



CITY OF PORTLAND ENVIRONMENTAL SERVICES

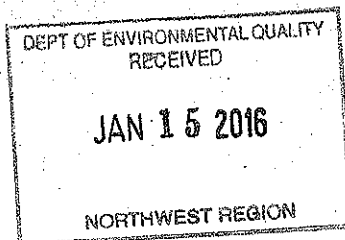


Columbia Boulevard Wastewater Treatment Plant

5001 N Columbia Boulevard, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

January 15, 2016

State of Oregon
DEQ Northwest Region Office
700 NE Multnomah Street
Suite No. 600
Portland, Oregon 97232



COLUMBIA BOULEVARD WASTEWATER TREATMENT PLANT MONITORING REPORT DECEMBER 2015

Attached is the December 2015 Monitoring Report for the City of Portland Columbia Boulevard Treatment Plant.

On December 7, the Secondary TSS pounds discharged was 74,118, which exceeds the System Based Performance requirement of 50,000 pounds.

Additionally, the average monthly Wet Weather pounds BOD discharged was 24,192 pounds, and the corresponding TSS monthly average was 26,283 pounds. The System-Based Performance Requirements in the permit indicate a monthly target of 22,500 pounds.

The combined mass loadings that were discharged to the Columbia River for this month were well within the Outfalls 001 and 003 Effluent Limitations as stated in the permit. It should be noted that record flows were recorded on multiple days this month, which helped to contribute to some of the larger numbers seen this month.

Per conversations I had with Lyle Christensen in March of 2013, we are considering the System-Based Performance Requirements as an operating guideline and the Outfalls 001 and 003 Effluent Limitations as hard permitted levels as that is actually what is introduced into the environment.

On December 20 and 27, samples were not collected for the wet weather flow. Upon examining the historical information, both days showed the wet weather discharge beginning before midnight on both days and continuing well into the next day.



CITY OF PORTLAND ENVIRONMENTAL SERVICES

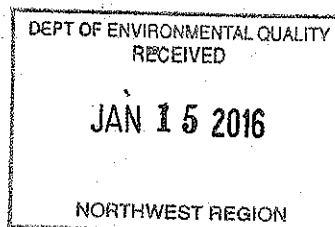


Columbia Boulevard Wastewater Treatment Plant

5001 N Columbia Boulevard, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

January 15, 2016

Mark Hynson
DEQ Northwest Region Office
700 NE Multnomah Street
Suite No. 600
Portland, Oregon 97232



Subject: Description of Events Surrounding the December 7-9, 2015 Storm

Dear Mark,

On December 7, 8 and 9, 2015, Portland experienced a large storm event that put the City's two Wastewater Treatment Plants at and above design flow for significant periods of time. As a result, I reported several anomalies that I will describe in this letter. Per our previous correspondence, we have agreed that I will submit this letter to you on or before January 15, 2016.

Summary of Events

The December 7-9 storm event brought us very significant rainfall. Per the City's rain gauges, we experienced rain totals of 2.59 inches on December 7, 1.78 inches on December 8 and 0.4" on December 9.

This storm event resulted in peak flows at CBWTP of 478 MGD on December 7, 438 MGD on December 8, and 429 MGD on December 9 (after that, the storm finally subsided). Additionally, the total flows for those days were 370, 340 and 332 MGD respectively.

Tryon Creek Wastewater Treatment Plant (TCWTP) experienced a similar situation with peak flows for December 7, 8, and 9 of 45, 38 and 29 MGD respectively. Total flows for each of those days were 19, 20 and 18 MGD.

As a result, both plants were at or above design flow for significant portions of those three days, which contributed to additional issues as described below.

Per your request in a recent email, I have provided just a brief summary, but I can provide further information upon request.

Ph: 503-823-2400 Fax: 503-823-2409 ■ www.portlandoregon.gov/bes ■ Using recycled paper ■ An Equal Opportunity Employer

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).
To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

Conclusion

All of the events listed above were the result of extreme high flows brought on by unusually strong storm conditions.

The City considers that all of the anomalies reported were beyond our reasonable control as a result of the extreme conditions.

DEQ requested that only minimum details be provided in this letter because of the extreme conditions that were encountered in this region. The City will provide more detail regarding any of these events upon request.

If you have any further questions, please feel free to call me at 503-823-2438.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Ciolli", written in a cursive style.

Mike Ciolli
Wastewater Treatment Manager for Operations

Copy: Matthew Criblez, BES Environmental Compliance Manager
 Steve Behrndt, BES Wastewater Operations Group Manager
 File

City of Portland

Sewage Release Report to DEQ

12/1/2015 to 12/31/2015

JAN 15 2016

City System

Incident Date	Location	Service Request #	Discharge (gal)	Cause	Destination:
12/1/2015	519 SE 48TH AVE	164128	50	Debris	<u>Inside Building</u> - Unfinished Basement
12/7/2015	12008 NE INVERNESS DR	164172	1,000,000	Structural Defect	<u>Inside Building</u> - First Floor <u>Outside Building</u> - Ground, Ditch, Street, Waterway
12/7/2015	231 SE 102ND AVE	164189	996	Extreme Weather (5 year to 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	516 NE MONROE ST	164182	30	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	532 NE MONROE ST	164181	4,057	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	1640 NW 14TH AVE	164190	300	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - First Floor
12/7/2015	2310 SW SUNSET BLVD	164168	150	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - GARAGE <u>Outside Building</u> - Ground
12/7/2015	2411 SE 40TH AVE	164180	6,055	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	11207 NE HOLMAN ST	164161	3,340	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - First Floor
12/7/2015	510 NW 11TH AVE	164163	2,000	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	524 NE MONROE ST	164150	40	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement, bathroom
12/7/2015	547 NE MONROE ST	164152	5	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/7/2015	2916 SE HOLGATE BLVD	164178	200	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	3726 NE 16TH AVE	164177	100	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/7/2015	3826 NE 16TH AVE	164185	186	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	4634 SW VERMONT ST	164222	2,500	Extreme Weather (5 year to 25 year storm event)	<u>Inside Building</u> - Unfinished Basement, First Floor
12/7/2015	4634 SW VERMONT ST	164174	100	Extreme Weather (5 year to 25 year storm event)	<u>Inside Building</u> - First Floor
12/7/2015	5736 NE GARFIELD AVE	164184	1	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/7/2015	911 NE 11TH AVE	164176	25	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/7/2015	1680 SW MONTGOMERY DR	164196	1,000	Structural Defect	<u>Outside Building</u> - Ground <u>Inlet connected to</u> - Combined Sewer
12/7/2015	1004 SE BELMONT ST	164223	186,900	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement <u>Outside Building</u> - NEW CONSTRUCTION
12/7/2015	711 SE 11TH AVE	164145	122,070	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - First Floor <u>Outside Building</u> - Street
12/7/2015	1608 NE STANTON ST	164154	10	Force Majeure (greater than 25 year storm event)	<u>Outside Building</u> - floor drain
12/7/2015	2251 NW MARSHALL ST	164146	16,000	Force Majeure (greater than 25 year storm event)	<u>Inlet connected to</u> - Combined Sewer

City of Portland

Sewage Release Report to DEQ

12/1/2015 to 12/31/2015

12/7/2015	3935 SE CARUTHERS ST	164159	11,961	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/7/2015	5125 SW DOSCH RD	164157	0	Extreme Weather (5 year to 25 year storm event)	<u>Inside Building</u> - First Floor
12/7/2015	1650 NW 13th AVE	164148	100,000	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/8/2015	2405 SE 40TH AVE	164193	2,247	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement, Unfinished Basement
12/8/2015	2721 SE 43RD AVE	164205	10	Roots	<u>Inside Building</u> - Unfinished Basement
12/8/2015	3739 NE 16TH AVE	164195	2,242	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/8/2015	5526 NE 38TH AVE	164202	10	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/8/2015	6331 NE 112TH AVE	164198	250	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - First Floor, bathroom & warehouse
12/9/2015	4536 SE 36TH PL	164226	300	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Unfinished Basement
12/10/2015	4515 SE 36TH PL	164229	30	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/14/2015	4402 SW SHATTUCK RD	164252	48,500	Debris	<u>Outside Building</u> - Waterway
12/18/2015	4646 SW VERMONT ST	164285	250	Roots	<u>Inside Building</u> - First Floor
12/18/2015	220 NW 2ND AVE	164292	1,000	Roots	<u>Inside Building</u> - Unfinished Basement
12/24/2015	3200 NW YEON AVE	164324	1,000	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement
12/25/2015	2930 SE KNAPP ST	164325	10	Roots	<u>Inside Building</u> - Unfinished Basement
12/26/2015	11207 NE HOLMAN ST	164326	80	Debris	<u>Inside Building</u> - First Floor <u>Outside Building</u> - Ground <u>Inlet connected to</u> - Storm Sewer
12/28/2015	7810 N CHAUTAUQUA BLVD	164334	30	Roots	<u>Inside Building</u> - Unfinished Basement
12/29/2015	7335 SE 29TH AVE	164339	10	Structural Defect caused by third party.	<u>Inside Building</u> - Unfinished Basement
12/7/2016	2412 SE 40TH AVE	164179	21,306	Force Majeure (greater than 25 year storm event)	<u>Inside Building</u> - Finished Basement

Private Responsibility or No Release

Incident Date	Location	Service Request #
12/2/2015	3725 NE ROSA PARKS	164133
12/3/2015	4765 NE FREMONT ST	164140
12/3/2015	15851 E BURNSIDE ST	164139
12/4/2015	7812 SE REED	164141
12/7/2015	7655 SE 21ST AVE	164170
12/7/2015	707 SE 70TH AVE	164183
12/7/2015	7629 SE 31ST AVE	164147
12/7/2015	27 NW 2ND AVE	164155
12/7/2015	625 SW 10TH AVE	164149
12/7/2015	2540 SW SUNSET BLVD	164171
12/7/2015	3877 SW HILLSDALE	164188
12/7/2015	4523 NE 82ND AVE	164169

City of Portland
Sewage Release Report to DEQ
12/1/2015 to 12/31/2015

12/9/2015	5828 SW HUDDLESON	164216
12/9/2015	6133 N MISSISSIPPI	164214
12/9/2015	2921 NW NICOLAI ST	164215
12/10/2015	13424 NE SANDY BLVD	164227
12/10/2015	2501 NW OVERTON ST	164231
12/11/2015	1335 SE LAFAYETTE ST	164239
12/11/2015	1826 SE 35TH AVE	164237
12/11/2015	3736 NE JESSUP ST	164236
12/12/2015	842 NE 78TH AVE	164240
12/15/2015	2166 SE 130TH AVE	164258
12/15/2015	3507 NE 12TH AVE	164260
12/15/2015	2755 SE 174TH AVE	164261
12/16/2015	1533 SE MAIN ST	164275
12/16/2015	6421 SE IVON ST	164274
12/16/2015	7081 N WELLESLEY	164276
12/16/2015	8321 N DENVER AVE	164272
12/17/2015	8000 SE FOSTER RD	164279
12/18/2015	11611 SW AVENTINE	164291
12/18/2015	3122 NE 12TH AVE	164288
12/18/2015	5026 SE 70TH AVE	164290
12/19/2015	9259 SW 2ND AVE	164294
12/19/2015	156 SW KINGSTON AVE	164293
12/19/2015	8676 N WILLAMETTE	164295
12/20/2015	2835 SE LAMBERT ST	164296
12/21/2015	1416 SE 24TH AVE	164301
12/22/2015	7816 SE 31ST AVE	164316
12/22/2015	1641 SW	164308
12/24/2015	7410 SW 34TH AVE	164323
12/24/2015	2340 NW BREWER LN	164322
12/27/2015	4308 SE 25TH AVE	164327
12/28/2015	9227 N VAN HOUTEN	164333
12/28/2015	3404 NE 47TH AVE	164332
12/28/2015	3997 SE 101st AVE	164335
12/29/2015	610 SE 82ND AVE	164336
12/31/2015	600 SW 4TH AVE	164352
12/31/2015	4545 NE 125TH PL	164348

Columbia Boulevard Wastewater Treatment Plant Monitoring Report

Population served 613,355

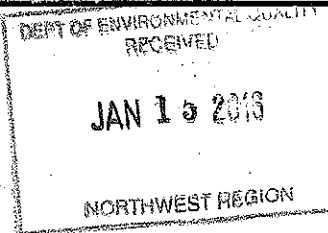
City of Portland, Multnomah County
Permit No. 101505 (File 70725)

Receiving Stream: Columbia River
Plant Type: Activated Sludge

December 2015

Date	Plant Flows					Influent		Avg Rain	Plant			Wastewater Treatment Plant												Notes
	Total	Peak	2 ^o	Wet Weather	% Wet Weather	Pump Station			Influent															
	Dec 2015	in MG	in MGD	in MG	in MG	% Total Flow	Total Flow in MG	Wet Well Max Inches	inches	pH	BOD mg/l	TSS mg/l	OF #1 Cl ₂ Residual	BOD mg/l	BOD mg/l Weekly Avg	% BOD Removal	Lbs. BOD Discharged	Lbs. BOD Weekly Avg	TSS mg/l	TSS mg/l Weekly Avg	% TSS Removal	Lbs. TSS Discharged	Lbs. TSS Weekly Avg	See Page 4
1	81	331	73	8	10	4.96	179.9	0.67	7.0	318	298	0.5	14		96	8510		17		94	10333			
2	168	339	101	67	40	40.48	228.7	0.45	7.0	121	72	0.5	21		83	17752		37		49	31277			
3	164	314	123	41	25	22.93	182.9	0.52	6.5	193	167	0.7	17		91	17438		19		89	19490			
4	137	272	104	33	24	20.69	176.9	0.29	6.8	167	189	0.6	16		90	13856		27		86	23382			
5	106	238	97	8	8	9.47	176.2	0.46	6.9	181	130	0.5	21	16	88	17049	13089	33	22	75	26792	17412		
6	167	326	121	46	28	30.37	177.5	0.78	6.9	63	44	0.6	26		59	26252		20		55	20194			
7	370	478	131	240	65	125.00	367.4	2.59	6.4	61	175	0.6	32					68		61	74118		Note 1, 2	
8	340	439	123	217	64	103.65	297.0	1.78	6.9	63	214	0.6	6					17		92	17490		Note 1	
9	332	429	129	202	61	98.47	235.1	0.40	6.0	60	80	0.7	5		92	5393		19		76	20494			
10	249	350	138	110	44	52.75	179.9	0.83	6.8	85	180	0.7	5		94	5770		16		91	18465			
11	229	401	132	97	42	56.05	236.3	0.98	6.8	122	240	0.7	8		93	8792		17		93	18683			
12	320	379	140	180	56	86.40	226.0	0.80	6.8	30	35	0.5	7	13	77	8197	7772	15	25	57	17565	26716		
13	244	343	134	111	45	47.12	182.5	0.51	6.7	128	268	0.7	7		95	7811		17		94	18970			
14	116	211	116			5.69	175.2	0.05	6.6	154	150	0.8	8		95	7772		18		88	17487			
15	90	120	90			0.36	166.9	0.07	7.0	160	153	0.6	9		94	6771		21		86	15799			
16	95	150	95			1.69	177.3	0.16	7.0	124	66	0.5	9		93	7135		18		73	14270			
17	331	431	142	190	57	106.67	242.1	2.28	6.4	74	160	0.6	11		85	12998		14		91	16543		Note 3	
18	319	382	131	188	59	89.22	224.5	0.27	7.3	64	92	0.5	10		84	10890		25		73	27226			
19	131	196	117	14	11	13.18	183.7	0.12	6.8	112	82	0.6	6	9	95	5851	8461	12	18	85	11703	17428		
20	124	184	120	3	3	14.10	176.6	0.43	6.7	152	180	0.6	6		96	6015		12		93	12029			
21	303	370	132	171	56	79.32	240.5	0.93	6.4	68	120	0.6	18		74	19783		39		68	42862			
22	188	300	123	65	35	23.70	216.7	0.28	6.9	122	183	0.6	9		93	9202		16		91	16359			
23	214	314	131	83	39	41.39	182.7	0.71	7.0	96	140	0.5	7		93	7653		13		91	14212			
24	117	172	113	3	3	8.69	170.7	0.09	7.0	151	133	0.7	9		94	8514		17		87	16082			
25	81	97	81			0.24	167.9	0.01	7.1	169	140	0.6	7		96	4709		12		91	8072			
26	74	94	74			0.00	151.2	T	7.3	144	95	0.6	2	8	99	1242	8160	6	16	94	3726	16192		
27	113	227	98	14	13	13.65	188.2	0.41	7.1	116	129	0.6	7		94	5737		18		86	14753			
28	102	163	101	1	1	6.39	180.9	0.11	7.0	156	141	0.7	11		93	9254		19		87	15984			
29	127	254	108	19	15	16.15	176.9	0.30	6.8	160	160	0.5	11		93	9950		15		91	13569			
30	81	110	81			0.31	171.8	0.01	7.2	217	204	0.5	10		95	6748		16		92	10797			
31	75	92	75			0.00	150.2	0.01	7.1	256	264	0.5	9		96	5608		9		97	5608			
Max	370	478	142	240	65	125.00	367.4	2.59	7.3	318	298	0.8	32	16	99	26252	13089	68	25	97	74118	26716		
Min	74		73			0.00	150.2		6.0	30	35	0.5	2		59	1242		6		49	3726			
Sum	5589		3476	2114		1119.12		17.31								282654					594336			
Avg	180		112			36.10	199.7	0.56	6.8	132	151	0.6	11		92	9747		20		87	19172			

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Name and Title: Mike Ciolli, Wastewater Treatment Manager for Operations
Certificate # 10286, type: Treatment, grade IV
Signature: *Mike Ciolli*

Columbia Boulevard Wastewater Treatment Plant Monitoring Report

City of Portland, Multnomah County
Permit No. 101505 (File 70725)

December 2015

Receiving Stream: Columbia River
Plant Type: Activated Sludge

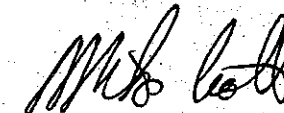
Date	CSO Flows (Swan Island)		Plant Effluent			Temperatures			OF 003 online occurrence #1		OF 003 online occurrence #2		CEPT	Notes
	Total Flow	Max	Alkalinity OF-1 Monthly, in mg/L	Alkalinity OF-3 Monthly, in mg/L	Cl2 used in Lbs Cl2	Effluent Daily Max, °C	Weekly Avg of Daily Max, °C	Thermal Load Million Kcal/day	start	end	start	end	hours online	
Dec 2015	in MG	Elev. In Feet												See Page 4
1	11.41	19.7			1453	17.3			22:59	23:59			2.7	
2	68.60	24.0			1847	16.7			0:00	10:40			11.0	
3	45.78	18.5		9	1760	14.3			0:56	9:20	23:04	23:59	11.6	Note 11
4	27.07	19.1	69		1581	14.6			0:00	10:10			9.9	
5	10.39	6.4			1492	15.6	16.1	-1589.2	12:30	15:03	22:36	23:59	7.3	
6	27.04	16.9			1815	14.8			0:00	12:03	22:03	23:59	15.1	
7	170.70	30.7			4385	14.7			0:00	23:59			24.0	
8	174.52	30.7			3675	14.5			0:00	23:59			24.0	
9	186.45	30.7	43	12	3540	14.6			0:00	23:59			24.0	
10	100.55	21.6	70		2462	14.6			0:00	19:49			19.3	
11	77.28	30.7			2319	14.2			1:23	4:04	12:05	23:59	5.3	
12	185.48	30.7			3009	11.7	14.1	-6372.1	0:00	23:59			24.0	
13	est. 112.28	est. 29.15			2262	13.6			0:00	11:46	16:15	23:59	21.3	Note 12
14	18.02	9.1			1127	14.4			0:00	2:54			2.3	Note 13
15	3.46	2.8			1024	15.2								
16	4.25	3.0			934	15.3								
17	144.42	30.7			3432	15.6			3:45	23:59			22.8	
18	188.38	30.7			3135	11.7			0:00	23:59			24.0	
19	22.58	8.1			1200	14.2	14.3	-4100.9	0:00	5:30			8.3	
20	13.76	13.6			987	14.2							5.9	
21	154.36	30.7			3075	13.4			0:00	23:59			24.0	
22	85.21	24.0			1805	14.0			0:00	7:57	17:53	23:59	15.7	
23	71.38	15.6			2182	12.6			0:00	3:17	6:30	23:59	24.0	
24	15.91	3.1			1047	13.8			0:00	4:10			4.3	
25	3.39	2.8			712	14.2								
26	2.77	2.9			714	14.7	13.8	-3658.2						
27	15.75	6.0			1120	14.9			19:10	23:59			19.6	
28	8.54	4.5			892	13.4			0:00	1:00			1.1	
29	22.18	8.6			1233	14.2			11:28	17:00			7.3	
30	3.44	2.9			885	14.5								
31	2.95	2.8			934	14.6								
Max	188.38	30.7			4385	17.3	16.1	-1589.2					24.0	
Min	2.77				712			-6372.1					1.1	
Sum	1866.02				58038								358.8	
Avg	62.20		61	10	1872		14.6	-3930.1					14.4	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title: Mike Ciolli, Wastewater Treatment Manager for Operations

Certificate # 10286, type: Treatment, grade IV

Signature:



Columbia Boulevard Wastewater Treatment Plant Monitoring Report

Quarterly Triangle Lake Groundwater Report

City of Portland, Multnomah County
Permit No. 101505 (File 70725)

December 2015

Receiving Stream: Columbia River
Plant Type: Activated Sludge

Sample Date(s): November 24, 2015

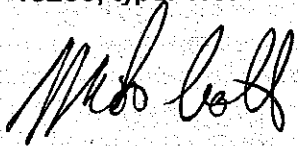
for months: October 2015
November 2015
December 2015

Test Parameter	Well #1	Well #2	Well #3A	Well #4	Well #5 *	Well #6 *	Units	Preservation	Method used	Detection limit	Notes
Water Level	10.95	9.36	9.1	8.66	8.98	8.20	feet				
TDS	1610	382	762	432	360	806	mg/L	cool 4° C	SM 2540C	5 mg/L	
Ortho-phosphate-P	<0.020	<0.020	<0.020	<0.020	0.0	<0.020	mg/L	cool 4° C	EPA 365.1	0.04 mg/L	
Chloride	45.0	5.6	33.0	11.0	11.0	26.0	mg/L	cool 4° C	EPA 300.0	2 mg/L	
NO2-N + NO3-N	<0.2	<0.2	0.256	<0.2	<0.2	<0.2	mg/L	cool 4° C	EPA 353.2 EPA 300.0	0.02 mg/L 0.20 mg/L	nitrite nitrate
Sulfate	<2.0	<2.0	3.5	<2.0	<2.0	36	mg/L	cool 4° C	EPA 300.0	2 mg/L	

* Wells #5 and #6 are part of the mono-fill project. The numbers reflected here are an attempt to develop a baseline for later comparison.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title: Mike Ciolli, Wastewater Treatment Manager for Operations
Certificate # 10286, type: Treatment, grade IV
Signature:



Columbia Blvd. Wastewater Treatment Plant

Supplementary Data for Internal Use Only

PAGE 1

Supplementary Data for Internal Use Only

DATE	Total Flow MGD	2° Flow MGD	SRT Days (7 days avg)	EFFL Turb	2° Cl ₂ TSS	2° Cl ₂ BOD	Effluent 12.5% Hypo Gals	Effluent Cl ₂ used In lbs	Process 12.5% Hypo Gals	SVI	MLSS	CTSS	Aers. online	Finals online	Aerator LBS.	Final Clarifier LBS	Total LBS.
1	81	73	1.8	11	17	14	2343	1453		232	1334	398	6	8	121,491	38,575	160,066
2	188	101	1.8	16	37	21	2979	1847		232	1085	954	6	8	98,993	92,930	189,923
3	164	123	1.8	15	19	17	2838	1760		225	1302	837	6	8	118,577	81,533	200,110
4	137	104	1.8	16	27	16	2550	1581		227	1111	908	6	8	101,182	88,255	189,436
5	106	97	1.8	16	33	21	2407	1492		231	1377	630	6	8	125,407	61,369	186,776
6	167	121	2.0	15	20	26	2928	1815		269	1031	831	6	8	93,896	80,949	174,845
7	370	131	1.8	26	68	32	7072	4385		251	847	808	6	8	77,139	78,708	155,847
8	340	123	2.2	14	17	6	5928	3675		151	856	576	7	8	86,620	56,109	142,729
9	332	129	2.6	12	19	5	5709	3540		161	677	763	8	8	82,208	74,325	156,533
10	249	138	2.8	14	16	5	3971	2462		136	1098	831	8	8	133,331	80,949	214,279
11	229	132	3.0	13	17	8	3740	2319		132	1477	701	8	8	179,353	68,285	247,638
12	320	140	2.2	15	15	7	4854	3009		165	1046	423	8	8	127,016	41,205	168,221
13	244	134	2.0	15	17	7	3648	2262		136	1001	704	8	8	121,552	68,577	190,129
14	116	116	2.2	13	18	8	1818	1127		151	1213	884	8	8	147,285	86,112	233,407
15	90	90	2.2	11	21	9	1652	1024		174	1580	800	8	8	191,860	77,929	269,789
16	95	95	2.1	10	18	9	1506	934		223	1391	996	8	8	168,910	97,022	265,931
17	331	142	2.0	14	14	11	5536	3432		376	1012	876	8	8	122,888	85,332	208,220
18	319	131	2.1	18	25	10	5056	3135		291	686	672	8	8	89,301	65,480	148,782
19	131	117	2.8	11	12	6	1935	1200		239	1068	734	8	8	129,888	71,500	201,187
20	124	120	3.1	10	12	<6	1592	987		265	1323	1000	8	8	160,852	87,411	258,064
21	303	132	2.3	23	39	18	4960	3075		296	1008	768	8	8	122,402	74,617	197,019
22	188	123	2.2	13	16	9	2912	1805		259	976	448	8	8	118,516	43,640	162,156
23	214	131	2.9	12	13	7	3520	2182		264	1148	990	8	8	139,402	96,437	235,839
24	117	113	2.7	13	17	9	1689	1047		308	1296	863	8	8	157,374	84,066	241,440
25	81	81	2.4	8	12	7	1149	712		336	1401	801	8	8	170,124	78,026	248,150
26	74	74	2.2	6	6	<2	1151	714		313	1287	528	8	8	158,281	51,433	207,714
27	113	98	2.1	6	18	7	1806	1120		400	1146	479	8	8	139,159	46,660	185,819
28	102	101	1.9	8	19	11	1438	892		424	916	474	8	8	111,230	46,173	157,403
29	127	108	2.0	9	15	11	1988	1233		340	991	630	8	8	120,338	61,369	181,707
30	81	81	2.2	8	18	10	1428	885		439	1264	645	8	8	153,468	82,830	216,318
31	75	75	2.2	7	9	9	1507	934		579	1327	471	8	8	161,136	45,881	207,019
MAX	370	142	3.1	26.1	68.0	32.0	7072	4385		579	1580	1000	8	8	191,860	97,411	269,789
MIN	74	73	1.8	5.7	6.0	5.0	1149	712		132	677	396	6	8	77,139	38,575	142,729
SUM	5589	3476					93,610	58,038		265	1137	723	8	8	129,639	70,441	200,080
AVG	180	112	2.2	12.8	20	11	3020	1872									

Supplementary Data for Internal Use Only

DATE	Columbia Wasting				Total TWAS To D5, D6, D7, D8, D9 & D10							Digester TWAS Feed Distribution						
December 2015	Volume MGD	WAS Dry lbs	WAS Dry tons	WAS mg/L	Volume MGD	TWAS Dry lbs	TWAS Dry tons	Tot Solids %	Vol Solids %	% Volatile Solids	Dig5 gal x100	Dig 6 gal x100	Dig 7 gal x100	Dig 8 gal x100	Dig 9 gal x100	Dig 10 gal x100		
1	1.637	75,089	37.54	5500	0.228	48,223	24.11	2.54	2.04	80	228	228	1144	246	239	230		
2	1.412	60,058	30.03	5100	0.160	47,411	23.71	3.55	2.88	81	182	182	974	170	178	183		
3	1.870	79,539	39.77	5100	0.190	70,468	35.23	4.45	3.81	81	198	198	862	201	200	198		
4	2.013	83,932	41.97	5000	0.292	77,616	38.81	4.02	3.21	80	243	244	1124	249	248	245		
5	1.863	76,133	38.07	4900	0.252	85,885	42.94	4.09	3.27	80	259	261	1214	268	264	262		
6	1.308	58,639	28.32	5200	0.158	48,948	24.47	3.72	2.98	80	187	161	832	167	149	165		
7	1.141	48,531	24.27	5100	0.131	41,350	20.68	3.79	2.94	78	136	144	576	137	124	302		
8	0.614	27,140	13.57	5300	0.069	23,713	11.86	4.15	2.68	64	62	61	377	74	60	77		
9	1.350	57,421	28.71	5100	0.085	31,131	15.57	4.39	2.69	61	74	73	400	64	65	64		
10	0.922	41,523	20.76	5400	0.104	45,233	22.62	5.20	3.01	58	92	95	541	107	103	91		
11	1.628	81,365	40.68	6000	0.191	84,510	42.25	5.31	3.17	60	197	197	1399	203	171	198		
12	1.514	70,710	35.35	5800	0.160	65,657	32.83	4.91	2.98	60	187	168	338	169	156	178		
13	1.384	69,255	34.63	6000	0.145	57,252	28.63	4.74	2.87	61	151	152	771	158	138	157		
14	1.633	88,498	44.25	6500	0.145	60,950	30.47	5.04	3.17	63	187	167	757	153	117	138		
15	2.062	110,061	55.03	6400	0.238	95,623	47.81	4.82	3.25	67	259	253	1120	264	117	260		
16	2.188	116,787	58.39	6400	0.283	96,702	48.35	4.09	3.02	74	290	297	1374	313	277	291		
17	1.658	87,010	43.50	6300	0.211	64,436	32.22	3.68	2.81	77	229	229	1020	218	191	230		
18	0.793	38,359	19.18	5800	0.103	30,219	15.11	3.53	2.50	71	105	108	485	122	108	119		
19	1.028	48,774	24.39	5700	0.114	42,478	21.24	4.45	3.00	67	152	151	451	137	115	139		
20	1.519	78,562	39.28	6200	0.192	69,828	34.81	4.35	3.03	70	227	228	804	233	201	228		
21	1.504	75,260	37.63	6000	0.211	58,988	28.48	3.24	2.31	71	259	260	855	276	245	245		
22	0.889	41,311	20.66	5700	0.112	32,728	16.36	3.50	2.40	69	136	138	451	140	130	137		
23	1.481	66,887	33.34	5400	0.222	70,297	35.15	3.79	2.69	71	274	275	874	265	275	275		
24	1.862	79,198	39.60	5100	0.195	57,888	28.93	3.55	2.55	72	244	241	784	249	691	245		
25	2.197	100,778	50.39	5500	0.371	99,087	49.54	3.20	2.36	74	444	445	1481	457	445	447		
26	2.019	94,285	47.15	5800	0.242	84,893	32.35	3.21	2.43	76	290	295	971	297	290	292		
27	1.637	78,454	38.23	5800	0.184	54,836	27.42	3.58	2.80	78	213	213	738	231	213	228		
28	1.531	68,950	34.48	5400	0.177	52,642	26.32	3.56	2.80	79	226	217	702	218	215	214		
29	1.580	71,157	35.58	5400	0.190	62,659	31.33	3.95	3.18	81	227	239	771	231	228	228		
30	1.778	81,603	40.80	5500	0.228	70,580	35.29	3.74	3.01	80	276	287	890	280	275	275		
31	2.035	81,648	45.82	5400	0.274	80,574	40.29	3.53	2.87	81	301	298	1205	313	300	307		
MAX	2.197	116,787	58.39	6500	0.371	99,087	49.54	5.31	3.61	81	444	445	1481	457	691	447		
MIN	0.614	27,140	13.57	4900	0.069	23,713	11.86	2.54	2.04	58	62	61	338	64	60	64		
SUM	48.022	2,242,725	1,121.36		5.795	1,890,362	945.18				6476	6480	26245	6606	6528	6649		
AVG	1.549	72346	36.17	5587	0.187	60,978	30.49	3.89	2.85	72	209	209	847	213	211	214		

Beginning October 2013, Digester #7 is TWAS only digester

Supplementary Data for Internal Use Only

DATE	1° Sludge Volume MG	1° Sludge Mass Dry Tons	Primary Sludge Density		Dig. 5 Pri Feed gal X100	Dig. 6 Pri Feed gal X100	Dig. 8 Pri Feed gal X100	Dig. 9 Pri Feed gal X100	Dig. 10 Pri Feed gal X100	Loading lb/dayVS/1000 cu.ft. (DIG 5,8,9,10 COMBINED)
			Tot Sol %	Vol Sol %						
1	0.549	75.82	3.31	2.57	1058	1085	1108	1117	1073	368
2	0.672	83.47	2.98	2.42	1297	1333	1374	1349	1281	424
3	0.565	75.60	3.21	2.22	1100	1114	1142	1159	1123	327
4	0.598	81.46	3.28	2.17	1162	1194	1227	1192	1154	337
5	0.563	54.18	2.31	1.77	1074	1069	1123	1128	1094	259
6	0.546	74.52	3.27	2.39	1069	1088	1132	1052	1066	340
7	0.652	35.89	1.32	0.81	1276	1302	1355	1304	1281	138
8	0.553	84.44	3.66	1.68	1095	1115	1115	1109	1109	242
9	0.672	101.75	3.63	1.67	1298	1328	1353	1314	1320	293
10	0.459	170.12	8.89	3.25	887	912	938	912	892	389
11	0.579	316.06	13.10	4.96	1134	1135	1187	1140	1135	748
12	0.545	74.77	3.29	1.53	1048	1068	1105	1069	1053	217
13	0.436	42.32	2.33	1.28	856	892	898	823	851	145
14	0.438	70.71	3.87	2.39	894	914	918	718	882	273
15	0.507	79.93	3.78	2.53	1107	1124	1159	523	1132	334
16	0.643	72.40	2.70	1.97	1263	1294	1316	1257	1249	330
17	0.874	103.73	3.69	2.41	1310	1340	1402	1330	1340	423
18	0.411	38.01	2.22	0.96	815	809	833	779	799	103
19	0.495	99.53	4.82	2.42	979	996	1023	950	875	312
20	0.402	70.15	4.19	2.66	791	806	841	778	798	278
21	0.619	42.34	1.64	1.02	1228	1254	1271	899	1211	165
22	0.449	40.61	2.17	1.19	895	894	933	836	901	139
23	0.643	109.15	4.07	2.42	1249	1292	1315	1280	1255	406
24	0.370	83.28	5.40	3.47	731	744	781	245	736	334
25	0.555	62.97	2.72	1.87	1101	1110	1124	1100	1104	271
26	0.420	21.03	1.20	0.87	830	835	864	834	838	96
27	0.498	41.73	2.01	1.55	1180	1010	1020	970	982	201
28	0.533	48.70	2.19	1.51	1055	1065	1109	1011	1067	210
29	0.544	38.34	1.69	1.32	1085	1101	1130	1060	1077	187
30	0.541	61.18	2.71	2.04	1060	1081	1099	1077	1066	288
31	0.497	47.84	2.31	1.70	978	980	1002	999	982	220
MAX	0.6742	316.06	13.10	4.96	1310	1340	1402	1349	1340	748
MIN	0.3698	21.03	1.20	0.81	731	744	518	245	736	95
SUM	16.6251	2,402.03			32885	33,264	33777	31314	32726	
AVG	0.5363	77.48	3.48	2.03	1061	1073	1090	1010	1058	284

Beginning October 2013, Digester #7 is TWAS only digester

Supplementary Data for Internal Use Only

DATE	Dig #1		Dig #2		Dig #5		Dig #6		Dig #7		Dig #8		Dig #9		Dig #10	
	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids	% Total Solids	% Volatile Solids
December 2015																
1	1.02	0.52	0.27	0.15	1.52	0.81	1.77	0.87	1.94	1.23	1.84	1.01	1.64	0.88	1.60	0.84
2																
3																
4																
5																
6																
7																
8	1.26	0.60	0.22	0.13	1.93	0.84	2.01	0.84	1.99	1.23	2.11	0.90	1.68	0.76	1.96	0.85
9																
10																
11																
12																
13																
14																
15	1.87	0.69	0.20	0.12	3.01	0.94	2.58	0.89	2.20	1.26	2.32	0.89	2.14	0.85	2.27	0.90
16																
17																
18																
19																
20																
21																
22	1.14	0.47	0.21	0.12	2.14	0.78	2.23	1.80	2.15	1.21	2.30	0.89	2.13	0.83	2.03	0.80
23																
24																
25																
26																
27																
28																
29	1.29	0.49	0.37	0.18	2.07	0.80	2.02	0.83	2.12	1.21	1.91	0.78	1.91	0.78	1.98	0.81
30																
31																
MAX	1.67	0.69	0.37	0.18	3.01	0.94	2.58	1.80	2.20	1.26	2.32	1.01	2.14	0.88	2.27	0.90
MIN	1.02	0.47	0.20	0.12	1.52	0.78	1.77	0.83	1.94	1.21	1.84	0.78	1.64	0.76	1.60	0.80
AVG	1.28	0.55	0.25	0.14	2.13	0.83	2.12	1.05	2.08	1.23	2.10	0.89	1.90	0.82	1.97	0.84

Beginning October 2013, Digester #7 is TWAS only digester

Supplementary Data for Internal Use Only

DATE	Digester Temperature								Digester pH						Alkalinity						Volatile Acids					Where To		
	D-1 temp.	D-2 temp.	D-5 temp.	D-6 temp.	D-7 temp.	D-8 temp.	D-9 temp.	D-10 temp.	D-5 pH	D-6 pH	D-7 pH	D-8 pH	D-9 pH	D-10 pH	D-5 mg/L	D-6 mg/L	D-7 mg/L	D-8 mg/L	D-9 mg/L	D-10 mg/L	D-5 mg/L	D-6 mg/L	D-7 mg/L	D-8 mg/L	D-9 mg/L	D-10 mg/L	Digester Distribution	To T. Lake
December 2015																												
1	100	100	99	99	99	99	99	99	7.2	7.2	7.6	7.3	7.2	7.2	2850	2980	6520	3070	2880	3180	42	35	68	50	40	32	59,315	9,737
2	100	100	99	99	99	99	99	99	7.3	7.3	7.7	7.3	7.3	7.3	2460	2700	6650	2840	2960	3250	42	35	65	50	45	40	69,303	6,660
3	99	100	99	99	99	99	99	99	7.2	7.2	7.6	7.2	7.2	7.2	2950	2970	6070	2980	2830	3290	40	35	50	42	35	28	58,576	9,676
4	100	100	99	98	9	99	99	99	7.1	7.3	7.6	7.1	7.2	7.3	2910	2710	7070	2920	2850	3090	48	50	60	50	45	45	63,050	9,518
5	100	100	99	99	99	99	99	99	7.1	7.2	7.5	7.2	7.2	7.2	3100	2950	7180	3120	2950	3040	52	42	62	48	42	40	58,479	10,427
6	100	100	100	99	99	99	99	99	7.2	7.3	7.5	7.3	7.2	7.3	2980	2810	6310	2780	2690	3200	42	40	58	40	50	45	54,630	9,885
7	99	99	99	99	99	99	99	99	7.2	7.2	7.6	7.2	7.2	7.2	3040	2900	6350	3020	2670	3010	38	42	65	55	38	38	71,592	6,940
8	100	99	99	99	99	99	99	99	7.0	7.2	7.6	7.2	7.2	7.2	2990	2710	6910	2780	2680	3060	42	42	55	42	52	42	53,996	10,130
9	99	100	99	99	99	99	99	99	7.1	7.2	7.6	7.2	7.0	7.1	2790	2720	6210	2650	2610	2920	38	35	38	40	32	30	62,530	3,138
10	100	100	99	99	99	99	99	99	7.2	7.2	7.3	7.6	7.2	7.2	2900	2610	7430	2770	2830	3110	32	32	45	40	42	42	44,317	3,269
11	99	100	99	99	99	99	99	99	7.2	7.2	7.7	7.3	7.2	7.2	2930	2630	6580	2620	2810	2980	30	35	55	38	32	32	60,522	9,981
12	98	100	99	99	99	99	99	99	7.1	7.2	7.7	7.2	7.2	7.3	2820	2630	6640	2690	2600	3080	45	45	50	48	42	40	58,329	6,546
13	98	100	99	99	99	99	99	99	7.1	7.2	7.6	7.2	7.1	7.2	2570	2410	6640	2580	2590	2960	35	32	52	40	32	28	39,878	6,171
14	98	99	99	99	99	99	99	99	7.2	7.2	7.6	7.2	7.2	7.2	2690	2530	6100	2530	2480	2770	28	28	52	35	32	32	49,267	6,223
15	100	100	99	99	99	99	99	99	7.2	7.3	7.7	7.3	7.2	7.2	2620	2360	7120	2540	2620	2810	160	48	55	50	40	35	62,160	12,577
16	100	100	99	99	99	99	99	99	7.1	7.3	7.6	7.2	7.2	7.1	2730	2450	6470	2520	2650	2860	70	48	70	60	40	48	64,925	18,862
17	99	99	99	99	99	99	99	99	7.2	7.3	7.7	7.3	7.2	7.2	2710	2430	5920	2490	2630	3020	38	45	65	50	35	30	80,946	10,252
18	99	100	99	99	99	99	99	99	7.2	7.2	7.8	7.3	7.2	7.3	2670	2520	6640	2570	2490	2760	40	42	68	45	40	42	47,135	3,295
19	100	100	99	99	99	99	99	99	7.2	7.3	7.7	7.2	7.2	7.2	2670	2780	7290	2520	2500	2750	40	58	52	42	40	28	55,608	3,077
20	100	100	99	99	99	99	99	99	7.2	7.2	7.6	7.2	7.1	7.2	2700	2340	6030	2760	2750	2760	42	35	68	50	38	42	46,757	6,817
21	99	100	99	99	99	99	99	99	7.1	7.1	7.6	7.2	7.1	7.2	2810	2430	6750	2680	2500	2810	38	35	42	45	38	35	76,278	9,509
22	99	100	99	99	99	99	99	99	7.1	7.3	7.8	7.3	7.3	7.3	2780	2450	6600	2620	2610	2770	40	40	45	48	85	35	48,879	3,383
23	99	100	97	98	98	98	98	98	7.2	7.2	7.7	7.2	7.2	7.2	2880	2580	7030	2650	2630	3000	45	42	65	52	45	40	47,990	26,037
24	99	100	98	98	98	98	98	98	7.2	7.3	7.8	7.3	7.2	7.2	2440	2620	6660	2600	2720	2820	30	40	60	52	38	40	37,994	28,817
25	100	100	99	99	99	99	99	99	7.2	7.3	7.8	7.3	7.1	7.3	2670	2480	6490	2510	2600	3000	40	40	62	48	40	32	44,106	46,647
26	99	100	99	99	99	99	99	99	7.4	7.3	7.7	7.2	7.2	7.3	2890	2630	6400	2650	2690	3050	38	38	60	50	45	38	36,479	23,442
27	99	100	99	99	99	99	99	99	7.2	7.2	7.6	7.3	7.1	7.3	2750	2640	6600	2580	2580	2720	32	35	45	30	30	28	60,337	6,118
28	97	100	99	99	99	99	99	99	7.2	7.2	7.7	7.3	7.2	7.2	2690	2580	6240	2620	2720	2720	42	42	50	35	32	40	63,472	6,389
29	98	100	99	99	99	99	99	99	7.4	7.3	7.7	7.3	7.2	7.2	2610	2520	7010	2640	2500	2810	35	38	58	42	35	35	64,397	9,544
30	98	100	99	99	99	99	99	99	7.2	7.4	7.8	7.3	7.2	7.3	2870	2530	6980	2560	2620	3010	42	100	52	50	38	68	65,841	6,276
31	98	100	99	99	99	99	99	99	7.2	7.3	7.7	7.2	7.1	7.2	2820	2500	6760	2710	2480	2700	65	45	70	45	90	35	63,860	9,833
MAX	100	100	100	99	99	99	99	99	7.4	7.4	7.8	7.3	7.3	7.3	3100	2980	7430	3120	2960	3290	160	100	70	60	90	68	80,946	46,647
MIN	97	99	97	98	9	98	98	98	7.0	7.1	7.5	7.1	7.0	7.1	2440	2340	5920	2490	2480	2700	28	28	38	30	30	28	10,897	9,195
SUM																											1770,647	339,173
AVG	99	100	99	99	96	99	99	99	7.2	7.2	7.7	7.2	7.2	7.2	2784	2616	6634	2696	2668	2945	45	42	57	46	42	38	57,118	10,941

Baseline for October 2013. Digester #7 is TWA's only digester.

D2 offline June 28, 2015

Beginning October 2013, Digester #7 is TVAS only digester

Supplementary Data for Internal Use Only

Digester 5-10 Daily Gas Production

DATE December 2015	Dig #5 scf	Dig #6 scf	Dig #7 scf	Dig #8 scf	Dig #9 scf	Dig #10 scf
1	-3656	371	285	362	223	194
2	369	371	222	368	272	235
3	328	327	256	316	220	196
4	340	341	340	340	234	200
5	341	341	341	340	248	205
6	349	349	274	348	211	188
7	344	344	183	344	195	177
8	344	343	172	344	171	164
9	340	340	170	340	180	163
10	351	349	176	348	170	162
11	365	366	182	365	242	201
12	328	327	164	328	192	174
13	349	350	175	349	182	170
14	130	130	170	200	80	85
15	308	322	200	221	119	223
16	318	334	292	316	215	231
17	293	306	261	289	212	214
18	238	248	179	232	164	166
19	260	278	156	260	183	184
20	277	288	190	272	190	192
21	297	307	202	291	212	217
22	233	246	142	197	166	176
23	241	264	167	178	242	237
24	230	233	166	225	161	172
25	308	307	254	303	224	224
26	237	238	197	224	177	169
27	255	262	206	254	192	179
28	261	265	182	260	204	196
29	266	264	202	262	204	194
30	121	289	225	275	218	206
31	94	290	232	274	224	208
MAX	369	371	341	368	272	237
MIN	-3,656	130	142	178	80	85
SUM	4,859,000	9,390,000	6,563,000	9,025,000	6,127,000	5,902,000
AVG	157	303	212	291	198	190

December-2015	scf	% of total
Dig 1-10 Production	25,515,435	100.0
Dig 5-10 Production	41,866,000	164.1

Gas Report

Columbia Blvd. Wastewater Treatment Plant

Supplementary Data for Internal Use Only

Natural Gas and Sewer Gas; daily usage and monthly totals (in scf)

DATE	TUVE south meter #1	DCB east (boiler #2) meter #2	DCB west (boiler #1) meter #3	SLPR boiler #1	SLPR boiler #2	Malarkey	Waste Gas Burner	Co-gen	microturbine (x100)	Natural Gas (x1000)
December 2015										
1	805720	156872	63225	191783	0	367900	19878	647000		60
2	1014930	670040	0	204394	0	326000	10904	639000		54
3	397377	325800	0	175862	0	427000	850	539000		56
4	663563	432360	0	157210	0	361500	169493	632000		11
5	0	277616	5	149838	0	331100	206594	651000		11
6	1545162	91288	0	127442	0	389900	158028	652000		8
7	0	0	0	162199	0	388100	12254	482000		8
8	959014	298176	0	159334	0	0	14324	572000		11
9	379392	49656	0	194825	0	102500	4429	495000		11
10	380655	108656	0	175133	0	38900	24000	405000		12
11	1332253	96265	0	181060	0	416100	11405	527000		50
12	0	96151	0	192525	0	227000	201	536000		62
13	441745	103936	0	157615	0	104400	208	542000		42
14	608489	257768	117251	192919	4189	188700	19531	411000		49
15	307400	832	176361	214207	0	205600	7394	604000		44
16	982955	2672	213820	203022	0	263700	69687	579000		47
17	469299	1288	262440	208660	0	256800	3252	516000		44
18	434185	1056	182815	179128	0	0	7810	528000		27
19	797722	872	158935	193941	0	96900	614	541000		27
20	314171	0	211441	148407	0	285400	982	560000		25
21	623207	6472	308168	192314	0	0	7432	470000		28
22	579779	5328	135683	237414	0	0	166526	332000		24
23	0	11240	270409	193140	0	0	220013	334000		25
24	999619	3424	163515	199439	0	0	115833	277000		31
25	618913	568	331042	183876	0	0	210818	360000		34
26	837298	3184	213512	186995	0	394100	140394	307000		33
27	349698	9664	254309	191546	0	0	433872	336000		7
28	634131	6488	307028	200428	0	0	323600	317000		32
29	525824	72576	214593	228283	0	0	247449	328000		29
30	208799	192696	160048	183668	0	0	206819	323000		36
31	1013828	1360	246700	214211	0	0	252819	261000		29
MAX	1,545,162	670040	331,042	237,414	4189	427,000	433,872	652,000	0	62
MIN	0	0	0	127,442	0	0	201	261,000	0	7
SUM	18,225,128	3,284,304	3,991,300	5,780,818	4,189	5,171,600	3,067,383	14,703	0	967
AVG	587,907	105,945	128,752	186,478	135	166,826	98,948	474	0	31

one cogen unit uses 232 cuft/min
or 13,934 cuft/hour for 1 unit
as per manufacturer

one micro turbine uses 750 cuft / hour
4 units total

Supplementary Data for Internal Use Only

DATE	# OF PRESSES	TOTAL PUMP HRS.	FEED			FILTRATE			CAKE			POLYMER		
			GALLONS X 1000	% SOLIDS	DRY TONS	% COMPOSITE	DRY TONS	% CAPTURE	WET TONS TO TRUCK	% SOLIDS	DRY TONS TO TRUCK	LBS. USED	LBS POLY / FEED DRY TONS	LBS POLY / CAKE DRY TONS
December 2015	3	73.1	803	1.20	40.2	0.11	3.7	91	171.71	20.85	35.80	989	25	28
1	4	59.2	667	1.55	43.1				68.79	20.32	13.98	903	21	65
2	4	65.1	738	1.28	39.4				206.18	21.16	43.63	896	23	21
3	3	70.4	821	1.48	50.7				206.36	19.95	41.17	952	19	23
4	3	71.6	836	1.48	51.6				172.37	20.08	34.61	986	19	28
5	3	73.0	851	1.39	49.3				172.86	21.15	36.56	1034	21	28
6	3	72.8	848	1.30	45.9				207.14	21.26	44.04	1032	22	23
7	3	74.3	864	1.77	63.8	0.11	4.0	94	173.22	20.02	34.68	1051	16	30
8	3	51.0	813	1.66	56.3				173.90	21.18	36.83	988	18	27
9	3	73.6	875	1.25	45.6				204.38	22.27	45.52	1062	23	23
10	4	69.0	794	1.74	57.6				207.12	23.46	48.59	988	17	20
11	3	72.3	838	1.99	69.5				172.13	23.24	40.00	976	14	24
12	4	70.6	831	1.61	55.8				206.83	24.28	50.22	996	18	20
13	3	72.8	871	1.45	52.7				207.18	25.11	52.02	1037	20	20
14	3	70.5	825	1.81	62.2	0.09	3.1	95	203.83	23.98	48.88	992	16	20
15	3	71.7	805	1.90	63.7				207.38	21.28	44.13	942	15	21
16	4	72.4	854	1.99	70.8				206.17	25.08	51.71	1006	14	19
17	4	50.2	549	2.10	48.0				202.49	25.07	50.76	678	14	13
18	3	52.2	622	2.15	55.8				171.18	23.80	40.74	721	13	18
19	3	72.5	752	1.96	61.5				206.52	25.43	52.52	842	14	16
20	3	67.4	787	1.34	44.0				206.30	26.28	54.22	866	20	16
21	4	75.6	1035	1.71	73.8	0.12	5.2	93	206.78	26.04	53.85	1125	15	21
22	3	24.1	319	2.27	30.2				68.65	27.12	18.62	367	12	20
23	3	45.6	551	1.41	32.4				33.99	27.45	9.33	664	20	71
24	4	22.9	270	2.20	24.7				34.36	26.22	9.01	325	13	36
25	4	44.3	557	1.80	41.8				172.18	25.94	44.66	677	16	15
26	3	74.2	966	1.53	61.6				202.10	25.26	51.05	1124	18	22
27	3	60.5	821	1.37	46.9				171.20	25.89	44.32	880	19	20
28	4	69.8	912	1.15	43.7	0.11	4.2	90	204.21	25.07	51.20	1080	25	21
29	4	92.0	1101	1.45	66.5				206.06	25.56	52.67	1360	20	26
30	4	55.2	620	1.61	41.6				68.90	31.08	21.41	739	18	35
31	4	92.0	1101	2.27	73.8	0.12	5.2	95	207.38	31.08	54.22	1360	25	71
MAX	3	22.9	270	1.15	24.7	0.09	3.1	90	33.99	19.95	9.01	325	12	13
MIN		1989.9	23797		1591.1		20.1		5322.47		1256.72	28276	658	
SUM	3	64.2	768	1.64	51.3	0.11	4.0	93	171.69	23.90	40.54	912	18	26
AVG														

Supplementary Data for Internal Use Only

Supplementary Data for Internal Use Only															
DATE		Plant Flow MGD	Plant Flow Temperatures						Dry Weather Primaries			Volatile Acids			
December 2015	Influent Temperature °F		Influent Temperature °F			Effluent Temperature °F			Average Effluent Temp	Tanks in service	Detention Time hours	Headworks	Primary Effluent	Chlorinated Effluent	
1		81	A-shift 63	B-shift 62	C-shift 59	Average 61	A-shift 63	B-shift 63	C-shift 62	Average 63	3	1.3			
2		168	58	60	44	54	49	52	52	51	4	0.8			
3		164	56	59	46	53	49	55	57	54	4	0.8	22	22	12
4		137	57	60	55	57	52	56	57	55	4	1.0			
5		106	54	58	61	58	60	56	59	58	4	1.3			
6		167	53	60	53	55	54	56	55	55	4	0.8	20	18	15
7		370		52	53	52		52	55	54	4	0.4			
8		340	56	57	53	55	54	58	53	55	4	0.4			
9		332	56	57	58	57	57	57	58	58	4	0.4			
10		249	52	55	57	55	56	55	58	56	4	0.5	12	12	10
11		229	58	49	55	54	57	56	57	57	4	0.6			
12		320	52	51	51	51	52	53	51	52	4	0.4			
13		244	54	52	52	52	53	56	53	54	4	0.5	12	12	10
14		116	57	58	56	57	55	57	54	55	4	1.2			
15		90	58	59	59	59	58	59	58	59	4	1.5			
16		95	57	59	58	58	59	59	60	59	4	1.4			
17		331	46	46	52	48	52	48	60	53	4	0.4	20	18	12
18		319	51	53	48	51	50	52	48	50	4	0.4			
19		131	55	58	55	56	54	56	54	55	4	1.0			
20		124	56	54	58	56	57	57	57	57	4	1.1	18	15	12
21		303	50		50	50	50		56	53	4	0.4			
22		188	57	52	51	54	54	57	52	54	4	0.7			
23		214	47	51	55	51	53	50		51	4	0.6			
24		117	56	57	53	55	54	56	54	55	4	1.2	22	25	15
25		81	56	58	57	57	57	57	57	57	4	1.7			
26		74	57	59	58	58	58	58	58	58	4	1.8			
27		113	57	51	57	55	59	58	57	58	4	1.2	18	15	10
28		102	54	57	53	55	53	55	55	54	4	1.3			
29		127	50	55	58	54	57	53	57	55	4	1.1			
30		81	57	58	57	57	56	57	55	56	4	1.7			
31		75	58	59	58	58	57	58	58	58	4	1.8	30	25	12
MAX		370	63	62	61	61	63	63	62	63	4	1.8	30	25	15
MIN		74	46	46	44	48	49	48	48	50	3	0.4	12	12	10
SUM		5589													
AVG		180	55	56	54	55	55	56	56	55	4.0	1.0	19	18	12

Supplementary Data for Internal Use Only

DATE		FEED				FILTRATE				TWAS		POLYMER			
December 2015	# OF BELTS	TOTAL BELT HOURS	GALLONS IN MGD	% SOLIDS (WAS)	DRY TONS	% Total Solids (composite)	Dry Tons	Estimated Capture Rate %	GALLONS X 100	% SOLIDS	TOTAL DRY TONS	LBS. USED	LBS POLY / FEED DRY TONS	LBS POLY / TWAS DRY TONS	
1	3	71.7	1.64	0.54	36.9	0.02	1.37	96	227645	3.65	3464.9	367	10.0	0.11	
2	3	48.2	1.41	0.43	25.3				160134	3.96	2637.6	301	11.9	0.11	
3	3	72.7	1.87	0.54	42.1				189868	4.45	3523.3	438	10.4	0.12	
4	3	70.8	2.01	0.48	40.3				231505	4.10	3958.0	443	11.0	0.11	
5	3	63.1	1.86	0.55	42.7				251784	4.30	4514.7	462	10.8	0.10	
6	2	47.1	1.31	0.50	27.2				157772	3.83	2519.8	328	12.1	0.13	
7	3	44.1	1.14	0.44	20.9				130819	4.60	2509.4	270	12.9	0.11	
8	2	33.1	0.61	0.63	16.1	0.03	0.77	95	88514	4.04	1154.2	112	6.9	0.10	
9	1	18.0	1.35	0.50	28.1				85027	4.60	1631.0	138	4.9	0.08	
10	3	29.6	0.92	0.61	23.5				104300	5.89	2561.7	172	7.3	0.07	
11	2	46.5	1.63	0.62	42.0				190830	5.90	4895.0	275	6.5	0.06	
12	3	53.5	1.51	0.56	35.4				160337	5.02	3356.4	253	7.1	0.08	
13	2	47.4	1.36	0.59	34.1				144826	5.26	3176.6	233	6.8	0.07	
14	3	51.7	1.63	0.71	48.3				145002	5.37	3247.0	274	5.7	0.08	
15	3	71.4	2.06	0.71	61.0	0.03	2.58	96	237875	5.13	5088.6	354	5.8	0.07	
16	3	72.6	2.19	0.46	42.0				283495	4.53	5355.2	393	9.4	0.07	
17	3	64.7	1.66	0.54	37.3				211096	3.79	3336.2	330	8.9	0.10	
18	2	29.3	0.79	0.57	18.8				102645	3.73	1596.6	134	7.1	0.08	
19	2	33.0	1.03	0.65	27.8				114451	4.80	2290.9	154	5.5	0.07	
20	3	48.0	1.52	0.69	43.7				191925	4.59	3673.5	246	5.6	0.07	
21	3	66.4	1.50	0.46	28.8				210823	3.70	3252.8	246	8.5	0.08	
22	2	50.8	0.87	0.45	16.3	0.03	1.09	93	112122	3.66	1711.2	120	7.4	0.07	
23	3	45.5	1.48	0.53	32.7				222399	4.20	3895.1	232	7.1	0.06	
24	2	48.0	1.66	0.62	48.1				195455	4.09	3333.5	361	7.5	0.11	
25	3	71.7	2.20	0.60	55.0				371280	3.30	5109.2	389	7.1	0.08	
26	3	73.5	2.02	0.50	42.1				241650	3.58	3607.5	360	9.0	0.11	
27	3	73.0	1.64	0.55	37.5				183662	3.89	2979.2	309	8.2	0.10	
28	3	70.9	1.53	0.57	38.4				177302	4.04	2987.0	279	7.7	0.09	
29	3	77.8	1.58	0.55	36.2	0.00	0.20	99	190204	3.90	3063.3	292	8.1	0.09	
30	3	64.4	1.78	0.53	39.3				226278	3.95	3727.1	315	8.0	0.08	
31	3	73.2	2.04	0.48	40.7				273687	3.66	4177.1	347	8.5	0.09	
MAX	3	77.8	2.20	0.71	61.0	0.03	2.58	99	371280	5.90	5355.2	462	13	0	
MIN	1	18.0	0.61	0.43	16.1	0.00	0.20	93	68514	3.30	1154.2	112	5	0	
SUM		1731.7	48.02		1107.0			96	5794712		102163.8	8947		3	
AVG	3	55.9	1.55	0.55	35.7	0.02	1.20	96	186926	4.31	3295.6	289	8	0	

Supplementary Data for Internal Use Only

Date	BP % Total Solids	Cake to Trucks (wet tons)	Cake to Trucks (Dry Tons)	Lagoon to Press Feed (Dry Tons)	Belt Press Feed (Dry Tons)	Estimated Capture Rate	Digesters to Press Feed (Dry Tons)	Digesters to Lagoon (Dry Tons)	Solids to Madison Ranch (Dry Tons)
December 2015									
1	20.85	171.71	35.8	16.8	40.2	89	23.4	9.7	35.8
2	20.32	68.79	14.0	9.9	43.1	32	33.3	6.7	14.0
3	21.16	206.18	43.6	21.2	39.4		18.2	9.7	43.6
4	19.95	206.36	41.2	0.0	50.7	81	50.7	9.5	41.2
5	20.08	172.37	34.6	0.0	51.6	67	51.6	10.4	34.6
6	21.15	172.86	36.6	8.9	49.3	74	40.4	9.9	36.6
7	21.26	207.14	44.0	12.3	45.9	96	33.6	6.9	44.0
8	20.02	173.22	34.7	22.6	63.8	54	41.1	10.1	34.7
9	21.18	173.90	36.8	25.6	56.3	65	30.7	3.1	36.8
10	22.27	204.38	45.5	0.0	45.6	100	45.6	3.3	45.5
11	23.46	207.12	48.6	31.7	57.6	84	26.0	10.0	48.6
12	23.24	172.13	40.0	9.0	69.5	58	60.6	6.5	40.0
13	24.28	206.83	50.2	14.3	55.8	90	41.5	6.2	50.2
14	25.11	207.18	52.0	9.9	52.7	99	42.8	6.2	52.0
15	23.98	203.83	48.9	37.7	62.2	79	24.6	12.6	48.9
16	21.28	207.38	44.1	0.0	63.7	69	63.7	18.9	44.1
17	25.08	206.17	51.7	0.0	70.8	73	70.8	10.3	51.7
18	25.07	202.49	50.8	12.2	48.0		35.8	3.3	50.8
19	23.80	171.18	40.7	4.1	55.8	73	51.6	3.1	40.7
20	25.43	206.52	52.5	11.5	61.5	85	50.0	6.8	52.5
21	26.28	206.30	54.2	0.0	44.0		44.0	9.5	54.2
22	26.04	206.78	53.8	0.0	73.8	73	73.8	3.4	53.8
23	27.12	68.65	18.6	0.0	30.2	62	30.2	26.0	18.6
24	27.45	33.99	9.3	0.0	32.4	29	32.4	28.8	9.3
25	26.22	34.36	9.0	0.0	24.7	36	24.7	46.6	9.0
26	25.94	172.18	44.7	0.0	41.8		41.8	23.4	44.7
27	25.26	202.10	51.1	13.9	61.6	83	47.7	6.1	51.1
28	25.89	171.20	44.3	9.1	46.9	94	37.8	6.4	44.3
29	25.07	204.21	51.2	0.0	43.7		43.7	9.5	51.2
30	25.56	206.06	52.7	0.0	66.5	79	66.5	6.3	52.7
31	31.08	68.90	21.4	0.0	41.6	51	41.6	9.8	21.4
Max	31.08	207.4	54.2	37.7	73.8	100	73.8	46.6	54.2
Min	19.95	34.0	9.0	0.0	24.7	29	18.2	3.1	9.0
Std	2.70	54.6	13.2	10.4	12.2	20	14.1	9.2	13.2
Sum	740.88	5322.5	1256.7	270.6	1591.1		1320.5	339.2	1256.7
Avg	23.90	171.7	40.5	8.7	51.3	72	42.6	10.9	40.5

Supplementary Data for Internal Use Only

Date	Primary Sludge					TWAS					D6					D7					D8					D9					D10					
	TS	VS	%	VS	%	TS	VS	%	VS	%	PS	Feed	TWAS	Vol Sol (b/day)	Loading (lbs VS/m ² /day)	PS	Feed	TWAS	Vol Sol (b/day)	Loading (lbs VS/m ² /day)	PS	Feed	TWAS	Vol Sol (b/day)	Loading (lbs VS/m ² /day)	PS	Feed	TWAS	Vol Sol (b/day)	Loading (lbs VS/m ² /day)	PS	Feed	TWAS	Vol Sol (b/day)	Loading (lbs VS/m ² /day)	
Dec 2015																																				
1	3.31	2.57	78	2.54	2.04	80	10580	2280	285581	0.84	10850	2290	287731	0.85	11440	194836	0.82	11080	2480	279340	0.89	11170	2390	280078	0.82	10730	2300	269116	0.86							
2	2.98	2.42	81	3.55	2.88	81	12870	1820	305488	0.97	13330	1820	312752	0.99	9740	233947	0.74	13740	1700	318144	1.01	13490	1780	315020	0.93	12810	1830	302497	0.96							
3	3.21	2.22	89	4.45	3.61	81	11000	1980	283275	0.84	11140	1980	285888	0.85	8820	259526	0.83	11420	2010	271855	0.86	11590	2000	274801	0.81	11230	1980	287534	0.85							
4	3.28	2.17	86	4.02	3.21	80	11620	2430	273351	0.88	11840	2440	281410	0.89	11240	300911	0.86	12270	2490	288721	0.92	11820	2480	282119	0.83	11540	2450	274439	0.87							
5	2.31	1.77	77	4.09	3.27	80	10740	2590	229176	0.73	10890	2610	228863	0.73	12140	331080	1.05	11230	2680	238863	0.78	11280	2640	238511	0.70	10940	2620	232946	0.74							
6	3.27	2.38	73	3.72	2.98	80	10690	1670	254584	0.81	10880	1610	256880	0.82	8320	208779	0.68	11320	1670	267142	0.85	10520	1490	248722	0.73	10690	1650	253489	0.81							
7	1.32	0.81	61	3.79	2.94	78	12760	1360	119546	0.38	13020	1440	123264	0.39	5760	141233	0.45	13550	1370	125128	0.40	13040	1240	118495	0.35	12810	3020	160599	0.51							
8	3.66	1.68	46	4.15	2.66	64	10950	620	167177	0.53	11150	610	168757	0.54	3770	89835	0.27	11150	740	172641	0.55	11090	800	168695	0.50	11090	770	172466	0.55							
9	3.63	1.67	46	4.39	2.69	61	12980	740	197384	0.63	13280	730	201338	0.64	4000	89738	0.29	13530	640	202801	0.64	13140	650	197594	0.58	13200	640	190205	0.63							
10	8.89	3.25	37	5.2	3.01	58	8870	920	263216	0.84	9120	950	271046	0.86	5410	135809	0.43	9380	1070	281108	0.88	9120	1030	273054	0.80	8920	910	284621	0.84							
11	13.10	4.98	38	5.31	3.17	60	11340	1870	521177	1.66	11350	1870	521591	1.66	13980	368885	1.18	11670	2030	538415	1.71	11400	1710	516786	1.52	11350	1880	521655	1.66							
12	3.29	1.53	47	4.91	2.86	60	10480	1670	174953	0.56	10880	1660	177258	0.56	3380	83440	0.27	11050	1690	182720	0.58	10890	1660	174917	0.51	10530	1780	178307	0.57							
13	2.33	1.28	65	4.74	2.87	61	8960	1510	127523	0.41	8920	1520	131605	0.42	7710	184545	0.59	8940	1580	133203	0.42	8230	1380	120808	0.36	8510	1570	128425	0.41							
14	3.87	2.39	62	5.04	3.17	63	8940	1670	223248	0.71	9140	1670	226335	0.72	7570	200134	0.64	9380	1530	143701	0.48	7160	1170	174048	0.51	8820	1380	212290	0.68							
15	3.78	2.53	67	4.82	3.25	67	11070	2590	303781	0.87	11240	2530	305742	0.97	11200	303576	0.97	11580	2840	318109	1.01	5230	1170	142067	0.42	11320	2600	309327	0.96							
16	2.70	1.97	73	4.08	3.02	74	12630	2800	280550	0.89	12840	2870	287406	0.91	13740	345057	1.10	13160	3130	295051	0.94	12570	2770	276290	0.81	12480	2910	278502	0.89							
17	3.69	2.41	65	3.68	2.81	77	13100	2290	316888	1.01	13400	2290	322999	1.03	10200	239041	0.76	14020	2160	332883	1.03	13300	1810	312084	0.82	13400	2300	323233	1.03							
18	2.22	0.96	43	3.53	2.50	71	8150	1050	87145	0.26	8060	1060	86873	0.28	4850	99953	0.31	8330	1220	92130	0.29	7790	1060	84471	0.25	7990	1190	89763	0.28							
19	4.82	2.42	50	4.45	3.00	67	9780	1520	239520	0.75	8980	1510	238801	0.76	4510	112840	0.36	10230	1370	240747	0.77	9500	1150	220510	0.65	8750	1380	211377	0.67							
20	4.19	2.86	63	4.35	3.03	70	7910	2270	232842	0.74	8090	2280	236422	0.75	8040	203172	0.65	8410	2330	245450	0.78	7780	2010	223388	0.68	7980	2280	234648	0.75							
21	1.64	1.02	62	3.24	2.31	71	12280	2580	154381	0.49	12540	2800	166765	0.50	8550	164772	0.52	12710	2760	161284	0.51	8980	2450	123578	0.36	9010	1370	118643	0.37							
22	2.17	1.18	55	3.5	2.40	69	8950	1380	118047	0.37	8940	1380	115948	0.37	8740	166078	0.82	13150	2650	324856	1.03	12800	2750	320035	0.94	12550	2750	314969	1.00							
23	4.07	2.42	59	3.78	2.69	71	12480	2740	313554	1.00	12920	2750	322457	1.03	7840	166733	0.83	7810	2490	276976	0.89	2450	6910	217857	0.84	7980	2450	265101	0.84							
24	5.40	3.47	64	3.55	2.55	72	7310	2440	283441	0.84	7440	2410	288598	0.85	14810	237580	0.91	11240	4570	265245	0.84	11000	4450	259140	0.76	11040	4470	260159	0.83							
25	2.72	1.87	69	3.2	2.36	74	11010	4440	259100	0.82	11100	4450	260700	0.83	9710	198785	0.63	8640	2970	122851	0.38	8340	2900	119285	0.35	8390	2920	119981	0.38							
26	1.20	0.87	73	3.21	2.43	76	8300	2900	118895	0.38	8350	2950	120371	0.38	7380	172338	0.55	10200	2310	185769	0.59	9700	2130	175132	0.52	9820	2280	180186	0.57							
27	2.01	1.55	77	3.58	2.80	78	11800	2130	202278	0.64	10100	2130	180302	0.57	7020	163931	0.52	11080	2160	180101	0.60	10110	2150	177528	0.52	10670	2140	184345	0.59							
28	2.18	1.51	68	3.56	2.80	79	10550	2280	186103	0.59	10950	2170	184794	0.59	7710	204478	0.65	11300	2310	185663	0.59	10800	2280	177182	0.52	10770	2280	179033	0.57							
29	1.89	1.32	78	3.95	3.18	81	10650	2270	177447	0.56	11010	2390	184593	0.59	6900	223420	0.71	10980	2800	257269	0.82	10770	2750	252271	0.74	10660	2760	250650	0.80							
30	2.71	2.04	75	3.74	3.01	80	10800	2750	249378	0.79	10810	2870	250943	0.80	12090	288428	0.92	10020	3130	216883	0.69	9990	3000	213446	0.63	9820	3070	212711	0.68							
31	2.31	1.70	74	3.53	2.87	81	9780	3010	210708	0.67	9800	2980	210273	0.67	14810	389885	1.18	14020	4570	538415	1.71	13490	6810	516786	1.52	13400	4470	521855	1.66							
Max	13.10	4.98	81	5.31	3.61	81	13100	4440	521177	1.66	13400	4450	521881	1.66	3380	83440	0.27	5180	640	92130	0.29	2450	800	84471	0.25	7360	640	88763	0.28							
Min	1.20	0.81	37	2.54	2.04	68	7310	620	87145	0.28	7440	610	86873	0.28	3380	83440	0.27	5180	640	92130	0.29	2450	800	84471	0.25	7360	640	88763	0.28	</						

Supplementary Data for Internal Use Only

DATE	Dec 2015	Primary Sludge						TWAS				PS				D6				D6				D7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		VS %		TS		Vol		TS		VS		Feed Total		Feed		Vol		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS		Feed		Feed		TS		VS			

Beginning October 2013, Digester #7 is TWAS only digester