were analyzed for chlorinated pesticides in accordance with EPA SW-846 Method 8081A. The samples were prepared on 07/07/2006 and analyzed on 07/13/2006, which was within the method required holding time. No difficulties were encountered during the chlorinated pesticides analyses.

POLYCHLORINATED BIPHENYLS (PCB'S)

Samples 580-2989-1 through 580-2989-3 were analyzed for polychlorinated biphenyls (PCB's) in accordance with EPA SW-846 Method 8082. The samples were prepared on 07/07/2006 and analyzed on 07/10/2006, which was within the method required holding time. No difficulties were encountered during the PCB analyses.

SEMIVOLATILE ORGANICS

Samples 580-2989-1 through 580-2989-3 were analyzed for semivolatile organics in accordance with EPA SW-846 Method 8270C. The samples were prepared on 07/07/2006 and analyzed on 07/14/2006, which was within the method required holding time. Bis(2-ethylhexyl) phthalate was detected in method blank MB 580-8685/1-A at a level exceeding the reporting limit. The associated sample results have been flagged "B".

Di-n-octyl phthalate and Pyrene were detected in method blank MB 580-8685/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". The associated sample results have been flagged "B".

PERCENT SOLIDS

Samples 580-2989-1 through 580-2989-3 were analyzed for percent solids in accordance with EPA Method 160.3 Modified. The samples were analyzed on 07/07/2006, which was within the required method holding time. No difficulties were encountered during the percent solids analyses.

METHOD SUMMARY

Client: City of Portland BES Job Number: 580-2989-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)	STL-SEA	SW846 8270C	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Organochlorine Pesticides by Gas Chromatography	STL-SEA	SW846 8081A	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	STL-SEA	SW846 8082	
Ultrasonic Extraction (Low Level)	STL-SEA		SW846 3550B
Percent Moisture	STL-SEA	EPA PercentMoisture	

LAB REFERENCES:

STL-SEA = STL-Seattle

METHOD REFERENCES:

EPA - US Environmental Protection Agency

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: City of Portland BES

Job Number: 580-2989-1

Method	Analyst	Analyst ID
SW846 8270C	Frans, Ben	BF
SW846 8081A	Loague, Steve	SL
SW846 8082	Marfiak, Steve T	STM
EPA PercentMoisture	Durrant, Stephanie	SD

SAMPLE SUMMARY

Client: City of Portland BES

Job Number: 580-2989-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-2989-1	PPG0024-01	Solid	06/27/2006 0917	07/06/2006 0815
580-2989-2	PPG0024-02	Solid	06/27/2006 1039	07/06/2006 0815
580-2989-3	PPG0024-03	Solid	06/27/2006 1238	07/06/2006 0815

SAMPLE RESULTS

Client: City of Portland BES | Job Number: 580-2989-1

Client Sample ID: **PPG0024-01**

Lab Sample ID: 580-2989-1 | Date Sampled: 06/27/2006 0917
Client Matrix: Solid | % Moisture: 19.4 | Date Received: 07/06/2006 0815

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-8140 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-8685 | Lab File ID: HP01933.D
Dilution: 1.0 | Initial Weight/Volume: 10.1765 g
Date Analyzed: 07/14/2006 1501 | Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Naphthalene		3.9	J	0.66	6.1
2-Methylnaphthalene		3.5	J	0.72	6.1
1-Methylnaphthalene		3.8	J	0.89	6.1
Acenaphthylene		3.4	J	0.69	6.1
Acenaphthene		2.7	J	0.68	6.1
Fluorene		3.4	J	0.71	6.1
Phenanthrene		34		0.85	6.1
Anthracene		5.6	J	0.60	6.1
Fluoranthene		79		0.57	6.1
Pyrene		96	B	0.59	6.1
Benzo[a]anthracene		58		0.91	6.1
Chrysene		73		0.66	6.1
Benzofluoranthene		70		1.5	12
Benzo[a]pyrene		69		0.63	6.1
Indeno[1,2,3-cd]pyrene		63		1.7	6.1
Dibenz(a,h)anthracene		15		1.7	6.1
Benzo[g,h,i]perylene		61		2.0	6.1
Bis(2-ethylhexyl) phthalate		860	B	3.5	24
Butyl benzyl phthalate		150		7.9	24
Diethyl phthalate		ND		12	12
Dimethyl phthalate		ND		1.4	12
Di-n-butyl phthalate		6.4	J	2.3	24
Di-n-octyl phthalate		54	B	1.3	24

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	88	42 - 140
Nitrobenzene-d5	91	38 - 141
Terphenyl-d14	75	42 - 151

Client: City of Portland BES | Job Number: 580-2989-1

Client Sample ID: **PPG0024-02**

Lab Sample ID: 580-2989-2 | Date Sampled: 06/27/2006 1039
Client Matrix: Solid | % Moisture: 28.2 | Date Received: 07/06/2006 0815

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-8140 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-8685 | Lab File ID: HP01936.D
Dilution: 1.0 | Initial Weight/Volume: 10.0914 g
Date Analyzed: 07/14/2006 1610 | Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Naphthalene		7.9		0.75	6.9
2-Methylnaphthalene		2.0	J	0.82	6.9
1-Methylnaphthalene		2.3	J	1.0	6.9
Acenaphthylene		3.1	J	0.78	6.9
Acenaphthene		3.7	J	0.77	6.9
Fluorene		3.3	J	0.81	6.9
Phenanthrene		37		0.97	6.9
Anthracene		7.8		0.68	6.9
Fluoranthene		86		0.64	6.9
Pyrene		99	B	0.67	6.9
Benzo[a]anthracene		61		1.0	6.9
Chrysene		61		0.74	6.9
Benzofluoranthene		62		1.8	14
Benzo[a]pyrene		73		0.71	6.9
Indeno[1,2,3-cd]pyrene		63		2.0	6.9
Dibenz(a,h)anthracene		13		1.9	6.9
Benzo[g,h,i]perylene		60		2.2	6.9
Bis(2-ethylhexyl) phthalate		370	B	4.0	28
Butyl benzyl phthalate		13	J	8.9	28
Diethyl phthalate		ND		14	14
Dimethyl phthalate		2.0	J	1.6	14
Di-n-butyl phthalate		ND		2.6	28
Di-n-octyl phthalate		24	J B	1.5	28

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	93	42 - 140
Nitrobenzene-d5	103	38 - 141
Terphenyl-d14	98	42 - 151

Client: City of Portland BES | Job Number: 580-2989-1

Client Sample ID: **PPG0024-03**

Lab Sample ID: 580-2989-3 | Date Sampled: 06/27/2006 1238
Client Matrix: Solid | % Moisture: 22.2 | Date Received: 07/06/2006 0815

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Method: 8270C | Analysis Batch: 580-8140 | Instrument ID: SEA023
Preparation: 3550B | Prep Batch: 580-8685 | Lab File ID: HP01937.D
Dilution: 1.0 | Initial Weight/Volume: 10.9910 g
Date Analyzed: 07/14/2006 1633 | Final Weight/Volume: 10 mL
Date Prepared: 07/07/2006 1341 | Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Naphthalene		10		0.64	5.8
2-Methylnaphthalene		7.5		0.69	5.8
1-Methylnaphthalene		4.9	J	0.85	5.8
Acenaphthylene		5.7	J	0.66	5.8
Acenaphthene		14		0.65	5.8
Fluorene		17		0.68	5.8
Phenanthrene		200		0.82	5.8
Anthracene		24		0.57	5.8
Fluoranthene		400		0.54	5.8
Pyrene		390	B	0.57	5.8
Benzo[a]anthracene		250		0.87	5.8
Chrysene		300		0.63	5.8
Benzofluoranthene		320		1.5	12
Benzo[a]pyrene		300		0.60	5.8
Indeno[1,2,3-cd]pyrene		310		1.7	5.8
Dibenz(a,h)anthracene		71		1.6	5.8
Benzo[g,h,i]perylene		260		1.9	5.8
Bis(2-ethylhexyl) phthalate		980	B	3.4	23
Butyl benzyl phthalate		350		7.6	23
Diethyl phthalate		ND		12	12
Dimethyl phthalate		4.1	J	1.4	12
Di-n-butyl phthalate		4.0	J	2.2	23
Di-n-octyl phthalate		130	B	1.3	23

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	76	42 - 140
Nitrobenzene-d5	84	38 - 141
Terphenyl-d14	68	42 - 151

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-01**

Lab Sample ID: 580-2989-1
Client Matrix: Solid % Moisture: 19.4

Date Sampled: 06/27/2006 0917
Date Received: 07/06/2006 0815

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/13/2006 1340
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691

Instrument ID: SEA035
Lab File ID: ECD20294.D
Initial Weight/Volume: 10.3339 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aldrin		ND		0.13	1.2
alpha-BHC		ND		0.13	1.2
beta-BHC		ND		0.16	1.2
delta-BHC		ND		0.14	1.2
gamma-BHC (Lindane)		ND		0.14	1.2
4,4'-DDD		0.48	J	0.32	2.4
4,4'-DDE		ND		0.27	2.4
4,4'-DDT		2.2	J	0.32	2.4
Dieldrin		ND		0.27	2.4
Endosulfan I		ND		0.14	1.2
Endosulfan II		ND		0.32	2.4
Endosulfan sulfate		ND		0.41	2.4
Endrin		ND		0.51	2.4
Endrin aldehyde		ND		0.30	2.4
Heptachlor		ND		0.16	1.2
Heptachlor epoxide		ND		0.15	1.2
Methoxychlor		ND		1.6	12
Endrin ketone		ND		0.30	2.4
Toxaphene		ND		12	120
alpha-Chlordane		ND		0.14	1.2
gamma-Chlordane		ND		0.14	1.2

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	109	49 - 123
DCB Decachlorobiphenyl	107	40 - 158

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-02**

Lab Sample ID: 580-2989-2
Client Matrix: Solid % Moisture: 28.2

Date Sampled: 06/27/2006 1039
Date Received: 07/06/2006 0815

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/13/2006 1442
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691

Instrument ID: SEA035
Lab File ID: ECD20297.D
Initial Weight/Volume: 10.5590 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aldrin		ND		0.14	1.3
alpha-BHC		ND		0.14	1.3
beta-BHC		ND		0.17	1.3
delta-BHC		ND		0.16	1.3
gamma-BHC (Lindane)		ND		0.15	1.3
4,4'-DDD		ND		0.35	2.6
4,4'-DDE		ND		0.30	2.6
4,4'-DDT		ND		0.35	2.6
Dieldrin		ND		0.29	2.6
Endosulfan I		ND		0.16	1.3
Endosulfan II		ND		0.35	2.6
Endosulfan sulfate		ND		0.45	2.6
Endrin		ND		0.56	2.6
Endrin aldehyde		ND		0.33	2.6
Heptachlor		ND		0.18	1.3
Heptachlor epoxide		ND		0.17	1.3
Methoxychlor		ND		1.8	13
Endrin ketone		ND		0.33	2.6
Toxaphene		ND		13	130
alpha-Chlordane		ND		0.16	1.3
gamma-Chlordane		ND		0.16	1.3

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	106	49 - 123
DCB Decachlorobiphenyl	103	40 - 158

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-03**

Lab Sample ID: 580-2989-3
Client Matrix: Solid % Moisture: 22.2

Date Sampled: 06/27/2006 1238
Date Received: 07/06/2006 0815

8081A Organochlorine Pesticides by Gas Chromatography

Method: 8081A
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/13/2006 1502
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691

Instrument ID: SEA035
Lab File ID: ECD20298.D
Initial Weight/Volume: 10.6388 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aldrin		ND		0.13	1.2
alpha-BHC		ND		0.13	1.2
beta-BHC		ND		0.16	1.2
delta-BHC		ND		0.14	1.2
gamma-BHC (Lindane)		ND		0.14	1.2
4,4'-DDD		ND		0.32	2.4
4,4'-DDE		ND		0.28	2.4
4,4'-DDT		2.9		0.32	2.4
Dieldrin		ND		0.27	2.4
Endosulfan I		ND		0.14	1.2
Endosulfan II		1.3	J	0.32	2.4
Endosulfan sulfate		ND		0.41	2.4
Endrin		ND		0.51	2.4
Endrin aldehyde		ND		0.31	2.4
Heptachlor		ND		0.16	1.2
Heptachlor epoxide		ND		0.15	1.2
Methoxychlor		ND		1.6	12
Endrin ketone		ND		0.31	2.4
Toxaphene		ND		12	120
alpha-Chlordane		ND		0.14	1.2
gamma-Chlordane		1.3		0.14	1.2

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	119	49 - 123
DCB Decachlorobiphenyl	107	40 - 158

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-01**

Lab Sample ID: 580-2989-1
Client Matrix: Solid
% Moisture: 19.4
Date Sampled: 06/27/2006 0917
Date Received: 07/06/2006 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/10/2006 1545
Date Prepared: 07/07/2006 1126
Analysis Batch: 580-8967
Prep Batch: 580-8673
Instrument ID: SEA034
Lab File ID: PCB1942.D
Initial Weight/Volume: 10.0334 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0072	0.012
PCB-1221		ND		0.0072	0.012
PCB-1232		ND		0.0072	0.012
PCB-1242		ND		0.0072	0.012
PCB-1248		ND		0.0072	0.012
PCB-1254		ND		0.0019	0.012
PCB-1260		ND		0.0019	0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	98	60 - 123
DCB Decachlorobiphenyl	86	65 - 126

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-02**

Lab Sample ID: 580-2989-2
Client Matrix: Solid % Moisture: 28.2

Date Sampled: 06/27/2006 1039
Date Received: 07/06/2006 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/10/2006 1656
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673

Instrument ID: SEA034
Lab File ID: PCB1945.D
Initial Weight/Volume: 10.8241 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0075	0.013
PCB-1221		ND		0.0075	0.013
PCB-1232		ND		0.0075	0.013
PCB-1242		ND		0.0075	0.013
PCB-1248		ND		0.0075	0.013
PCB-1254		ND		0.0019	0.013
PCB-1260		0.0039	J	0.0019	0.013

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	105	60 - 123
DCB Decachlorobiphenyl	93	65 - 126

Client: City of Portland BES

Job Number: 580-2989-1

Client Sample ID: **PPG0024-03**

Lab Sample ID: 580-2989-3
Client Matrix: Solid % Moisture: 22.2

Date Sampled: 06/27/2006 1238
Date Received: 07/06/2006 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 07/10/2006 1719
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673

Instrument ID: SEA034
Lab File ID: PCB1946.D
Initial Weight/Volume: 10.5026 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0071	0.012
PCB-1221		ND		0.0071	0.012
PCB-1232		ND		0.0071	0.012
PCB-1242		ND		0.0071	0.012
PCB-1248		ND		0.0071	0.012
PCB-1254		0.012	J	0.0018	0.012
PCB-1260		ND		0.0018	0.012

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	104	60 - 123
DCB Decachlorobiphenyl	96	65 - 126

General Chemistry

Client Sample ID: PPG0024-01

Lab Sample ID: 580-2989-1 Date Sampled: 06/27/2006 0917
Client Matrix: Solid Date Received: 07/06/2006 0815

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	81	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					
Percent Moisture	19	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					

Client Sample ID: PPG0024-02

Lab Sample ID: 580-2989-2 Date Sampled: 06/27/2006 1039
Client Matrix: Solid Date Received: 07/06/2006 0815

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	72	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					
Percent Moisture	28	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					

Client Sample ID: PPG0024-03

Lab Sample ID: 580-2989-3 Date Sampled: 06/27/2006 1238
Client Matrix: Solid Date Received: 07/06/2006 0815

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Solids	78	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					
Percent Moisture	22	H	%	0.10	0.10	1.0	PercentMoisture
Anly Batch: 580-8694	Date Analyzed	07/07/2006 1512					

DATA REPORTING QUALIFIERS

Client: City of Portland BES Job Number: 580-2989-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	H	Sample was prepped or analyzed beyond the specified holding time

QUALITY CONTROL RESULTS

Client: City of Portland BES

Job Number: 580-2989-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS Semi VOA				
Prep Batch: 580-8685				
LCS 580-8685/2-A	Lab Control Spike	Solid	3550B	
LCSD 580-8685/3-A	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8685/1-A	Method Blank	Solid	3550B	
580-2989-1	PPG0024-01	Solid	3550B	
580-2989-1MS	Matrix Spike	Solid	3550B	
580-2989-1MSD	Matrix Spike Duplicate	Solid	3550B	
580-2989-2	PPG0024-02	Solid	3550B	
580-2989-3	PPG0024-03	Solid	3550B	
Analysis Batch:580-8140				
LCS 580-8685/2-A	Lab Control Spike	Solid	8270C	580-8685
LCSD 580-8685/3-A	Lab Control Spike Duplicate	Solid	8270C	580-8685
MB 580-8685/1-A	Method Blank	Solid	8270C	580-8685
580-2989-1	PPG0024-01	Solid	8270C	580-8685
580-2989-1MS	Matrix Spike	Solid	8270C	580-8685
580-2989-1MSD	Matrix Spike Duplicate	Solid	8270C	580-8685
580-2989-2	PPG0024-02	Solid	8270C	580-8685
580-2989-3	PPG0024-03	Solid	8270C	580-8685

Client: City of Portland BES Job Number: 580-2989-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC Semi VOA				
Prep Batch: 580-8673				
LCS 580-8673/2-A	Lab Control Spike	Solid	3550B	
LCSD 580-8673/3-A	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8673/1-A	Method Blank	Solid	3550B	
580-2989-1	PPG0024-01	Solid	3550B	
580-2989-1MS	Matrix Spike	Solid	3550B	
580-2989-1MSD	Matrix Spike Duplicate	Solid	3550B	
580-2989-2	PPG0024-02	Solid	3550B	
580-2989-3	PPG0024-03	Solid	3550B	
Prep Batch: 580-8691				
LCS 580-8691/2-B	Lab Control Spike	Solid	3550B	
LCSD 580-8691/3-B	Lab Control Spike Duplicate	Solid	3550B	
MB 580-8691/1-A	Method Blank	Solid	3550B	
580-2989-1	PPG0024-01	Solid	3550B	
580-2989-1MS	Matrix Spike	Solid	3550B	
580-2989-1MSD	Matrix Spike Duplicate	Solid	3550B	
580-2989-2	PPG0024-02	Solid	3550B	
580-2989-3	PPG0024-03	Solid	3550B	
Analysis Batch:580-8967				
LCS 580-8673/2-A	Lab Control Spike	Solid	8082	580-8673
LCSD 580-8673/3-A	Lab Control Spike Duplicate	Solid	8082	580-8673
MB 580-8673/1-A	Method Blank	Solid	8082	580-8673
580-2989-1	PPG0024-01	Solid	8082	580-8673
580-2989-1MS	Matrix Spike	Solid	8082	580-8673
580-2989-1MSD	Matrix Spike Duplicate	Solid	8082	580-8673
580-2989-2	PPG0024-02	Solid	8082	580-8673
580-2989-3	PPG0024-03	Solid	8082	580-8673
Analysis Batch:580-8942				
LCS 580-8691/2-B	Lab Control Spike	Solid	8081A	580-8691
LCSD 580-8691/3-B	Lab Control Spike Duplicate	Solid	8081A	580-8691
MB 580-8691/1-A	Method Blank	Solid	8081A	580-8691
580-2989-1	PPG0024-01	Solid	8081A	580-8691
580-2989-1MS	Matrix Spike	Solid	8081A	580-8691
580-2989-1MSD	Matrix Spike Duplicate	Solid	8081A	580-8691
580-2989-2	PPG0024-02	Solid	8081A	580-8691
580-2989-3	PPG0024-03	Solid	8081A	580-8691
General Chemistry				
Analysis Batch:580-8694				
580-2989-1	PPG0024-01	Solid	PercentMoisture	
580-2989-2	PPG0024-02	Solid	PercentMoisture	
580-2989-3	PPG0024-03	Solid	PercentMoisture	

STL Seattle

Client: City of Portland BES

Job Number: 580-2989-1

Surrogate Recovery Report

8270C Semivolatile Organic Compounds by GC/MS (Selective Ion Monitoring)

Client Matrix: Solid

Lab Sample ID	Client Sample	(FBP) (%Rec)	(NBZ) (%Rec)	(TPH) (%Rec)
580-2989-1	PPG0024-01	88	91	75
580-2989-2	PPG0024-02	93	103	98
580-2989-3	PPG0024-03	76	84	68
580-2989-1MS	PPG0024-01	97	104	82
580-2989-1MSD	PPG0024-01	95	101	84
LCS 580-8685/2-A		102	106	98
LCSD 580-8685/3-A		106	109	97
MB 580-8685/1-A		99	104	99

Surrogate		Acceptance Limits
(FBP)	2-Fluorobiphenyl	42 - 140
(NBZ)	Nitrobenzene-d5	38 - 141
(TPH)	Terphenyl-d14	42 - 151

Client: City of Portland BES

Job Number: 580-2989-1

Surrogate Recovery Report

8081A Organochlorine Pesticides by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample	(DCB 1) (%Rec)	(TCX 1) (%Rec)
580-2989-1	PPG0024-01	107	109
580-2989-2	PPG0024-02	103	106
580-2989-3	PPG0024-03	107	119
580-2989-1MS	PPG0024-01	92	101
580-2989-1MSD	PPG0024-01	90	99
LCS 580-8691/2-B		107	118
LCSD 580-8691/3-B		81	96
MB 580-8691/1-A		96	101

Surrogate		Acceptance Limits
(DCB 1)	DCB Decachlorobiphenyl	40 - 158
(TCX 1)	Tetrachloro-m-xylene	49 - 123

Client: City of Portland BES

Job Number: 580-2989-1

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample	(DCB 1) (%Rec)	(TCX 1) (%Rec)
580-2989-1	PPG0024-01	86	98
580-2989-2	PPG0024-02	93	105
580-2989-3	PPG0024-03	96	104
580-2989-1MS	PPG0024-01	93	99
580-2989-1MSD	PPG0024-01	91	102
LCS 580-8673/2-A		99	105
LCSD 580-8673/3-A		106	109
MB 580-8673/1-A		97	106

Surrogate		Acceptance Limits
(DCB 1)	DCB Decachlorobiphenyl	65 - 126
(TCX 1)	Tetrachloro-m-xylene	60 - 123

Client: City of Portland BES

Job Number: 580-2989-1

Method Blank - Batch: 580-8685

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 580-8685/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1352
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01930.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.54	5.0
2-Methylnaphthalene	ND		0.59	5.0
1-Methylnaphthalene	ND		0.73	5.0
Acenaphthylene	ND		0.56	5.0
Acenaphthene	ND		0.56	5.0
Fluorene	ND		0.58	5.0
Phenanthrene	ND		0.70	5.0
Anthracene	ND		0.49	5.0
Fluoranthene	ND		0.46	5.0
Pyrene	0.50	J	0.48	5.0
Benzo[a]anthracene	ND		0.75	5.0
Chrysene	ND		0.54	5.0
Benzofluoranthene	ND		1.3	10
Benzo[a]pyrene	ND		0.52	5.0
Indeno[1,2,3-cd]pyrene	ND		1.4	5.0
Dibenz(a,h)anthracene	ND		1.4	5.0
Benzo[g,h,i]perylene	ND		1.6	5.0
Bis(2-ethylhexyl) phthalate	35		2.9	20
Butyl benzyl phthalate	ND		6.5	20
Diethyl phthalate	ND		10	10
Dimethyl phthalate	ND		1.2	10
Di-n-butyl phthalate	ND		1.9	20
Di-n-octyl phthalate	15	J	1.1	20

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	99	42 - 140
Nitrobenzene-d5	104	38 - 141
Terphenyl-d14	99	42 - 151

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8685

Method: 8270C
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8685/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1415
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01931.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 580-8685/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/14/2006 1438
Date Prepared: 07/07/2006 1341

Analysis Batch: 580-8140
Prep Batch: 580-8685
Units: ug/Kg

Instrument ID: SEA023
Lab File ID: HP01932.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Naphthalene	103	112	54 - 131	9	26		
2-Methylnaphthalene	118	129	51 - 138	9	27		
1-Methylnaphthalene	117	126	50 - 150	8	30		
Acenaphthylene	107	117	52 - 130	9	28		
Acenaphthene	102	112	50 - 144	9	27		
Fluorene	109	121	50 - 134	11	31		
Phenanthrene	101	110	55 - 133	8	28		
Anthracene	107	113	52 - 135	6	27		
Fluoranthene	98	106	54 - 135	7	36		
Pyrene	101	109	47 - 152	8	31		
Benzo[a]anthracene	117	125	55 - 135	7	27		
Chrysene	90	96	59 - 133	7	26		
Benzofluoranthene	53	55	43 - 154	5	31		
Benzo[a]pyrene	107	113	54 - 138	6	30		
Indeno[1,2,3-cd]pyrene	105	117	45 - 153	11	29		
Dibenz(a,h)anthracene	108	122	50 - 150	12	30		
Benzo[g,h,i]perylene	97	112	54 - 142	14	28		
Bis(2-ethylhexyl) phthalate	110	116	23 - 154	5	60		
Butyl benzyl phthalate	114	119	44 - 147	5	60		
Diethyl phthalate	98	109	51 - 135	11	26		
Dimethyl phthalate	107	119	52 - 133	11	60		
Di-n-butyl phthalate	102	108	43 - 144	5	60		
Di-n-octyl phthalate	112	116	40 - 148	4	31		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-8685

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	580-2989-1	Analysis Batch: 580-8140	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-8685	Lab File ID: HP01934.D
Dilution:	1.0		Initial Weight/Volume: 10.2065 g
Date Analyzed:	07/14/2006 1524		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2006 1341		Injection Volume:

MSD Lab Sample ID:	580-2989-1	Analysis Batch: 580-8140	Instrument ID: SEA023
Client Matrix:	Solid	Prep Batch: 580-8685	Lab File ID: HP01935.D
Dilution:	1.0		Initial Weight/Volume: 10.7731 g
Date Analyzed:	07/14/2006 1547		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2006 1341		Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	94	104	54 - 131	5	26		
2-Methylnaphthalene	110	118	51 - 138	2	27		
1-Methylnaphthalene	108	119	50 - 150	4	30		
Acenaphthylene	94	105	52 - 130	6	28		
Acenaphthene	94	102	50 - 144	3	27		
Fluorene	98	110	50 - 134	5	31		
Phenanthrene	99	106	55 - 133	2	28		
Anthracene	78	93	52 - 135	12	27		
Fluoranthene	75	95	54 - 135	16	36		
Pyrene	80	100	47 - 152	15	31		
Benzo[a]anthracene	110	121	55 - 135	4	27		
Chrysene	80	90	59 - 133	5	26		
Benzofluoranthene	45	49	43 - 154	3	31		
Benzo[a]pyrene	91	99	54 - 138	3	30		
Indeno[1,2,3-cd]pyrene	80	86	45 - 153	2	29		
Dibenz(a,h)anthracene	85	94	50 - 150	4	30		
Benzo[g,h,i]perylene	69	76	54 - 142	4	28		
Bis(2-ethylhexyl) phthalate	114	107	23 - 154	7	60		
Butyl benzyl phthalate	97	109	44 - 147	5	60		
Diethyl phthalate	89	99	51 - 135	5	26		
Dimethyl phthalate	98	107	52 - 133	4	60		
Di-n-butyl phthalate	75	92	44 - 144	14	60		
Di-n-octyl phthalate	108	117	40 - 148	3	31		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Method Blank - Batch: 580-8691

Method: 8081A
Preparation: 3550B

Lab Sample ID: MB 580-8691/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/13/2006 1242
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20291.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Aldrin	ND		0.11	1.0
alpha-BHC	ND		0.11	1.0
beta-BHC	ND		0.13	1.0
delta-BHC	ND		0.12	1.0
gamma-BHC (Lindane)	ND		0.12	1.0
4,4'-DDD	ND		0.27	2.0
4,4'-DDE	ND		0.23	2.0
4,4'-DDT	ND		0.27	2.0
Dieldrin	ND		0.22	2.0
Endosulfan I	ND		0.12	1.0
Endosulfan II	ND		0.27	2.0
Endosulfan sulfate	ND		0.34	2.0
Endrin	ND		0.42	2.0
Endrin aldehyde	ND		0.25	2.0
Heptachlor	ND		0.14	1.0
Heptachlor epoxide	ND		0.13	1.0
Methoxychlor	ND		1.3	10
Endrin ketone	ND		0.25	2.0
Toxaphene	ND		10	100
alpha-Chlordane	ND		0.12	1.0
gamma-Chlordane	ND		0.12	1.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	101	49 - 123
DCB Decachlorobiphenyl	96	40 - 158

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8691

Method: 8081A
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8691/2-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/13/2006 1302
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20292.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-8691/3-B
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/13/2006 1321
Date Prepared: 07/07/2006 1420

Analysis Batch: 580-8942
Prep Batch: 580-8691
Units: ug/Kg

Instrument ID: SEA035
Lab File ID: ECD20293.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aldrin	77	72	53 - 126	6	24		
alpha-BHC	61	58	41 - 128	5	28		
beta-BHC	71	66	48 - 121	7	32		
delta-BHC	68	62	22 - 153	9	36		
gamma-BHC (Lindane)	67	63	50 - 127	6	29		
4,4'-DDD	68	60	44 - 141	12	41		
4,4'-DDE	64	58	47 - 140	10	40		
4,4'-DDT	58	51	34 - 159	13	47		
Dieldrin	65	59	53 - 134	8	32		
Endosulfan I	64	59	52 - 122	8	31		
Endosulfan II	78	70	53 - 132	11	36		
Endosulfan sulfate	65	58	42 - 128	11	43		
Endrin	67	60	46 - 138	12	36		
Endrin aldehyde	76	71	12 - 179	7	47		
Heptachlor	79	74	50 - 130	7	31		
Heptachlor epoxide	68	63	49 - 123	7	31		
Methoxychlor	67	57	46 - 154	16	46		
Endrin ketone	68	61	45 - 127	11	45		
alpha-Chlordane	64	59	46 - 118	8	33		
gamma-Chlordane	66	61	49 - 122	8	32		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	118	96	49 - 123
DCB Decachlorobiphenyl	107	81	40 - 158

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-8691

Method: 8081A
Preparation: 3550B

MS Lab Sample ID:	580-2989-1	Analysis Batch: 580-8942	Instrument ID: SEA035
Client Matrix:	Solid	Prep Batch: 580-8691	Lab File ID: ECD20295.D
Dilution:	1.0		Initial Weight/Volume: 10.1261 g
Date Analyzed:	07/13/2006 1400		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2006 1420		Injection Volume:
			Column ID: PRIMARY

MSD Lab Sample ID:	580-2989-1	Analysis Batch: 580-8942	Instrument ID: SEA035
Client Matrix:	Solid	Prep Batch: 580-8691	Lab File ID: ECD20296.D
Dilution:	1.0		Initial Weight/Volume: 10.1507 g
Date Analyzed:	07/13/2006 1423		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2006 1420		Injection Volume:
			Column ID: PRIMARY

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual MSD Qual
Aldrin	71	72	53 - 126	2	24	
alpha-BHC	59	61	41 - 128	3	28	
beta-BHC	68	71	48 - 121	3	32	
delta-BHC	66	69	22 - 153	3	36	
gamma-BHC (Lindane)	65	67	50 - 127	3	29	
4,4'-DDD	67	68	44 - 141	2	41	
4,4'-DDE	61	63	47 - 140	3	40	
4,4'-DDT	43	44	34 - 159	3	47	
Dieldrin	59	61	53 - 134	3	32	
Endosulfan I	58	60	52 - 122	3	31	
Endosulfan II	71	73	53 - 132	2	36	
Endosulfan sulfate	66	68	42 - 128	2	43	
Endrin	80	83	46 - 138	3	36	
Endrin aldehyde	71	73	12 - 179	2	47	
Heptachlor	69	72	50 - 130	4	31	
Heptachlor epoxide	62	64	49 - 123	3	31	
Methoxychlor	66	66	46 - 154	0	46	
Endrin ketone	65	67	45 - 127	2	45	
alpha-Chlordane	57	59	46 - 118	3	33	
gamma-Chlordane	59	61	49 - 122	3	32	

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	101	99	49 - 123
DCB Decachlorobiphenyl	92	90	40 - 158

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: City of Portland BES

Job Number: 580-2989-1

Method Blank - Batch: 580-8673

Method: 8082
Preparation: 3550B

Lab Sample ID: MB 580-8673/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1434
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1939.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	ND		0.0058	0.010
PCB-1221	ND		0.0058	0.010
PCB-1232	ND		0.0058	0.010
PCB-1242	ND		0.0058	0.010
PCB-1248	ND		0.0058	0.010
PCB-1254	ND		0.0015	0.010
PCB-1260	ND		0.0015	0.010

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	106	60 - 123
DCB Decachlorobiphenyl	97	65 - 126

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-8673

Method: 8082
Preparation: 3550B

LCS Lab Sample ID: LCS 580-8673/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1457
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1940.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-8673/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/10/2006 1521
Date Prepared: 07/07/2006 1126

Analysis Batch: 580-8967
Prep Batch: 580-8673
Units: mg/Kg

Instrument ID: SEA034
Lab File ID: PCB1941.D
Initial Weight/Volume: 10 g
Final Weight/Volume: 10 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
PCB-1016	103	107	57 - 128	4	8		
PCB-1260	99	107	65 - 132	8	8		

Calculations are performed before rounding to avoid round-off errors in calculated results.

2989

SUBCONTRACT ORDER

TestAmerica - Portland, OR

PPG0024

SENDING LABORATORY:

TestAmerica - Portland, OR
9405 SW Nimbus Ave.
Beaverton, OR 97008
Phone: (503) 906-9200
Fax: (503) 906-9210
Project Manager: Howard Holmes

RECEIVING LABORATORY:

Severn Trent Laboratories - Tacoma
5755 8th Street East
Tacoma, WA 98424
Phone :253-922-2310
Fax: 253-922-5047

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: PPG0024-01	**Soil**	**Sampled:06/27/06 09:17**		
8081A/8082 Pest/PCB	07/17/06 23:59	07/11/06 09:17		C of P LL to STL
8270C PDX-UIC	07/17/06 23:59	07/11/06 09:17		C of P LL to STL
Containers Supplied:				
4 oz. jar (A)	4 oz. jar (B)			
Sample ID: PPG0024-02	**Soil**	**Sampled:06/27/06 10:39**		
8081A/8082 Pest/PCB	07/17/06 23:59	07/11/06 10:39		C of P LL to STL
8270C PDX-UIC	07/17/06 23:59	07/11/06 10:39		C of P LL to STL
Containers Supplied:				
4 oz. jar (A)	4 oz. jar (B)			
Sample ID: PPG0024-03	**Soil**	**Sampled:06/27/06 12:38**		
8081A/8082 Pest/PCB	07/17/06 23:59	07/11/06 12:38		C of P LL to STL
8270C PDX-UIC	07/17/06 23:59	07/11/06 12:38		C of P LL to STL
Containers Supplied:				
4 oz. jar (A)	4 oz. jar (B)			

* Broken Lid

Released By	Date	Received By	Date
[signature]	7/5/06	[signature]	7/6/06 DBK
Released By	Date	Received By	Date

LOGIN SAMPLE RECEIPT CHECK LIST

Client: City of Portland BES

Job Number: 580-2989-1

Login Number: 2989

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

TestAmerica
ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 ✓
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: PPG0024

CLIENT: City of Portland

INVOICE TO: Charles Lytle

REPORT TO: Jennifer Shackelford
ADDRESS:

PHONE: FAX:

P.O. NUMBER: 36238

PROJECT NAME: Portland Harbor
PROJECT NUMBER: Inline Samp.
SAMPLED BY:

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [X] STD. | 7 | 5 | 4 | 3 | 2 | 1 | < 1

Petroleum Hydrocarbon Analyses: 5 STD. | 4 | 3 | 2 | 1 | < 1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES: Pest/PCBs EPA 8081 - LOW LEVEL ⊗	REQUESTED ANALYSES: PAH 8270-SIM - LOW LEVEL ⊗	REQUESTED ANALYSES: TOC	MATRIX (W, S, O)	# OF CONT.	LOCATION COMMENTS	TA WO ID
1	F0060767	6/27/06 0917		X	X	X	S	3	⊗	
2	F0060768	1039		X	X	X	S	3	⊗	
3	F0060769	1238		X	X	X	S	3	⊗	
4										
5										
6										
7										
8										
9										
10										

RELEASED BY: [signature] DATE: 7/3/06
PRINT NAME: Jane T. Van Metre FIRM: City of Portland TIME: 0948

RECEIVED BY: [signature] 915 DATE: 7-3-06
PRINT NAME: FIRM: TIME:

RELEASED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: [signature] DATE: 9:48
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: ⊗ Send Low-level Pest/PCBs and Low-level PAH to STL. Allison Tower

TEMP:

COC REV 05 2006

PAGE 1 OF 1

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and for any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice unless otherwise contracted. Sample(s) will be disposed of after 30 days unless otherwise contracted.

38

Attachment D

NW Front Avenue Branch

1200-Z Stormwater Monitoring Data

1200-Z STORMWATER MONITORING DATA

BRENNTAG PACIFIC INC

5700 NW FRONT AVE

Org ID: 2252

Parameter (mg/L)	Cu	Pb	Zn	TSS	O&G	pH (stu)
Benchmark	0.1	0.4	0.6	130	10	5.5 - 9.0

Location Code: 01 Description: SUMP @ N PROP EDGE, E DRAINS

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
06-07	5/2/2007	self	0.0624	0.0365	0.428	< 10	< 4.81	6.59	
06-07	11/22/2006	self	0.01	0.00203	0.0631	< 10	< 4.72	6.51	
05-06	6/21/2006	self					< 5.21		
05-06	5/26/2006	self	0.017	0.0044	0.099	< 10		6.13	
05-06	9/30/2005	self	0.0276	0.0134	0.115	< 10	< 4.72	6.8	
04-05	3/30/2005	self						6.29	
04-05	3/23/2005	self	0.056	0.0128	0.574	11	< 5		
04-05	10/19/2004	self	0.0105	0.00161	0.152	< 10	< 5	6.66	18.8
03-04	4/19/2004	self	0.124	0.0497	0.179	68	< 5	5.98	
03-04	1/14/2004	*city*	0.128	0.0914	0.25	142	20.4	4.1	50
03-04	11/17/2003	self	0.136	0.0543	0.309	32	119	0	
02-03	5/16/2003	self	0.124	0.0403	0.29	24	< 4.95	4.79	
02-03	11/12/2002	self	0.0397	0.0163	0.118	< 10	< 5.88	6.25	
01-02	5/13/2002	self	0.069	0.006	0.24	22	< 2	5.97	
01-02	11/28/2001	*city*	< 0.05	< 0.2	0.085	9.2	< 5	5.5	12
01-02	11/20/2001	self	0.004	0.01	0.11	33	12	6.28	
00-01	6/11/2001	self	0.16	0.03	0.9	62	3.9	2.99	
00-01	9/8/2000	self	0.015	0.004	0.93	30	< 2	5	47
99-00	1/10/2000	self	0.05	< 0.08		11	6.4	3.3	

Location Code: 01 Description: SUMP @ N PROP EDGE, E DRAINS

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
99-00	10/8/1999	self	0.16	< 0.06	0.52	63	3.3	5.2	
98-99	5/7/1999	self	< 0.025	< 0.06	< 0.02	17	< 2	5.4	43
98-99	11/20/1998	self	0.048	< 0.06	0.21	15	2.4	5.8	< 10
98-99	9/22/1998	self	0.51	0.22	0.49	110	22	5.6	130
97-98	6/25/1998	self	0.077	< 0.08	0.27	46	4.9	6.3	55
97-98	10/28/1997	self	0.049	0.11	0.21	42	2.6	6.2	82
96-97	6/4/1997	self	0.14	< 0.06	0.19	35	2.4	5.6	25
96-97	12/16/1996	self							
95-96	6/17/1996	self	1.8	0.23	1.5	42	< 3	5.89	480
95-96	10/17/1995	self	0.49	0.21	0.4	66	5	6.78	58
95-96	7/6/1995	self					8	5.57	
94-95	6/5/1995	self	0.09	0.037	0.55	110		5.43	40

Location Code: 02 Description: CB @ FRONT OF FACILITY

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
06-07	5/21/2007	self	0.0241	0.00133	0.26	< 10	< 4.81	6.87	
06-07	11/22/2006	self	0.00324	0.00153	0.0327	< 10	< 4.72	6.4	
05-06	5/26/2006	self	0.0096	0.0051	0.054	18	< 2	6.21	
05-06	9/30/2005	self	0.0117	0.003	0.0837	< 10	< 4.72	6.83	
04-05	3/30/2005	self						6.63	
04-05	3/23/2005	self	0.0152	0.00218	0.11	< 10	< 5		
04-05	10/19/2004	self	0.0091	0.0013	0.0647	< 10	< 5	6.72	15.4
03-04	4/19/2004	self	0.0732	0.017	0.325	27	< 5	6.28	
03-04	1/14/2004	*city*	0.0122	0.00811	0.0654	23	< 5	5.7	13
03-04	11/17/2003	self	< 0.02	< 0.02	0.289	< 10	< 5	0	
02-03	5/16/2003	self	0.0402	0.0684	0.284	245	< 5	6.19	

Location Code: 102 Description: CB @ FRONT OF FACILITY

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
02-03	11/12/2002	self	0.02	0.0172	0.107	26	< 5.71	6.46	
01-02	5/13/2002	self	0.053	0.023	0.28	40	5.6	6.02	
01-02	11/28/2001	*city*	< 0.05	< 0.2	0.057	2.2	< 5	5.4	< 5
01-02	11/20/2001	self	0.03	0.01	0.11	88	3	6.46	
00-01	6/11/2001	self	0.11	0.04	0.26	212	7.7	6.29	
00-01	9/8/2000	self	0.023	0.02	1.2	32	2.8	4.6	< 10
99-00	3/27/2000	*city*	0.03	< 0.1	0.15	30	< 5	5.9	49
99-00	1/10/2000	self	0.01	0.08		14		5.8	
99-00	10/8/1999	self	0.017	< 0.06	0.3	14	3	5.9	
98-99	5/7/1999	self	0.035	0.087	0.16	78	< 2	5.5	
98-99	2/5/1999	*city*	0.06	< 0.1	0.25	22	< 5	6.2	23
98-99	11/20/1998	self	0.017	< 0.06	0.17	47	3.2	6	17
98-99	9/22/1998	self	0.065	< 0.2	0.29	94	< 2	5.6	63
97-98	6/24/1998	self	0.061	0.096	0.37	150	2.3	5.8	< 10
97-98	5/12/1998	*city*	0.055	< 0.1	0.295	13	14	6.5	39
97-98	10/28/1997	self	0.82	0.28	0.84	72	4.8	6.2	114
96-97	6/4/1997	self	0.049	< 0.06	0.19	47	2.9	5.9	28
96-97	3/3/1997	*city*	0.017	< 0.02	0.083	35	12		42
95-96	2/6/1996	*city*	0.0289	0.0262	0.138	59.4	12.9	6	19
94-95	6/5/1995	self	0.05	0.015	0.19	40		6.56	15
94-95	4/7/1995	*city*	0.012	< 0.02	0.106	40.8	9.2	6.9	41

Location Code: X-T6 Description: SOLVENT TANK 6 DISCHARGE

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
96-97	1/3/1997	self						6	
96-97	12/9/1996	self						7.3	

Location Code: X-T6 Description: SOLVENT TANK 6 DISCHARGE

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
96-97	11/20/1996	self						7.2	
96-97	10/22/1996	self						6.5	

Location Code: X-T8 Description: SOLVENT TANK 8 DISCHARGE

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
96-97	12/30/1996	self						6.5	
96-97	12/4/1996	self						6.5	
96-97	11/19/1996	self						6.5	

1200-Z STORMWATER MONITORING DATA

PARAMOUNT PETROLEUM CORPORATION

5501 NW FRONT AVE

Org ID: 2576

Parameter (mg/L)	Cu	Pb	Zn	TSS	O&G	pH (stu)
Benchmark	0.1	0.4	0.6	130	10	5.5 - 9.0

Location Code: OI Description: VALVE 33 NEAR FRONT STREET

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
06-07	3/2/2007	self	0.0024	0.0026	0.0775	< 10	< 4.76	6.78	
06-07	10/16/2006	self	0.013	0.017	0.2	44	9.9	7.11	
05-06	4/14/2006	self	0.011	0.006	0.11	19	3.4	6.96	
05-06	11/1/2005	self	< 0.005	< 0.005	0.07	4	3.2	6.89	
04-05	3/23/2005	self	< 0.005	< 0.005	0.023	12	30.2	5.9	
04-05	1/7/2005	self	0.018	< 0.005	0.035	7	4.4	5.87	
03-04	3/25/2004	self	0.007	< 0.001	0.027	4	3.9		18
03-04	11/19/2003	self	0.009	0.022	0.02	22	3.4	6.22	740
02-03	4/7/2003	self	0.018	< 0.001	0.13	91	4	6.18	29
02-03	3/7/2003	*city*	0.00321	0.00121	0.0418	3.5	18.5	5.3	< 5
02-03	11/12/2002	self	0.017	< 0.001	0.068		< 2		< 10
01-02	6/30/2002	self	0.024	0.026	0.95	18	5.7	6.24	< 10
01-02	10/22/2001	self	< 0.001	< 0.001	0.08	29	11.8	6.5	16
00-01	3/15/2001	self	0.027	< 0.001	0.51	10	43	5.7	100
00-01	3/15/2001	*city*	< 0.05	< 0.2	0.149	20	< 5	5.8	37
00-01	12/15/2000	self	0.014	0.007	0.15	21	6	6.6	44
99-00	5/3/2000	self	< 0.01	< 0.09	0.13	26	4.2	5.8	17
99-00	2/28/2000	self	< 0.01	< 0.08	1.4	12	1.9	5.7	< 10
99-00	12/9/1999	*city*	< 0.03	< 0.1	0.073	15	7.4	5.9	3

Location Code: 01 Description: VALVE 33 NEAR FRONT STREET

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
99-00	11/8/1999	self	0.012	< 0.04	0.31	4.5	2.1	6.1	12
98-99	2/9/1999	self	0.034	< 0.13	0.12	55	< 2	7.2	
98-99	12/7/1998	*city*	< 0.03	< 0.1	0.068	13	8.9	6.4	8
98-99	11/6/1998	self	0.021	< 0.062	0.073	16	2.6	5.8	19
97-98	3/10/1998	self				11		5.9	
97-98	3/3/1998	self	0.047	0.16	0.27	60	4	2.1	36.2
97-98	11/25/1997	self	0.023	< 0.06	0.11	21	2.2	6.3	
97-98	8/28/1997	*city*	0.025	< 0.3	0.299	141	6.2	6.1	
96-97	12/10/1996	*city*	0.007	0.02	0.075	12	7.8	7.3	8
95-96	3/14/1996	self	< 0.02	< 0.03	0.15	19	8	6.9	52
95-96	11/22/1995	*city*	0.013	< 0.02	0.072	50		7.8	23
95-96	11/6/1995	self	0.04	0.03	0.21	45	< 5	6.4	32
95-96	10/30/1995	self					< 5		
94-95	6/12/1995	self						6.7	48
94-95	5/1/1995	*city*	0.01	0.02	0.132	35	9.1	5.5	20
94-95	3/28/1995	self			0.07	18	5		

Location Code: 02 Description: VALVE 39 @ SE CORNER FACILITY

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
06-07	3/2/2007	self	0.00286	0.00278	0.027	< 10	< 5	6.9	
06-07	10/16/2006	self	0.007	< 0.005	0.054	10	9.3	6.68	
05-06	4/14/2006	self	0.012	0.013	0.051	42	< 2	7.02	
05-06	11/1/2005	self	0.009	0.028	0.12	73	3	6.85	
04-05	3/23/2005	self	< 0.005	< 0.005	0.22	34	14.9	6.51	
04-05	1/7/2005	self	0.041	< 0.005	0.041	43	< 2	6.3	
03-04	4/21/2004	self	0.02	0.005	0.027	46	< 2	6.73	< 10

Location Code: 02 Description: VALVE 39 @ SE CORNER FACILITY

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
03-04	11/19/2003	self	0.009	0.015		18	3	5.96	760
02-03	4/7/2003	self	0.013	0.007	0.052	12	2	6.31	< 10
02-03	3/7/2003	*city*	0.00358	0.0109	0.0428	10	< 5	5.5	< 5
02-03	11/12/2002	self	0.02	< 0.001	0.032		< 2		11
01-02	6/30/2002	self	0.012	0.009	0.034	12	15.5	6.59	< 10
01-02	12/13/2001	self	0.01	0.002	0.14	22	< 2	6.37	26
00-01	3/16/2001	self	0.02	< 0.01	0.01	54	< 2	6.3	< 10
00-01	3/15/2001	*city*	< 0.05	< 0.2	0.158	176	6.5	6.4	22
00-01	12/15/2000	self	0.009	< 0.001	0.06	3.5	< 2	6.1	17
99-00	2/28/2000	self	< 0.01	< 0.08	0.07	7	2.4	6.1	< 10
99-00	12/9/1999	*city*	0.031	< 0.1	0.079	9	6.4	6	< 2
99-00	11/8/1999	self	0.012	< 0.04	0.048	13	< 2	6.4	18
98-99	2/9/1999	self	0.032	< 0.13	0.094	14	2	6.7	< 10
98-99	12/7/1998	*city*	< 0.03	< 0.1	< 0.05	2.6	< 5	6.5	3
98-99	11/6/1998	self	0.02	< 0.062	0.069	8.5	< 2	6.5	14
97-98	3/3/1998	self	0.012	0.13	0.031	5.7	3.1	6.4	< 10
97-98	11/25/1997	self	0.023	< 0.06	0.07	3.5	< 2	6.2	
97-98	8/28/1997	*city*	0.02	0.3	0.057	21	20	6.4	
96-97	12/10/1996	*city*	0.008	< 0.02	0.437	171	14	6.6	10
95-96	3/14/1996	self	0.02	< 0.03	0.23	20	11	6.9	41
95-96	11/6/1995	self	0.04	0.03	0.22	17	< 5	6.4	25
95-96	10/30/1995	self					0.5		
94-95	6/12/1995	self						6.7	6.5
94-95	5/1/1995	*city*	0.011	< 0.02	0.086	21	11	5.8	10
94-95	3/28/1995	self	0.03	0.02	0.13	9.8	5		

Location Code: XT47 Description: HYDROSTATIC TEST H20 BATCH

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
96-97	10/3/1996	self						7.2	

Location Code: XT71 Description: HYDROSTATIC TEST H20 BATCH

Permit Year	Sample Date	Tester	Copper	Lead	Zinc	TSS	O/G	pH	COD
95-96	5/8/1996	self		< 0.025			< 0.5	6.8	