

October 27, 2021

Oregon Department of Environmental Quality (DEQ), NW Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Attention: Kenneth Thiessen, RG, CEG

Subject: Shore Terminals LLC, 9420 NW St. Helens Road (US Highway 30)
Summary of Olympic Pipeline Company (OPLC) Stormwater Data
DEQ ECSI Site No. 5130
File No. 19001-010-01

This letter provides an evaluation of the analytical results for stormwater sampling conducted at the Olympic Pipeline Company (OPLC) pursuant to their 1200-Z Industrial Stormwater Discharge Permit (File No. 112103). DEQ requested that Shore Terminals obtain and evaluate this data to ascertain whether additional stormwater sampling of OPLC's stormwater discharge would be needed to complete the source control evaluation (SCE) of stormwater discharge emanating from property owned by Shore Terminals into the conveyance line to the WR-209 outfall. Shore Terminals owns the property on which OPLC operates and leases the property to OPLC. OPLC uses the property for the import and export of fuel products via a pipeline that runs adjacent to the facility. The location of the OPLC facility is shown on the attached Figure 1 Site Location.

Stormwater runoff from the OPLC facility is treated through an oil/water separator which then discharges the treated stormwater to a bioswale as shown on Figure 2 Site Vicinity Plan. Much of the stormwater infiltrates in the bioswale; any stormwater that doesn't infiltrate flows across a grassed ground surface to the far eastern end of the bioswale where it discharges into a ditch that leads to the WR-209 conveyance line. OPLC has conducted monitoring of this discharge point pursuant to their 1200-Z permit. The stormwater discharge sampling point is shown on Figure 1 and is referred to as monitoring location 001 in the 1200-Z permit.

OPLC submitted quarterly Discharge Monitoring Reports (DMRs) as a requirement of their 1200-Z Permit beginning in at least July 2019. The DMRs reported values for 28 analytes in samples obtained during five events in 2018 and 2019 from the OPLC stormwater discharge location (monitoring location 001). On October 3, 2019 OPLC was issued a full monitoring waiver by City of Portland Environmental Services because the geometric mean for all analytes was below permit benchmarks for four consecutive quarters. At present, OPLC is required to conduct monthly visual observations for indications of pollution.



The monitoring for the DMRs conducted by OPLC at monitoring location 001 prior to October 2019 included the following analyses:

- Five total metal concentrations (copper, iron, lead, mercury, and zinc) and two dissolved metal concentrations (copper and lead);
- Polychlorinated biphenyls (PCBs), as Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 and total PCBs; total PCB concentrations were summed using one-half the laboratory reporting limit for non-detect Aroclor results;
- Six pesticides (aldrin, chlordane, dichlorodiphenyldichloroethene [DDE], dichlorodiphenyltrichloroethane [DDT] and DDT metabolites, dieldrin, and hexachlorobenzene);
- Eleven polycyclic aromatic hydrocarbons (PAHs), (acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, pyrene);
- Other indicators of potential contamination (cyanide, total oil and grease, total suspended solids, and pH).

Analytical data collected during the 1200-Z permit monitoring program are summarized in Table 1 NPDES Stormwater Data and are compared to Portland Harbor Cleanup Levels (CULs)¹ from the record of decision (ROD). As seen in Table 1, pesticides, PCBs, PAHs, and hexachlorobenzene were either non-detect or were detected at concentrations below Portland Harbor CULs. Iron and lead were detected but were below the CULs; mercury was not detected above the laboratory reporting limit (laboratory reporting limits were below the CUL for mercury). Total zinc exceeded the CULs during each of the four events it was analyzed and copper exceeded during two events, although the copper and zinc concentrations were below the benchmark required by the 1200-Z permit.

Based on these results, we are requesting that no further stormwater sampling be required at the OPLC monitoring location 001 to complete the stormwater SCE of stormwater runoff from OPLC to the WR-209 conveyance line, for the following reasons:

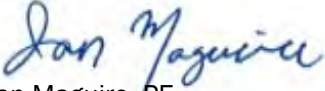
- The data set includes four monitoring events for most of the ROD Table 17 constituents, and is sufficiently robust to complete an SCE of the data set.
- Although the 1200-Z permit did not require monitoring for all Table 17 constituents (e.g., phthalates, arsenic, chromium, or dioxin/furan), the results for the remaining Table 17 constituents that were included in the program were below Portland Harbor surface water CULs, with the exception of copper and zinc, which were below the 1200-Z benchmarks.
- Sources of arsenic, chromium, phthalates and dioxin/furans would not be expected at the OPLC site based on its operations (fuel storage and import/export via pipeline).

¹ Portland Harbor Record of Decision (EPA, 2016) Cleanup Levels for surface water, Table 17 (updated 2020).



We would appreciate your review of the attached data and determination whether DEQ concurs that no further sampling of OPLC monitoring location 001 is needed to complete the stormwater SCE at the Shore Terminals property.

Regards,



Ian Maguire, PE
Environmental Engineer II



Amanda Spencer, PE, RG
Principal Hydrogeologist

Attachments:

Table 1: NPDES Stormwater Data

Figure 1: Facility Location Map

Figure 2: Facility Site Plan

Attachment A: Analytical Data Sheets for the OPLC DMR monitoring results

cc: Ms. Victoria Wark, Shore Terminals LLC (electronic copy)
Mr. Jeff Hibner, Shore Terminals LLC (electronic copy)
Ms. Chris Chan, NuStar Energy, L.P. (electronic deliverable)
Ms. Amanda Spencer, GeoEngineers, Inc (electronic copy)

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

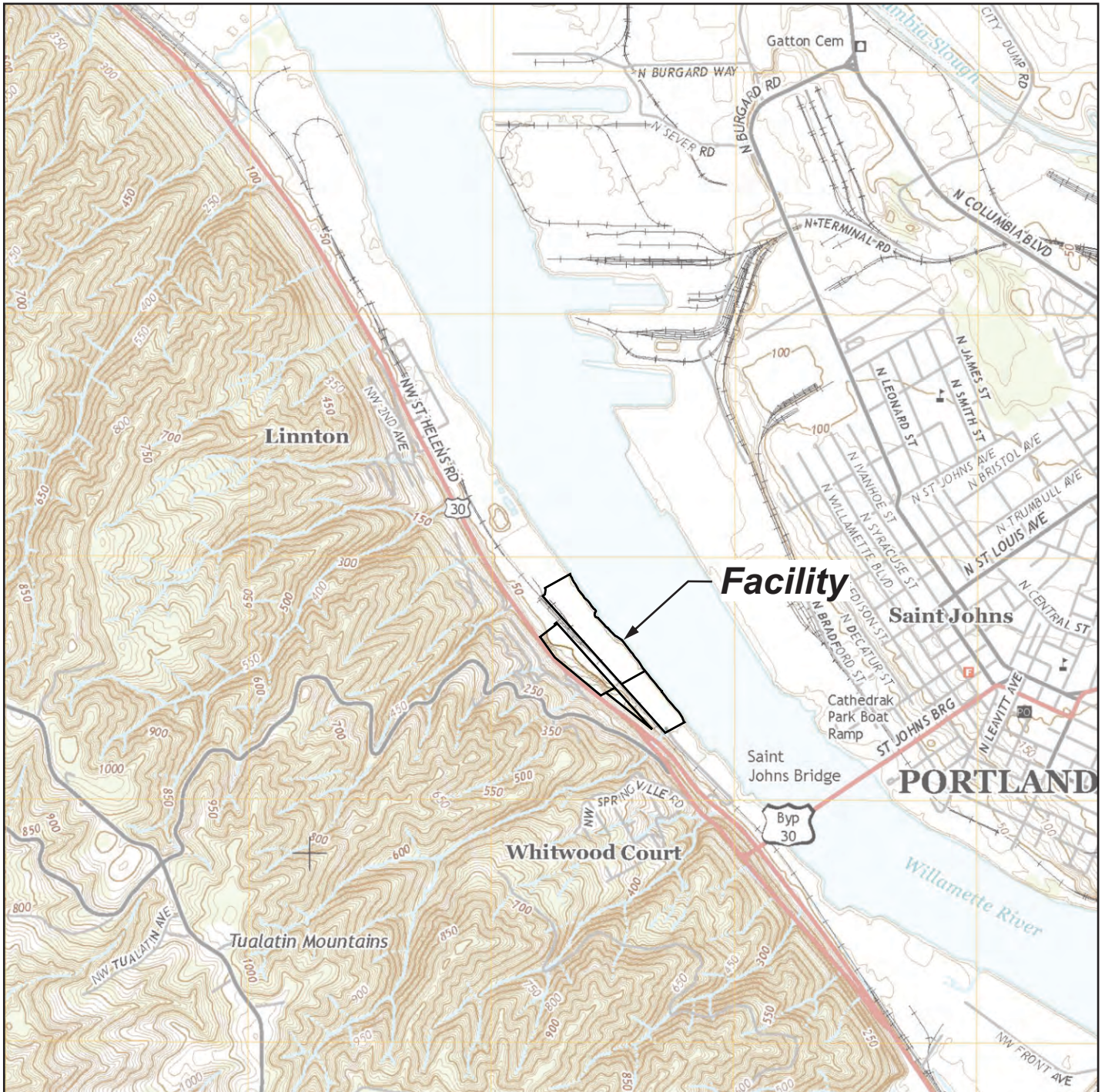


Table 1
 NPDES Stormwater Data
 Olympic Pipe Line Company, Portland, Oregon

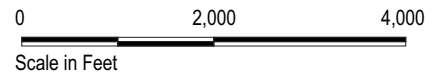
Sample ID	Discharge Location 001					Screening Levels (PHSS ROD)	JSCS SLV ^{9,10}
	11/14/2018	12/26/2018	1/9/2019	3/29/2019	4/26/2019		
Units	All concentrations in milligrams per liter (mg/L)						
Total Metals							
Copper	0.00265	0.00145	0.00213	NS	0.00396	0.00274	0.0027
Iron	0.473	0.204	0.472	0.526	0.565	--	--
Lead	0.000479	0.000142	0.000453	NS	0.000454	--	0.00054
Zinc	0.0567	0.0549	0.06	NS	0.0546	0.0365	0.036
Mercury	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	--	0.00077
Dissolved Metals							
Copper	0.00218	NS	0.00138	0.0032	0.00341	0.00274	0.0027
Lead	0.000177	NS	<0.00020	0.000128 J	0.000123 J	--	0.00054
Polychlorinated Biphenyls (PCBs)							
Aroclor 1016	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00096
Aroclor 1221	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00034
Aroclor 1232	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00034
Aroclor 1242	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00034
Aroclor 1248	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00034
Aroclor 1254	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00033
Aroclor 1260	<0.0000990	NS	<0.0000980	<0.000103	<0.0000980	--	0.00034
Aroclor 1262	--	NS	--	--	--	--	--
Aroclor 1268	--	NS	--	--	--	--	--
ΣPCBs	<0.000347	NS	<0.000343	<0.000361	<0.000343	6.40E-09	6.40E-08
Pesticides							
Aldrin	<0.0000594	NS	<0.0000303	<0.0000594	<0.0000297	7.70E-10	5.00E-08
Chlordane	<0.000743	NS	<0.000379	<0.000743	<0.000371	8.10E-08	8.10E-07
4,4'-DDD	<0.0000594	NS	<0.0000303	<0.0000594	<0.0000297	3.10E-08	3.10E-07
4,4'-DDE	<0.0000099	NS	<0.00000505	<0.0000099	<0.00000495	1.80E-08	2.20E-07
4,4'-DDT	<0.0000594	NS	<0.0000303	<0.0000594	<0.0000297	2.20E-08	2.20E-07
Dieldrin	<0.0000594	NS	<0.0000303	<0.0000594	<0.0000297	--	5.40E-08
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	2.00E-04
Anthracene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	2.00E-04
Benzo(a)anthracene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.20E-06	1.80E-05
Benzo(a)pyrene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.20E-07	1.80E-05
Benzo(b)fluoranthene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.20E-06	1.80E-05
Benzo(k)fluoranthene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	1.80E-05
Chrysene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.30E-06	1.80E-05
Dibenzo(a,h)anthracene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.20E-07	1.80E-05
Fluoranthene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	2.00E-04
Fluorene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	2.00E-04
Indeno(1,2,3-cd)pyrene	<0.000980	NS	<0.000750	<0.000980	<0.000750	1.20E-06	1.80E-05
Pyrene	<0.000980	NS	<0.000750	<0.000980	<0.000750	--	2.00E-04
Other Analytes and Parameters							
Hexachlorobenzene	<0.000980	NS	<0.000750	<0.000980	<0.000750	2.90E-08	2.90E-07
Cyanide	<0.0050	NS	0.00436	0.00296 J	<0.0050	--	--
pH	7.41	7.46	7.44	7.14	7.36	--	--
Total Oil and Grease	<4.85	<4.85	<5.0	NS	<4.81	--	--
Total Suspended Solids	10.0	<5.0	10.0	NS	13.0	--	--

Notes:

1. mg/L (ppm) = milligrams per liter (parts per million).
2. **Bold** values represent detected concentration of listed analyte.
3. < = Not detected at or above the specified laboratory reporting limit.
4. Analyte detected at concentration above Portland Harbor Cleanup Level (CUL).
5. Screening levels = Portland Harbor Record of Decision Cleanup Level for surface water, Table 17 (updated 2020).
6. '--' CUL not established in Record of Decision.
7. NS = not sampled.
8. ΣPCBs = A summation of 7 Aroclors. For analytes not detected above the reporting limit, 1/2 of the reporting limit concentration was used in the calculation.
9. The source of each SLV is documented in Table 3.1 of the Portland Harbor Joint Source Control Strategy, which can be viewed at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/docs/JSCSFinalTable03_1.pdf
10. At Portland Harbor sites, drinking water MCLs and PRGs are also used as screening levels, per the JSCS. These values are applied when they are lower than all other screening values.



Base map prepared from USGS 7.5-minute quadrangle of Linnton, Oregon, dated 2014, as provided by Topozone.



Facility Location Map

OPLC Stormwater Data Summary
Shore Terminals, LLC Portland Facility
Portland, Oregon

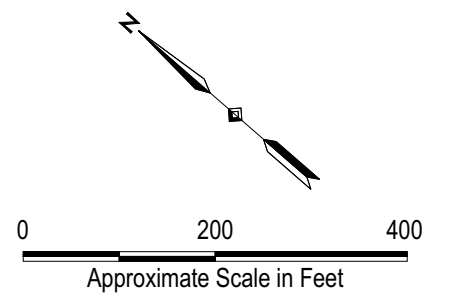
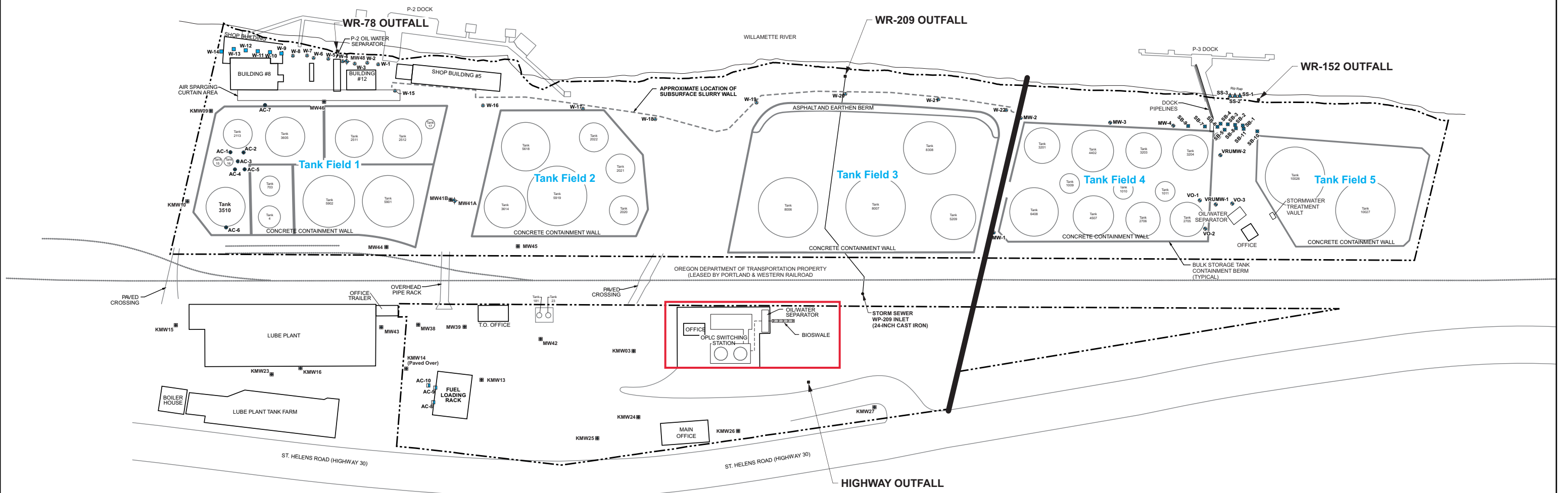


Project Number	19001-010-01
October 2021	

Figure
1

**NORTHERN FACILITY AREA
(FORMER EXXONMOBIL)**

**SOUTHERN FACILITY AREA
(FORMER TIME OIL)**



Facility Plan

OPLC Stormwater Data Summary
Shore Terminals, LLC Portland Facility
Portland, Oregon

GEOENGINEERS	Project Number	19001-010-01	Figure
	October 2021		2

NOTE: Base map prepared from a Site Map by Acton Mickelson Environmental, Inc., 11-29-2005, a Spill Prevention, Control, and Countermeasure Plan, Figure 2 (Site Plan) by Hart Crowser, Inc., 10-03, and a recent aerial photograph from Google.com.



Antea USA, Inc.
4006 148th Avenue NE
Redmond, WA 98052 USA

July 30, 2019

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Fourth Quarter 2019
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Fourth Quarter 2019 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

As this is the Tier II evaluation year for the Facility, all sample results collected between July 1, 2018 through June 30, 2019 are reported on this DMR for calculation of the annual geometric mean. The geometric mean for each pollutant does not exceed applicable statewide benchmarks or impairment reference concentrations. Therefore, OPLC is respectfully requesting a monitoring waiver for the remainder of the permit period.

The DMR is included as Appendix A. The pH meter calibration log, as well as the field notes indicating pH readings at the time of sample collection is included as Appendix B. Copies of the laboratory analytical reports with chain of custody is included as Appendix C.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR", with a long horizontal flourish extending to the right.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosures

Appendices

- Appendix A Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit
- Appendix B Calibration Log and Field pH Readings
- Appendix C Laboratory Analytical Reports with QA and Chain of Custody

Appendix A

Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit





Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 18 to 20 19
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 Primary SIC Code: 4613 Secondary SIC Code: City of Portland City of Eugene

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1
 If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

DMR Submittal Checklist Please check all applicable documents are included with you DMR submittal:

- Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: _____ Date: _____
 Printed Name: Alexandria Crooks Title: _____
 Legally Authorized Representative
 Email: _____
 Telephone : _____



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001	11/18/18	7.41	10	ND (4.85)	0.00265	0.000479	0.0567	NS	
001	12/26/18	7.51	ND (5.0)	ND (4.85)	0.00145	0.000142	0.0549	NS	
001	01/09/19	7.05	10	ND (5.0)	0.00213	0.000453	0.06	NS	
001	03/29/19	7.14	NS	NS	NS	NS	NS	NS	
001	04/26/19	7.36	13	ND (4.81)	0.000396	0.000454	0.0546	NS	
Geometric Mean			8	2	0.001	0.000	0.06		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	

* E. coli only required for landfills and sewage treatment plants.



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	ND (0.0000594)	NS	NS	NS	NS	ID (0.000743)	NS	NS
001	12/26/18	NS	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	ND (0.0000152)	NS	NS	NS	NS	ID (0.000187)	NS	NS
001	03/29/19	ND (0.0000297)	NS	NS	NS	NS	ID (0.000366)	NS	NS
001	04/26/19	ND (0.0000149)	NS	NS	NS	NS	ID (0.000183)	NS	NS
Geometric Mean		0.000					0.000		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
001	11/18/18	0.00218	ND (0.00250)	ND (0.0000594)	ND (0.00000990)	ND (0.0000594)	NS	NS	NS
001	12/26/18	NS	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	0.00138	0.00436	ND (0.0000152)	ND (0.00000253)	ND (0.0000152)	NS	NS	NS
001	03/29/19	0.0032	0.00296	ND (0.0000297)	ND (0.00000495)	ND (0.0000297)	NS	NS	NS
001	04/26/19	0.00341	ND (0.00250)	ND (0.00003228)	ND (0.00000248)	ND (0.0000149)	NS	NS	NS
Geometric Mean		0.002	0.002	0.0000	0.00000	0.00001			
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
--------------------------------------	-------------------	--------------	---------------	----------------	----------------	------------	----------------	----------------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	ND (0.000980)	0.473	0.000177	NS	ND (0.000017)	NS
001	12/26/18	NS	NS	NS	0.204	NS	NS	NS (0.00017)	NS
001	01/09/19	NS	NS	ND (0.000750)	0.472	ND (0.000100)	NS	ND (0.000017)	NS
001	03/29/19	NS	NS	ND (0.000980)	0.526	0.000128	NS	ND (0.000017)	NS
001	04/26/19	NS	NS	ND (0.000750)	0.565	0.000123	NS	ND (0.000017)	NS
Geometric Mean			ERROR	0.000	0.4	0.0001	ERROR	0.0000	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	D (0.0003465	7.41	NS	NS	NS	NS	NS
001	12/26/18	NS	NS	NS	7.51	NS	NS	NS	NS	NS
001	01/09/19	NS	NS	ND (0.000343	7.05	NS	NS	NS	NS	NS
001	03/29/19	NS	NS	D (0.0003605	7.14	NS	NS	NS	NS	NS
001	04/26/19	NS	NS	ND (0.000343	7.36	NS	NS	NS	NS	NS
Geometric Mean				0.000						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
001	12/26/18	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	NS	NS	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
001	03/29/19	NS	NS	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
001	04/26/19	NS	NS	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
Geometric Mean				0.000	0.0	0.000	0.000	0.000
Geometric Mean								
Geometric Mean								
Geometric Mean								

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

nd November
ducted during
onitoring
le the
re

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August, and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample frequency at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. Results include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

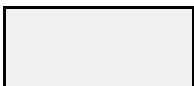
Benzo(k) fluoranthene	Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ND (0.000980)	001	11/18/18	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
NS	001	12/26/18	NS	NS	NS	NS	NS	NS
ND (0.000750)	001	01/09/19	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
ND (0.000980)	001	03/29/19	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
ND (0.000750)	001	04/26/19	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
0.000	Geometric Mean		0.000	0.000	0.000	0.00	0.000	0.00
	Geometric Mean							
	Geometric Mean							
	Geometric Mean							
0.001	Impairment Ref. Concentration		0.001	0.001	0.014	0.39	0.001	0.29

g Report

-Z Permit



st and
monitoring
or the pollutants
. You must
I methods for



Appendix B

Calibration Log and Field pH Readings



Fieldwork Daily Log

Site number/name: OPLC Portland DF

Location: 9420 NW St. Helens rd
Portland OR

Date: 11/14/12 Recorded by: BDJ

(if found, please call 1-800-888-1331)

Page: 1 of 1

Fieldwork Assignment	OPLC Portland DF Stormwater Sampling
Time	Activity Description
0950	Onsite, review HASP, SSHP
	check in, Calibrate Meter,
	Begin Swale inspection.
1050	Begin Discharging water
	3,000 gallons in sump at arrival
	1,500 gallons discharged
1100	Collect sample (a) 1100
	Temp = 8.0 C
	pH = 7.41
1120	check out, Leave site to deliver sample to laboratory.

Remaining scope: _____



anteagroup

(if found, please call 1-800-888-1331)

Fieldwork Daily Log

Site number/name: ORLE Portland
Location: 9420 NW ST Helene Rd
Portland OR
Date: 12/26/18 Recorded by: BM
Page: 1 of 1

Fieldwork Assignment	
Time	Activity Description
1000	on site HASP SHEB
	check in
	sample
	9000 gallons in VWH
	pH = 7.51 SV
	Temp = 8.09 C
	leave site

Remaining scope: _____



Fieldwork Daily Log

Site number/name: OPLC - Portland OF
Location: 9420 NW ST Helens Rd
Portland OR
Date: 1/9/19 Recorded by: Bmc
Page: 1 of 1

(if found, please call 1-800-888-1331)

Table with columns for Time and Activity Description. Entries include 'Stormwater Sample', '1130 Arrive', '1215 Sample', 'Inspection 6500 gallons', 'pH = 7.05', 'Temp = 7.0°C', and 'Cleanup Equipment and depart to lab'.

Remaining scope: _____



Fieldwork Daily Log

Site number/name: OPLC Portland DF
 Location: 9420 NW St. Helens rd
Portland OR
 Date: 3/29/19 Recorded by: BDJ
 Page: 1 of 1

(if found, please call 1-800-888-1331)

Fieldwork Assignment	OPLC Portland DF Stormwater Sampling.
Time	Activity Description
0800	Onsite, check in w/ Jerry (OPLC), review HASP, Calibrate meter. Begin discharging water from holding tank.
	6,200 gallons in tank on arrival
	3,500 gallons discharged at time of sampling.
	few leaves in holding tank. Minimal sediment accumulation. Containment pads at facility are clean.
	Swale in good condition, Grass < 2' tall. Some silt/sediment present in swale 1/3 way down to outfall. No sign of pests or beavers since last visit.
	Collect sample @ 0830
	Temp = 9.7°C
	pH = 7.14 Sv
	Meter used is a Milwaukee M; 806 #F0087336.
0915	check out, Leave site, deliver samples to Lab.

Remaining scope: _____



Fieldwork Daily Log

Site number/name: UPLC

Location: Poland DF.

Date: 4/26/19 Recorded by: BDJ

(if found, please call 1-800-888-1331)

Page: 1 of 1

Fieldwork Assignment	Stormwater Sampling
Time	Activity Description
0820	Onsite, check in w/ Jerry, calibrate Oyster 30 series meter.
	Vault has 5500 gallons in it.
	Begin pumping vault.
	Some minor amount of sediment & leaves in vault.
	Jerry says a vault cleanout is scheduled for May.
	Soil in good condition, some short <8" blackberries.
	Grass is getting tall 36" in spots, Jerry says maintenance/mowing
	is scheduled for summer.
0845	Collect sample
	pH = 7.36
	temp = 11.7°C
	check out, mobilize to laboratory.

Remaining scope: _____

Appendix C

Laboratory Analytical Reports with QA and Chain of Custody



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Thursday, March 28, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A8K0460 - OPLC Portland DF-NPDES - PORTDF191

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8K0460, which was received by the laboratory on 11/14/2018 at 12:20:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1	4.5 degC
----------	----------

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A8K0460-01	Water	11/14/18 11:00	11/14/18 12:20

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES

Project Number: **PORTDF191**

Project Manager: **Megan Richard**

Report ID:

A8K0460 - 03 28 19 1511

ANALYTICAL CASE NARRATIVE

Work Order: A8K0460

Sample Identification Change-

At the request of the client, the following sample ID has been edited from the original chain of custody:

Stormwater Discharge is now Stormwater 001.

Lisa Domenighini
Client Services Manager
3/28/19

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A8K0460-01	Stormwater 001	7.41	8.0	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)			Matrix: Water			Batch: 8111109		C-07
Aroclor 1016	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1221	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1232	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1242	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1248	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1254	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1260	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 58 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>11/27/18</i>	<i>608 PCB</i>



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01RE1)			Matrix: Water		Batch: 8111132		C-05	
Aldrin	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
4,4'-DDD	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
4,4'-DDE	ND	---	0.00000990	mg/L	1	11/27/18	608 Pest	
4,4'-DDT	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
Dieldrin	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
Chlordane (Technical)	ND	---	0.000743	mg/L	1	11/27/18	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 36 %</i>	<i>Limits: 25-140 %</i>	<i>1</i>	<i>11/27/18</i>	<i>608 Pest</i>	
<i>Decachlorobiphenyl (Surr)</i>			<i>43 %</i>	<i>30-135 %</i>	<i>1</i>	<i>11/27/18</i>	<i>608 Pest</i>	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110889		
Acenaphthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benz(a)anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(a)pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(b)fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(k)fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Chrysene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Dibenz(a,h)anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Fluorene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Hexachlorobenzene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 45-120 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>62 %</i>		<i>30-125 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>81 %</i>		<i>35-125 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)		Matrix: Water						
Batch: 8111036								
Copper	0.00265	0.000500	0.00100	mg/L	1	11/20/18	EPA 200.8	
Iron	0.473	0.0250	0.0500	mg/L	1	11/20/18	EPA 200.8	
Lead	0.000479	0.000100	0.000200	mg/L	1	11/20/18	EPA 200.8	
Zinc	0.0567	0.00200	0.00400	mg/L	1	11/20/18	EPA 200.8	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water				
Batch: 8111032								
Copper	0.00218	0.000500	0.00100	mg/L	1	11/26/18	EPA 200.8 (Diss)	
Lead	0.000177	0.000100	0.000200	mg/L	1	11/26/18	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110997		
HEM (Oil and Grease)	ND	4.85	4.85	mg/L	1	11/21/18	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110912		
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	11/16/18	D7511-12	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water				
Batch: 8110965								
Total Suspended Solids	10.0	5.00	5.00	mg/L	1	11/20/18	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: W8K1066		
Batch: W8K1066								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	11/28/18	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111109 - EPA 3510C (Neutral pH)						Water						
Blank (8111109-BLK1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 08:39				C-07						
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 52 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
<hr/>												
LCS (8111109-BS1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 08:57				C-07						
608 PCB												
Aroclor 1016	0.00190	0.0000500	0.000100	mg/L	1	0.00250	---	76	50-140%	---	---	
Aroclor 1260	0.00222	0.0000500	0.000100	mg/L	1	0.00250	---	89	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 54 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
<hr/>												
LCS Dup (8111109-BSD1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 09:14				C-07, Q-19						
608 PCB												
Aroclor 1016	0.00186	0.0000500	0.000100	mg/L	1	0.00250	---	74	50-140%	2	30%	
Aroclor 1260	0.00220	0.0000500	0.000100	mg/L	1	0.00250	---	88	8-140%	0.8	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 8111132 - EPA 3510C (Neutral pH)/3640A (GPC)						Water						
Blank (8111132-BLK1)			Prepared: 11/20/18 11:23			Analyzed: 11/27/18 11:57			C-05			
608 Pest												
Aldrin	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	---
4,4'-DDD	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	---
4,4'-DDE	ND	---	0.0000909	mg/L	1	---	---	---	---	---	---	---
4,4'-DDT	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	---
Dieldrin	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	---
Chlordane (Technical)	ND	---	0.000682	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 34 %</i>			<i>Limits: 25-140 %</i>			<i>Dilution: 1x</i>			
<i>Decachlorobiphenyl (Surr)</i>			<i>41 %</i>			<i>30-135 %</i>			<i>"</i>			
LCS (8111132-BS1)						Prepared: 11/20/18 11:23			Analyzed: 11/27/18 12:14			C-05
608 Pest												
Aldrin	0.000336	---	0.0000600	mg/L	1	0.000500	---	67	42-122%	---	---	---
4,4'-DDD	0.000496	---	0.0000600	mg/L	1	0.000500	---	99	31-141%	---	---	---
4,4'-DDE	0.000447	---	0.0000100	mg/L	1	0.000500	---	89	30-145%	---	---	---
4,4'-DDT	0.000600	---	0.0000600	mg/L	1	0.000500	---	120	25-160%	---	---	---
Dieldrin	0.000500	---	0.0000600	mg/L	1	0.000500	---	100	36-146%	---	---	---
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 41 %</i>			<i>Limits: 25-140 %</i>			<i>Dilution: 1x</i>			
<i>Decachlorobiphenyl (Surr)</i>			<i>44 %</i>			<i>30-135 %</i>			<i>"</i>			
LCS Dup (8111132-BSD1)						Prepared: 11/20/18 11:23			Analyzed: 11/27/18 12:31			C-05, Q-19
608 Pest												
Aldrin	0.000395	---	0.0000600	mg/L	1	0.000500	---	79	42-122%	16	30%	---
4,4'-DDD	0.000526	---	0.0000600	mg/L	1	0.000500	---	105	31-141%	6	30%	---
4,4'-DDE	0.000475	---	0.0000100	mg/L	1	0.000500	---	95	30-145%	6	30%	---
4,4'-DDT	0.000626	---	0.0000600	mg/L	1	0.000500	---	125	25-160%	4	30%	---
Dieldrin	0.000540	---	0.0000600	mg/L	1	0.000500	---	108	36-146%	8	30%	---
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 51 %</i>			<i>Limits: 25-140 %</i>			<i>Dilution: 1x</i>			
<i>Decachlorobiphenyl (Surr)</i>			<i>51 %</i>			<i>30-135 %</i>			<i>"</i>			

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	Limit RPD	RPD Limit	Notes
Batch 8110889 - EPA 3510C (Acid Extraction)						Water					
Blank (8110889-BLK2)		Prepared: 11/15/18 11:23			Analyzed: 11/15/18 14:51						
EPA 625											
Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 75 %		Limits: 45-120 %		Dilution: 1x					
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"					
<i>2,4,6-Tribromophenol (Surr)</i>		79 %		35-125 %		"					

LCS (8110889-BS2)		Prepared: 11/15/18 11:23			Analyzed: 11/15/18 15:27						
EPA 625											
Acenaphthene	0.00320	0.0000500	0.0000500	mg/L	1	0.00400	---	80	47-145%	---	---
Anthracene	0.00352	0.0000500	0.0000500	mg/L	1	0.00400	---	88	27-133%	---	---
Benz(a)anthracene	0.00362	0.0000500	0.0000500	mg/L	1	0.00400	---	91	33-143%	---	---
Benzo(a)pyrene	0.00380	0.0000500	0.0000500	mg/L	1	0.00400	---	95	17-163%	---	---
Benzo(b)fluoranthene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	24-159%	---	---
Benzo(k)fluoranthene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	11-162%	---	---
Chrysene	0.00366	0.0000500	0.0000500	mg/L	1	0.00400	---	91	17-168%	---	---
Dibenz(a,h)anthracene	0.00335	0.0000500	0.0000500	mg/L	1	0.00400	---	84	1-227%	---	---
Fluoranthene	0.00353	0.0000500	0.0000500	mg/L	1	0.00400	---	88	26-137%	---	---
Fluorene	0.00344	0.0000500	0.0000500	mg/L	1	0.00400	---	86	59-121%	---	---
Hexachlorobenzene	0.00308	0.0000500	0.0000500	mg/L	1	0.00400	---	77	5-152%	---	---
Indeno(1,2,3-cd)pyrene	0.00348	0.0000500	0.0000500	mg/L	1	0.00400	---	87	1-171%	---	---
Pyrene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	52-115%	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110889 - EPA 3510C (Acid Extraction)						Water						
LCS (8110889-BS2)		Prepared: 11/15/18 11:23		Analyzed: 11/15/18 15:27								
Pentachlorophenol (PCP)	0.00320	0.000200	0.000200	mg/L	1	0.00400	---	80	14-176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 73 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		87 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		83 %		35-125 %		"						
LCS Dup (8110889-BSD2)		Prepared: 11/15/18 11:23		Analyzed: 11/15/18 16:04		Q-19						
EPA 625												
Acenaphthene	0.00317	0.0000500	0.0000500	mg/L	1	0.00400	---	79	47-145%	1	30%	
Anthracene	0.00337	0.0000500	0.0000500	mg/L	1	0.00400	---	84	27-133%	4	30%	
Benz(a)anthracene	0.00348	0.0000500	0.0000500	mg/L	1	0.00400	---	87	33-143%	4	30%	
Benzo(a)pyrene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	17-163%	6	30%	
Benzo(b)fluoranthene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	24-159%	0.2	30%	
Benzo(k)fluoranthene	0.00360	0.0000500	0.0000500	mg/L	1	0.00400	---	90	11-162%	0.03	30%	
Chrysene	0.00338	0.0000500	0.0000500	mg/L	1	0.00400	---	85	17-168%	8	30%	
Dibenz(a,h)anthracene	0.00335	0.0000500	0.0000500	mg/L	1	0.00400	---	84	1-227%	0.2	30%	
Fluoranthene	0.00357	0.0000500	0.0000500	mg/L	1	0.00400	---	89	26-137%	1	30%	
Fluorene	0.00340	0.0000500	0.0000500	mg/L	1	0.00400	---	85	59-121%	1	30%	
Hexachlorobenzene	0.00296	0.0000500	0.0000500	mg/L	1	0.00400	---	74	5-152%	4	30%	
Indeno(1,2,3-cd)pyrene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	1-171%	2	30%	
Pyrene	0.00355	0.0000500	0.0000500	mg/L	1	0.00400	---	89	52-115%	1	30%	
Pentachlorophenol (PCP)	0.00313	0.000200	0.000200	mg/L	1	0.00400	---	78	14-176%	2	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 72 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		80 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		81 %		35-125 %		"						

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111036 - EPA 3015A						Water						
Blank (8111036-BLK1)		Prepared: 11/20/18 13:56			Analyzed: 11/20/18 18:31							
<u>EPA 200.8</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (8111036-BS1)						Prepared: 11/20/18 13:56 Analyzed: 11/20/18 18:36						
<u>EPA 200.8</u>												
Copper	0.0582	0.000500	0.00100	mg/L	1	0.0556	---	105	85-115%	---	---	---
Iron	2.82	0.0250	0.0500	mg/L	1	2.78	---	102	85-115%	---	---	---
Lead	0.0568	0.000100	0.000200	mg/L	1	0.0556	---	102	85-115%	---	---	---
Zinc	0.0559	0.00200	0.00400	mg/L	1	0.0556	---	101	85-115%	---	---	---



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111032 - Matrix Matched Direct Inject						Water						
Blank (8111032-BLK1)		Prepared: 11/20/18 12:19 Analyzed: 11/26/18 21:00										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
LCS (8111032-BS2)		Prepared: 11/20/18 12:19 Analyzed: 11/27/18 14:27										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0545	0.000500	0.00100	mg/L	1	0.0556	---	98	85-115%	---	---	Q-16
Lead	0.0559	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	Q-16



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110997 - EPA 1664						Water						
Blank (8110997-BLK1)		Prepared: 11/20/18 07:08 Analyzed: 11/21/18 11:10										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (8110997-BS1)		Prepared: 11/20/18 07:08 Analyzed: 11/21/18 11:10										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	36.4			mg/L	1	40.0	---	91	78-114%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110912 - Method Prep: Aq						Water						
Blank (8110912-BLK1)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:11										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (8110912-BS1)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:13										
<u>D7511-12</u>												
Cyanide, Total	0.0260	0.00250	0.00500	mg/L	1	0.0250	---	104	84-116%	---	---	
LCS (8110912-BS2)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:09										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---	0-100%	---	---	---	CN_I



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110965 - Total Suspended Solids						Water						
Blank (8110965-BLK1)		Prepared: 11/19/18 09:43 Analyzed: 11/20/18 08:16										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Reference (8110965-SRM1)		Prepared: 11/19/18 09:43 Analyzed: 11/21/18 09:21										
SM 2540 D												
Total Suspended Solids	94.0			mg/L	1	100		94	77.1-110%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W8K1066 - EPA 245.1						Water						
Blank (W8K1066-BLK1)		Prepared: 11/20/18 11:48 Analyzed: 11/28/18 12:46										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W8K1066-BS1)		Prepared: 11/20/18 11:48 Analyzed: 11/28/18 12:48										
<u>EPA 245.1</u>												
Mercury, Total	0.00103	0.000017	0.000050	mg/l	1	0.00100	---	103	85-115%	---	---	

Lisa A. Domenighini



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111109</u>							
A8K0460-01	Water	608 PCB	11/14/18 11:00	11/26/18 11:53	1010mL/5mL	1000mL/5mL	0.99

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)/3640A (GPC)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111132</u>							
A8K0460-01RE1	Water	608 Pest	11/14/18 11:00	11/20/18 11:23	1010mL/10mL	1000mL/5mL	1.98

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110889</u>							
A8K0460-01	Water	EPA 625	11/14/18 11:00	11/15/18 11:23	1020mL/5mL	1000mL/5mL	0.98

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111036</u>							
A8K0460-01	Water	EPA 200.8	11/14/18 11:00	11/20/18 13:56	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111032</u>							
A8K0460-01	Water	EPA 200.8 (Diss)	11/14/18 11:00	11/20/18 12:19	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110997</u>							
A8K0460-01	Water	EPA 1664A	11/14/18 11:00	11/20/18 07:08			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: Method Prep: Aq					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 8110912							
A8K0460-01	Water	D7511-12	11/14/18 11:00	11/16/18 07:36	10mL/10mL	10mL/10mL	1.00

Solid and Moisture Determinations

Prep: Total Suspended Solids					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 8110965							
A8K0460-01	Water	SM 2540 D	11/14/18 11:00	11/19/18 09:43			NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

<u>Prep: EPA 245.1</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: W8K1066</u>							
A8K0460-01	Water	EPA 245.1	11/14/18 11:00	11/20/18 11:48	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF191**
Project Manager: **Megan Richard**

Report ID:
A8K0460 - 03 28 19 1511

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-05** Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



AMENDED REPORT

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF191**
Project Manager: **Megan Richard**

Report ID:
A8K0460 - 03 28 19 1511

CHAIN OF CUSTODY

APEX LABS 12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Lab # ARX0400 PO# Project # PORTDF191
COC 1 of 1

Company: Antea Group Project Mgr: Megan Richard Project Name: OPLC Portland DF
Address: 121 SW Salmon St. Portland OR 97204 Phone: 425-482-7111 Fax: Email: Megan.Richard@AnteaGroup.com

Sampled by: _____

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS		SPECIAL INSTRUCTIONS:
				YES	NO	
1	11/12/10	1100	Acid	12		SPECIAL INSTRUCTIONS: At time of sample pH = 7.41 and Temp = 8.0°C See attached Permit required Analysis list.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 3 Day

SAMPLES ARE HELD FOR 30 DAYS

RECEIVED BY: [Signature] RECEIVED BY: _____
 Date: 11/12/10 Signature: _____ Date: _____
 Printed Name: Sam Jackson Printed Name: _____ Time: 12:20 Printed Name: _____
 Company: Antea Group Company: _____

Lisa Domenighini



AMENDED REPORT

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES
Project Number: PORTDF191
Project Manager: Megan Richard

Report ID:
A8K0460 - 03 28 19 1511

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A8K0460

Project/Project #: OPLC Portland, DF / PORTDF191

Delivery Info:

Date/time received: 12:20 @ 11/14/18 By: [Signature]

Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 11/14/18 @ 12:20 By: [Signature]

Chain of Custody included? Yes No Custody seals? Yes No

Signed/dated by client? Yes No

Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.5</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: [Blank]

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA

Out of temperature samples form initiated? Yes/No/NA NA

Samples Inspection: Date/time inspected: 11/14/18 @ 18:40 By: TAB

All samples intact? Yes No Comments: [Blank]

Bottle labels/COCs agree? Yes No Comments: Cont read: Stormwater Discharge

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: [Blank]

Do VOA vials have visible headspace? Yes No NA

Comments: [Blank]

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: [Blank]

Additional information: [Blank]

Labeled by: TAB Witness: [Signature] Cooler Inspected by: TAB See Project Contact Form: Y
SUBSampler: TAB
Witness: [Signature]

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Thursday, March 28, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A8L0881 - OPLC Portland DF-NPDES - Port DF191

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8L0881, which was received by the laboratory on 12/26/2018 at 2:08:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 2.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**

Project Number: **Port DF191**

Project Manager: **Megan Richard**

Report ID:

A8L0881 - 03 28 19 1518

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A8L0881-01	Water	12/26/18 10:15	12/26/18 14:08

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES

Project Number: **Port DF191**

Project Manager: **Megan Richard**

Report ID:

A8L0881 - 03 28 19 1518

ANALYTICAL CASE NARRATIVE

Work Order: A8L0881

Sample Identification Change-

At the request of the client, the following sample ID has been edited from the original chain of custody:

Stormwater Discharge is now Stormwater 001.

Lisa Domenighini
Client Services Manager
3/28/19

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)		Matrix: Water						
Batch: 9010503								
Iron	0.204	0.0250	0.0500	mg/L	1	01/08/19	EPA 200.8	
Lead	0.000142	0.000100	0.000200	mg/L	1	01/08/19	EPA 200.8	J
Zinc	0.0549	0.00200	0.00400	mg/L	1	01/08/19	EPA 200.8	
Stormwater 001 (A8L0881-01RE1)		Matrix: Water						
Batch: 9010570								
Copper	0.00145	0.000500	0.00100	mg/L	1	01/11/19	EPA 200.8	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water		Batch: 9010522		
HEM (Oil and Grease)	ND	4.85	4.85	mg/L	1	01/10/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water				
<u>Batch: 8121256</u>								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	01/02/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water				
Batch: 8121094								
pH	7.46	---		pH Units	1	12/26/18	SM 4500-H+ B	H-12

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water		Batch: W9A0016		
Batch: W9A0016								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	01/02/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010503 - EPA 3015A						Water						
Blank (9010503-BLK1)		Prepared: 01/08/19 11:20			Analyzed: 01/08/19 22:45							
<u>EPA 200.8</u>												
Copper	0.000658	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	B-02, J
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	
LCS (9010503-BS1)						Prepared: 01/08/19 11:20 Analyzed: 01/08/19 23:12						
<u>EPA 200.8</u>												
Copper	0.0612	0.000500	0.00100	mg/L	1	0.0556	---	110	85-115%	---	---	B-02
Iron	2.63	0.0250	0.0500	mg/L	1	2.78	---	95	85-115%	---	---	
Lead	0.0541	0.000100	0.000200	mg/L	1	0.0556	---	97	85-115%	---	---	
Zinc	0.0591	0.00200	0.00400	mg/L	1	0.0556	---	106	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010570 - EPA 3015A						Water						
Blank (9010570-BLK1)		Prepared: 01/10/19 08:03 Analyzed: 01/11/19 19:39										
<u>EPA 200.8</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
LCS (9010570-BS1)		Prepared: 01/10/19 08:03 Analyzed: 01/11/19 19:34										
<u>EPA 200.8</u>												
Copper	0.0596	0.000500	0.00100	mg/L	1	0.0556	---	107	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010522 - EPA 1664						Water						
Blank (9010522-BLK1)		Prepared: 01/09/19 07:24 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9010522-BS1)		Prepared: 01/09/19 07:24 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	35.6			mg/L	1	40.0	---	89	78-114%	---	---	
LCS Dup (9010522-BSD1)		Prepared: 01/09/19 07:27 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	34.2			mg/L	1	40.0	---	86	78-114%	4	200%	Q-19



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8121256 - Total Suspended Solids						Water						
Blank (8121256-BLK1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Duplicate (8121256-DUP1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
QC Source Sample: Stormwater 001 (A8L0881-01)												
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	ND	---	---	---	10%	
Reference (8121256-SRM1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
SM 2540 D												
Total Suspended Solids	97.0			mg/L	1	100		97	77.1-110%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 8121094 - Method Prep: Aq						Water						
Duplicate (8121094-DUP1)		Prepared: 12/26/18 17:40 Analyzed: 12/26/18 17:53										
<u>QC Source Sample: Stormwater 001 (A8L0881-01)</u>												
<u>SM 4500-H+ B</u>												
pH	7.43	---		pH Units	1	---	7.46	---	---	0.4	5%	H-12
Reference (8121094-SRM1)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 08:20										
<u>SM 4500-H+ B</u>												
pH	5.96	---		pH Units	1	6.00		99	8.333-101.667%	---	---	
Reference (8121094-SRM2)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 08:21										
<u>SM 4500-H+ B</u>												
pH	7.95	---		pH Units	1	8.00		99	98.75-101.25%	---	---	
Reference (8121094-SRM3)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 17:49										
<u>SM 4500-H+ B</u>												
pH	5.93	---		pH Units	1	6.00		99	98.75-101.25%	---	---	
Reference (8121094-SRM4)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 17:55										
<u>SM 4500-H+ B</u>												
pH	7.92	---		pH Units	1	8.00		99	98.75-101.25%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9A0016 - EPA 245.1						Water						
Blank (W9A0016-BLK1)		Prepared: 01/02/19 09:35 Analyzed: 01/02/19 15:34										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W9A0016-BS1)		Prepared: 01/02/19 09:35 Analyzed: 01/02/19 15:36										
<u>EPA 245.1</u>												
Mercury, Total	0.00101	0.000017	0.000050	mg/l	1	0.00100	---	101	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 200.8 (ICPMS)

<u>Prep: EPA 3015A</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 9010503</u>							
A8L0881-01	Water	EPA 200.8	12/26/18 10:15	01/08/19 11:20	45mL/50mL	45mL/50mL	1.00
<u>Batch: 9010570</u>							
A8L0881-01RE1	Water	EPA 200.8	12/26/18 10:15	01/10/19 08:03	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

<u>Prep: EPA 1664</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 9010522</u>							
A8L0881-01	Water	EPA 1664A	12/26/18 10:15	01/09/19 07:27			NA

Solid and Moisture Determinations

<u>Prep: Total Suspended Solids</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8121256</u>							
A8L0881-01	Water	SM 2540 D	12/26/18 10:15	12/31/18 16:13			NA

Conventional Chemistry Parameters

<u>Prep: Method Prep: Aq</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8121094</u>							
A8L0881-01	Water	SM 4500-H+ B	12/26/18 10:15	12/26/18 17:40	20mL/20mL	20mL/20mL	NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

<u>Prep: EPA 245.1</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: W9A0016</u>							
A8L0881-01	Water	EPA 245.1	12/26/18 10:15	01/02/19 09:35	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**

Project Number: **Port DF191**

Project Manager: **Megan Richard**

Report ID:

A8L0881 - 03 28 19 1518

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- H-12** Sample analysis was performed >15 minutes after sample collection. Consult regulator or permit manager to determine the usability of data for intended use.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.
 - " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



AMENDED REPORT

Antea Group Project: **OPLC Portland DF-NPDES**
 121 SW Salmon Street, Suite 1100 Project Number: **Port DF191**
 Portland, OR 97204 Project Manager: **Megan Richard** Report ID:
A8L0881 - 03 28 19 1518

CHAIN OF CUSTODY

Company: **Antea Group** Lab # **A8881** COC # of **1**
 12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333
 Project Mgr: **Megan Richard** Project Name: **OPLC Portland DF** Project # **Port DF191**
 Address: **121 SW Salmon St Suite 1100** Phone: **503 998 7711** Fax: _____ Email: _____
 Sampled by: **Ablen & Lewis**

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS		ANALYSIS REQUEST
				YES	NO	
1	11/26/19	10:15	AB	4		1200-Z 1200-COLS TOTAL DISS TCLP As, Sb, Ni, Tl, V, Zn Hg, Pb, Mn, Mo, Ni, K Cr, Cd, Cu, Fe, Pb, P Al, Sb, As, Ba, Be, B, C, Cl
2						
3						
4						
5						
6						
7						
8						
9						
10						

Site Location: **OR** WA Other: _____
 SAMPLE ID: **1**
 1) **50 minutes**

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): **1 Day** 2 Day 3 Day
 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

RECEIVED BY: **Abel Lewis** Date: **12/16/19** Signature: *[Signature]*
 RELINQUISHED BY: **Shawn** Date: **12/16/19** Signature: *[Signature]*
 Printed Name: **Abel Lewis** Time: **1408** Printed Name: **Shawn** Time: **1408**
 Company: _____ Company: _____

Lisa Domenighini



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A8 L0881

Project/Project #: OPLC Portland DF / PortDF191

Delivery Info:
Date/time received: 12/26/18 @ 1408 By: [Signature]
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 12/26/18 @ 1410 By: [Signature]
Chain of Custody included? Yes No Custody seals? Yes No
Signed/dated by client? Yes No
Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.4</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>good</u>						

Cooler out of temp? (Y/N) Possible reason why: [Signature]
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA
Out of temperature samples form initiated? Yes/No/NA NA
Samples Inspection: Date/time inspected: 12/26/18 @ 1543 By: [Signature]
All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: D on COC reads 11/26/18, D on Cnts. read 12/26/18.

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: _____

Additional information: _____

Labeled by: [Signature] Witness: [Signature] Cooler Inspected by: [Signature] See Project Contact Form:

Subsampler: [Signature]
Witness: [Signature]

Lisa Domenighini



AMENDED REPORT

Antea Group Project: **OPLC Portland DF-NPDES**
 121 SW Salmon Street, Suite 1100 Project Number: **Port DF191**
 Portland, OR 97204 Project Manager: **Megan Richard** Report ID:
A8L0881 - 03 28 19 1518

CHAIN OF CUSTODY

**Updated*

Lab # A8L0881 COC 1 of 1

Company: Antea Group PO# _____
 Address: 121 SW Salmon St Suite 1100 Project Name: OPLC Portland DF Project # Port DF191
 Sampled by: Alycia Lewis Project Mgr: Megan Richard Email: _____
 12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	YES	NO
1	11/21/18	10:45	AS	4		
2						
3						
4						
5						
6						
7						
8						
9						
10						

ANALYSIS REQUEST

Site Location: OR WA
 Other: _____

SAMPLE ID
56meters 1

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle)
 1 Day 2 Day 3 Day
 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

RECEIVED BY: _____
 Signature: _____ Date: _____
 Printed Name: _____ Time: _____
 Company: _____

RECEIVED BY: _____
 Signature: _____ Date: _____
 Printed Name: _____ Time: _____
 Company: _____

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Tuesday, January 22, 2019

Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9A0219 - OPLC Portland DF-NPDES - PORTDF18

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9A0219, which was received by the laboratory on 1/9/2019 at 4:50:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 1.9 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9A0219-01	Water	01/09/19 12:15	01/09/19 16:50

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010673		C-07
Aroclor 1016	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1221	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1232	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1242	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1248	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1254	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1260	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 55 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>01/15/19</i>	<i>608 PCB</i>

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)		Matrix: Water			Batch: 9010604			
Aldrin	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
4,4'-DDD	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
4,4'-DDE	ND	0.00000253	0.00000505	mg/L	1	01/16/19	608 Pest	
4,4'-DDT	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
Dieldrin	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
Chlordane (Technical)	ND	0.000187	0.000379	mg/L	1	01/16/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 25-140 %</i>		<i>1</i>	<i>01/16/19</i>	<i>608 Pest</i>
<i>Decachlorobiphenyl (Surr)</i>		<i>43 %</i>		<i>30-135 %</i>		<i>1</i>	<i>01/16/19</i>	<i>608 Pest</i>

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010672		
Acenaphthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benz(a)anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(a)pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Chrysene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Fluorene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Hexachlorobenzene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 45-120 %</i>	3	01/14/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>73 %</i>		<i>30-125 %</i>	3	01/14/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>99 %</i>		<i>35-125 %</i>	3	01/14/19	EPA 625	Q-41



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010699								
Copper	0.00213	0.000500	0.00100	mg/L	1	01/17/19	EPA 200.8	
Iron	0.472	0.0250	0.0500	mg/L	1	01/17/19	EPA 200.8	
Lead	0.000453	0.000100	0.000200	mg/L	1	01/17/19	EPA 200.8	
Zinc	0.0600	0.00200	0.00400	mg/L	1	01/17/19	EPA 200.8	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010651								
Copper	0.00138	0.000500	0.00100	mg/L	1	01/15/19	EPA 200.8 (Diss)	
Lead	ND	0.000100	0.000200	mg/L	1	01/15/19	EPA 200.8 (Diss)	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010904		
HEM (Oil and Grease)	ND	5.00	5.00	mg/L	1	01/22/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010614		
Cyanide, Total	0.00436	0.00250	0.00500	mg/L	1	01/11/19	D7511-12	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010660								
Total Suspended Solids	10.0	5.00	5.00	mg/L	1	01/11/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010520								
pH	7.44	---		pH Units	1	01/09/19	SM 4500-H+ B	H-12

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: W9A0744		
Batch: W9A0744								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	01/17/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010673 - EPA 3510C (Neutral pH)						Water						
Blank (9010673-BLK1)		Prepared: 01/14/19 07:25				Analyzed: 01/15/19 08:28				C-07		
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9010673-BS1)		Prepared: 01/14/19 07:25				Analyzed: 01/15/19 08:46				C-07		
608 PCB												
Aroclor 1016	0.00201	0.0000500	0.000100	mg/L	1	0.00250	---	81	50-140%	---	---	
Aroclor 1260	0.00221	0.0000500	0.000100	mg/L	1	0.00250	---	88	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 48 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9010673-BSD1)		Prepared: 01/14/19 07:25				Analyzed: 01/15/19 09:03				C-07, Q-19		
608 PCB												
Aroclor 1016	0.00204	0.0000500	0.000100	mg/L	1	0.00250	---	81	50-140%	1	30%	
Aroclor 1260	0.00228	0.0000500	0.000100	mg/L	1	0.00250	---	91	8-140%	3	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-----------------	-------	----------	--------------	---------------	-------	--------------	-----	-----------	-------

Batch 9010604 - EPA 3510C (Neutral pH)

Water

Blank (9010604-BLK1) Prepared: 01/10/19 15:42 Analyzed: 01/16/19 16:47

608 Pest

Aldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
alpha-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
beta-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
delta-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
gamma-BHC (Lindane)	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
cis-Chlordane	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
trans-Chlordane	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
4,4'-DDD	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
4,4'-DDE	ND	0.00000227	0.00000455	mg/L	1	---	---	---	---	---	---	---
4,4'-DDT	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Dieldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan I	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan II	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan sulfate	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endrin Aldehyde	ND	0.00000455	0.00000909	mg/L	1	---	---	---	---	---	---	---
Endrin ketone	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Heptachlor	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Heptachlor epoxide	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Methoxychlor	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Chlordane (Technical)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	---
Toxaphene (Total)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	---

Surr: 2,4,5,6-TCMX (Surr) Recovery: 93 % Limits: 25-140 % Dilution: 1x
Decachlorobiphenyl (Surr) 60 % 30-135 % "

LCS (9010604-BS1)

Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:05

Q-19

608 Pest

Aldrin	0.000485	0.0000150	0.0000300	mg/L	1	0.000500	---	97	42-122%	---	---	---
alpha-BHC	0.000516	0.0000150	0.0000300	mg/L	1	0.000500	---	103	37-134%	---	---	---
beta-BHC	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	17-147%	---	---	---
delta-BHC	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	19-140%	---	---	---
gamma-BHC (Lindane)	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	32-127%	---	---	---
cis-Chlordane	0.000535	0.0000150	0.0000300	mg/L	1	0.000500	---	107	65-125%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010604 - EPA 3510C (Neutral pH)						Water						
LCS (9010604-BS1)	Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:05					Q-19						
trans-Chlordane	0.000556	0.0000150	0.0000300	mg/L	1	0.000500	---	111	60-125%	---	---	
4,4'-DDD	0.000552	0.0000150	0.0000300	mg/L	1	0.000500	---	110	31-141%	---	---	
4,4'-DDE	0.000519	0.00000250	0.00000500	mg/L	1	0.000500	---	104	30-145%	---	---	
4,4'-DDT	0.000636	0.0000150	0.0000300	mg/L	1	0.000500	---	127	25-160%	---	---	Q-41
Dieldrin	0.000542	0.0000150	0.0000300	mg/L	1	0.000500	---	108	36-146%	---	---	
Endosulfan I	0.000574	0.0000150	0.0000300	mg/L	1	0.000500	---	115	45-153%	---	---	
Endosulfan II	0.000624	0.0000150	0.0000300	mg/L	1	0.000500	---	125	30-130%	---	---	
Endosulfan sulfate	0.000558	0.0000150	0.0000300	mg/L	1	0.000500	---	112	26-144%	---	---	
Endrin	0.000606	0.0000150	0.0000300	mg/L	1	0.000500	---	121	30-147%	---	---	Q-41
Endrin Aldehyde	0.000571	0.00000500	0.0000100	mg/L	1	0.000500	---	114	55-135%	---	---	
Endrin ketone	0.000565	0.0000150	0.0000300	mg/L	1	0.000500	---	113	58-134%	---	---	
Heptachlor	0.000500	0.0000150	0.0000300	mg/L	1	0.000500	---	100	34-111%	---	---	
Heptachlor epoxide	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	37-142%	---	---	
Methoxychlor	0.000651	0.0000150	0.0000300	mg/L	1	0.000500	---	130	54-145%	---	---	
Surr: 2,4,5,6-TCMX (Surr) Recovery: 76 % Limits: 25-140 % Dilution: 1x												
Decachlorobiphenyl (Surr) 48 % 30-135 % "												

LCS Dup (9010604-BSD1)	Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:22					Q-19						
608 Pest												
Aldrin	0.000524	0.0000150	0.0000300	mg/L	1	0.000500	---	105	42-122%	8	30%	
alpha-BHC	0.000518	0.0000150	0.0000300	mg/L	1	0.000500	---	104	37-134%	0.5	30%	
beta-BHC	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	17-147%	0.07	30%	
delta-BHC	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	19-140%	0.09	30%	
gamma-BHC (Lindane)	0.000532	0.0000150	0.0000300	mg/L	1	0.000500	---	106	32-127%	0.4	30%	
cis-Chlordane	0.000540	0.0000150	0.0000300	mg/L	1	0.000500	---	108	65-125%	1	30%	
trans-Chlordane	0.000547	0.0000150	0.0000300	mg/L	1	0.000500	---	109	60-125%	2	30%	
4,4'-DDD	0.000527	0.0000150	0.0000300	mg/L	1	0.000500	---	105	31-141%	5	30%	
4,4'-DDE	0.000511	0.00000250	0.00000500	mg/L	1	0.000500	---	102	30-145%	2	30%	
4,4'-DDT	0.000590	0.0000150	0.0000300	mg/L	1	0.000500	---	118	25-160%	8	30%	Q-41
Dieldrin	0.000519	0.0000150	0.0000300	mg/L	1	0.000500	---	104	36-146%	4	30%	
Endosulfan I	0.000567	0.0000150	0.0000300	mg/L	1	0.000500	---	113	45-153%	1	30%	
Endosulfan II	0.000603	0.0000150	0.0000300	mg/L	1	0.000500	---	121	30-130%	3	30%	
Endosulfan sulfate	0.000537	0.0000150	0.0000300	mg/L	1	0.000500	---	107	26-144%	4	30%	
Endrin	0.000570	0.0000150	0.0000300	mg/L	1	0.000500	---	114	30-147%	6	30%	Q-41

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010604 - EPA 3510C (Neutral pH)						Water						
LCS Dup (9010604-BSD1)	Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:22					Q-19						
Endrin Aldehyde	0.000519	0.00000500	0.0000100	mg/L	1	0.000500	---	104	55-135%	10	30%	
Endrin ketone	0.000559	0.0000150	0.0000300	mg/L	1	0.000500	---	112	58-134%	1	30%	
Heptachlor	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	34-111%	6	30%	
Heptachlor epoxide	0.000542	0.0000150	0.0000300	mg/L	1	0.000500	---	108	37-142%	2	30%	
Methoxychlor	0.000619	0.0000150	0.0000300	mg/L	1	0.000500	---	124	54-145%	5	30%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 25-140 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>57 %</i>		<i>30-135 %</i>		<i>"</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010672 - EPA 3510C (Acid Extraction)						Water						
Blank (9010672-BLK2)		Prepared: 01/14/19 07:11		Analyzed: 01/14/19 19:22								
EPA 625												
Acenaphthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Chrysene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.000364	0.000364	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 81 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		98 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		100 %		35-125 %		"						
												Q-41

LCS (9010672-BS2)						Prepared: 01/14/19 07:11 Analyzed: 01/14/19 19:58						
EPA 625												
Acenaphthene	0.00645	0.000100	0.000100	mg/L	1	0.00800	---	81	47-145%	---	---	
Anthracene	0.00714	0.000100	0.000100	mg/L	1	0.00800	---	89	27-133%	---	---	
Benz(a)anthracene	0.00762	0.000100	0.000100	mg/L	1	0.00800	---	95	33-143%	---	---	
Benzo(a)pyrene	0.00758	0.000100	0.000100	mg/L	1	0.00800	---	95	17-163%	---	---	
Benzo(b)fluoranthene	0.00737	0.000100	0.000100	mg/L	1	0.00800	---	92	24-159%	---	---	
Benzo(k)fluoranthene	0.00764	0.000100	0.000100	mg/L	1	0.00800	---	96	11-162%	---	---	
Chrysene	0.00747	0.000100	0.000100	mg/L	1	0.00800	---	93	17-168%	---	---	
Dibenz(a,h)anthracene	0.00677	0.000100	0.000100	mg/L	1	0.00800	---	85	1-227%	---	---	
Fluoranthene	0.00712	0.000100	0.000100	mg/L	1	0.00800	---	89	26-137%	---	---	
Fluorene	0.00669	0.000100	0.000100	mg/L	1	0.00800	---	84	59-121%	---	---	
Hexachlorobenzene	0.00761	0.000100	0.000100	mg/L	1	0.00800	---	95	5-152%	---	---	
Indeno(1,2,3-cd)pyrene	0.00682	0.000100	0.000100	mg/L	1	0.00800	---	85	1-171%	---	---	
Pyrene	0.00717	0.000100	0.000100	mg/L	1	0.00800	---	90	52-115%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010672 - EPA 3510C (Acid Extraction)						Water						
LCS (9010672-BS2)		Prepared: 01/14/19 07:11		Analyzed: 01/14/19 19:58								
Pentachlorophenol (PCP)	0.00686	0.000400	0.000400	mg/L	1	0.00800	---	86	14-176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 75 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		93 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		106 %		35-125 %		"		Q-41				
LCS Dup (9010672-BSD2)		Prepared: 01/14/19 07:11		Analyzed: 01/14/19 20:35								
EPA 625												
Acenaphthene	0.00670	0.000100	0.000100	mg/L	1	0.00800	---	84	47-145%	4	30%	
Anthracene	0.00737	0.000100	0.000100	mg/L	1	0.00800	---	92	27-133%	3	30%	
Benz(a)anthracene	0.00797	0.000100	0.000100	mg/L	1	0.00800	---	100	33-143%	5	30%	
Benzo(a)pyrene	0.00785	0.000100	0.000100	mg/L	1	0.00800	---	98	17-163%	3	30%	
Benzo(b)fluoranthene	0.00834	0.000100	0.000100	mg/L	1	0.00800	---	104	24-159%	12	30%	
Benzo(k)fluoranthene	0.00794	0.000100	0.000100	mg/L	1	0.00800	---	99	11-162%	4	30%	
Chrysene	0.00774	0.000100	0.000100	mg/L	1	0.00800	---	97	17-168%	4	30%	
Dibenz(a,h)anthracene	0.00728	0.000100	0.000100	mg/L	1	0.00800	---	91	1-227%	7	30%	
Fluoranthene	0.00726	0.000100	0.000100	mg/L	1	0.00800	---	91	26-137%	2	30%	
Fluorene	0.00689	0.000100	0.000100	mg/L	1	0.00800	---	86	59-121%	3	30%	
Hexachlorobenzene	0.00797	0.000100	0.000100	mg/L	1	0.00800	---	100	5-152%	5	30%	
Indeno(1,2,3-cd)pyrene	0.00731	0.000100	0.000100	mg/L	1	0.00800	---	91	1-171%	7	30%	
Pyrene	0.00744	0.000100	0.000100	mg/L	1	0.00800	---	93	52-115%	4	30%	
Pentachlorophenol (PCP)	0.00708	0.000400	0.000400	mg/L	1	0.00800	---	88	14-176%	3	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 79 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		93 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		106 %		35-125 %		"		Q-41				



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010699 - EPA 3015A						Water						
Blank (9010699-BLK1)		Prepared: 01/14/19 13:17 Analyzed: 01/17/19 16:37										
EPA 200.8												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (9010699-BS1)		Prepared: 01/14/19 13:17 Analyzed: 01/17/19 16:42										
EPA 200.8												
Copper	0.0594	0.000500	0.00100	mg/L	1	0.0556	---	107	85-115%	---	---	---
Iron	2.72	0.0250	0.0500	mg/L	1	2.78	---	98	85-115%	---	---	---
Lead	0.0559	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	---
Zinc	0.0599	0.00200	0.00400	mg/L	1	0.0556	---	108	85-115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010651 - Matrix Matched Direct Inject						Water						
Blank (9010651-BLK1)		Prepared: 01/11/19 14:15 Analyzed: 01/15/19 20:30										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
LCS (9010651-BS1)		Prepared: 01/11/19 14:15 Analyzed: 01/15/19 20:34										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0586	0.000500	0.00100	mg/L	1	0.0556	---	106	85-115%	---	---	
Lead	0.0561	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010904 - EPA 1664						Water						
Blank (9010904-BLK1)		Prepared: 01/21/19 07:47 Analyzed: 01/22/19 12:34										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9010904-BS1)		Prepared: 01/21/19 07:47 Analyzed: 01/22/19 12:34										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	35.7			mg/L	1	40.0	---	89	78-114%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010614 - ASTM D7511-12 (W)						Water						
Blank (9010614-BLK1)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:28										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9010614-BS1)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:30										
<u>D7511-12</u>												
Cyanide, Total	0.0273	0.00250	0.00500	mg/L	1	0.0250	---	109	84-116%	---	---	
LCS (9010614-BS2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:26										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---		0-100%	---	---	CN_I
Matrix Spike (9010614-MS2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 14:42										
<u>QC Source Sample: Stormwater 001 (A9A0219-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0316	0.00251	0.00503	mg/L	1	0.0251	0.00436	108	64-136%	---	---	
Matrix Spike Dup (9010614-MSD2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 14:44										
<u>QC Source Sample: Stormwater 001 (A9A0219-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0326	0.00251	0.00503	mg/L	1	0.0251	0.00436	112	64-136%	4	47%	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010660 - Total Suspended Solids						Water						
Blank (9010660-BLK1)		Prepared: 01/11/19 16:21 Analyzed: 01/11/19 19:32										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Reference (9010660-SRM1)		Prepared: 01/11/19 16:21 Analyzed: 01/11/19 19:32										
SM 2540 D												
Total Suspended Solids	98.0			mg/L	1	100	98	77.1-110%		---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits RPD	RPD Limit	Notes
Batch 9010520 - Method Prep: Aq						Water					
Reference (9010520-SRM1) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 07:31											
SM 4500-H+ B											
pH	6.01	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM2) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 07:32											
SM 4500-H+ B											
pH	7.95	---		pH Units	1	8.00		99	8.333-101.667%	---	---
Reference (9010520-SRM3) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 15:47											
SM 4500-H+ B											
pH	6.00	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM4) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 15:52											
SM 4500-H+ B											
pH	7.94	---		pH Units	1	8.00		99	8.333-101.667%	---	---
Reference (9010520-SRM5) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 19:12											
SM 4500-H+ B											
pH	6.01	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM6) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 19:20											
SM 4500-H+ B											
pH	7.96	---		pH Units	1	8.00		100	8.333-101.667%	---	---



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9A0744 - EPA 245.1						Water						
Blank (W9A0744-BLK1)		Prepared: 01/14/19 16:07 Analyzed: 01/17/19 14:33										
EPA 245.1												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W9A0744-BS1)		Prepared: 01/14/19 16:07 Analyzed: 01/17/19 14:34										
EPA 245.1												
Mercury, Total	0.00101	0.000017	0.000050	mg/l	1	0.00100	---	101	85-115%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010673							
A9A0219-01	Water	608 PCB	01/09/19 12:15	01/14/19 07:25	1020mL/5mL	1000mL/5mL	0.98

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010604							
A9A0219-01	Water	608 Pest	01/09/19 12:15	01/10/19 15:54	990mL/5mL	1000mL/5mL	1.01

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010672							
A9A0219-01	Water	EPA 625	01/09/19 12:15	01/14/19 11:14	1000mL/5mL	1000mL/5mL	1.00

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010699							
A9A0219-01	Water	EPA 200.8	01/09/19 12:15	01/14/19 13:17	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010651							
A9A0219-01	Water	EPA 200.8 (Diss)	01/09/19 12:15	01/11/19 14:15	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010904							
A9A0219-01	Water	EPA 1664A	01/09/19 12:15	01/21/19 07:47			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010614</u>							
A9A0219-01	Water	D7511-12	01/09/19 12:15	01/11/19 08:07	10mL/10mL	10mL/10mL	1.00

Solid and Moisture Determinations

Prep: Total Suspended Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010660</u>							
A9A0219-01	Water	SM 2540 D	01/09/19 12:15	01/11/19 16:21			NA

Conventional Chemistry Parameters

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010520</u>							
A9A0219-01	Water	SM 4500-H+ B	01/09/19 12:15	01/09/19 15:32	20mL/20mL	20mL/20mL	NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9A0744</u>							
A9A0219-01	Water	EPA 245.1	01/09/19 12:15	01/14/19 16:07	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF18**
Project Manager: **Megan Richard**

Report ID:
A9A0219 - 01 22 19 1454

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- H-12** Sample analysis was performed >15 minutes after sample collection. Consult regulator or permit manager to determine the usability of data for intended use.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group Project: **OPLC Portland DF-NPDES**
 121 SW Salmon Street, Suite 1100 Project Number: **PORTDF18**
 Portland, OR 97204 Project Manager: **Megan Richard** Report ID:
A9A0219 - 01 22 19 1454

CHAIN OF CUSTODY

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

APEX LABS Lab # **Antea Group** Project #/PO# PORTDF18
 4840 SW Macadam ave, Portland OR 97238 Project Mgr: Megan Richard Project Name: OPLC Portland DF
 Sampled by: Nolan Lewis Phone: (425) 498-7711 Fax: Email: megan.richard@anteagroup.com

COC 1 of 1 revised

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	Total - Cu, Pb, Zn, Fe, Hg	Dissolved - Cu, Pb	pH	TSS	Total Oil and Grease	Aldrin	Chlordane	Total Cyanide	DDT, DDE	Dieldrin	Hexachlorobenzene	PCBs	Acenaphthalene	Anthracene	Benz(a)anthracene	Benzofluoranthene	Benzofluoranthene 3,4	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pyrene
Stormwater Discharge-001		11/19/19	12:15	Ag		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ANALYSIS REQUEST

Normal Turn Around Time (TAT) = 6-10 Business Days

TAT Requested (circle): 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:
At time of sampling pH = _____

RELINQUISHED BY: Signature: <u>Nolan Lewis</u> Printed Name: <u>Nolan Lewis</u> Company: <u>Antea Group</u>	RECEIVED BY: Signature: <u>[Signature]</u> Printed Name: <u>[Name]</u> Company: <u>[Company]</u>
Date: <u>11/19/19</u> Time: <u>16:50</u>	Date: <u>11/19/19</u> Time: <u>11:00</u>

Nolan Lewis



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF18**
Project Manager: **Megan Richard**

Report ID:
A9A0219 - 01 22 19 1454

CHAIN OF CUSTODY

Lab # A9A0219 coc 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

APEX LABS

Company: Antea Group Project Mgr: Megan Richard Project Name: OPLC Portland DF Project #/PO# PORTDF18
Address: 4640 SW Macadam ave, Portland OR 97239 Phone: (425) 498-7711 Fax: megan.richard@antegrup.com
Sampled by: Nolen Lewis

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	Total - Cu, Pb, Zn, Fe, Hg	Dissolved - Cu, Pb	pH	TSS	Total Oil and Grease	Adrn	Chlordane	Total Cyanide	DDT, DDE	Dieldrn	Hexachlorobenzene	PCBs	Acenaphthalene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benzofluoranthene 3,4	Benzofluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Pyrene
Stormwater, Discharge-001	844	1/18/19	12:15	NA		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Normal Turn Around Time (TAT) = 6-10 Business Days

TAT Requested (circle): 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:
At time of sampling pH = _____

RECEIVED BY:
Signature: Nolen Lewis Date: 1/19/19
Printed Name: Nolen Lewis Time: 1650
Company: Antea Group

RELINQUISHED BY:
Signature: Megan Richard Date: 1/19/19
Printed Name: Megan Richard Time: 11:00
Company: Antea Group

Lisa Domenighini



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9 A0219
 Project/Project #: OPLC Portland DF / PORTDF18

Delivery Info:
 Date/time received: 1/9/19 @ 11:50 By: (Signature)
 Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 1/9/19 @ 11:50 By: (Signature)
 Chain of Custody included? Yes No Custody seals? Yes No
 Signed/dated by client? Yes No
 Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.9</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>real</u>						
Condition:	<u>good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA (NA)
 Out of temperature samples form initiated? Yes/No/NA (NA)
Samples Inspection: Date/time inspected: 1/9/19 @ 17:40 By: (Signature)
 All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: conts. read stormwater
1. date on coc reads 1/9/18, date on conts. read
 COC/container discrepancies form initiated? Yes No NA
 Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA
 Comments: _____

Water samples: pH checked? Yes No NA pH appropriate? Yes No NA
 Comments: _____

Additional information: 1/9/19

Labeled by: (Signature) Witness: (Signature) Cooler Inspected by: (Signature) See Project Contact Form: (Signature)
 Subsampled by: (Signature)
 subsample witness: (Signature)

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Monday, April 15, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9C1031 - OPLC Portland DF-NPDES - PORTDF19

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9C1031, which was received by the laboratory on 3/29/2019 at 9:50:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1 4.6 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9C1031-01	Water	03/29/19 08:30	03/29/19 09:50

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A9C1031-01	Stormwater 001	7.14	---	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040432		C-07
Aroclor 1016	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1221	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1232	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1242	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1248	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1254	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1260	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>04/03/19</i>	<i>608 PCB</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01RE1)				Matrix: Water		Batch: 9031333		C-05
Aldrin	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
4,4'-DDD	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
4,4'-DDE	ND	0.00000495	0.00000990	mg/L	1	04/02/19	608 Pest	
4,4'-DDT	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
Dieldrin	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
Chlordane (Technical)	ND	0.000366	0.000743	mg/L	1	04/02/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 44-124 %</i>	<i>1</i>	<i>04/02/19</i>	<i>608 Pest</i>	
<i>Decachlorobiphenyl (Surr)</i>		<i>81 %</i>		<i>30-135 %</i>	<i>1</i>	<i>04/02/19</i>	<i>608 Pest</i>	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040369		
Acenaphthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benz(a)anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(a)pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Chrysene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Fluorene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Hexachlorobenzene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 45-120 %</i>	4	04/01/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>75 %</i>		<i>30-125 %</i>	4	04/01/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>69 %</i>		<i>35-125 %</i>	4	04/01/19	EPA 625	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water				
Batch: 9040672								
Iron	0.526	0.0250	0.0500	mg/L	1	04/09/19	EPA 200.8	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water				
Batch: 9040612								
Copper	0.00320	0.000500	0.00100	mg/L	1	04/08/19	EPA 200.8 (Diss)	
Lead	0.000128	0.000100	0.000200	mg/L	1	04/08/19	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040417		
Cyanide, Total	0.00296	0.00250	0.00500	mg/L	1	04/02/19	D7511-12	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: W9D0230		
<u>Batch: W9D0230</u>								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	04/09/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040432 - EPA 3510C (Neutral pH)						Water						
Blank (9040432-BLK1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 10:30				C-07						
608 PCB												
Aroclor 1016	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9040432-BS1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 10:48				C-07						
608 PCB												
Aroclor 1016	0.00183	0.0000500	0.000100	mg/L	1	0.00250	---	73	50-140%	---	---	
Aroclor 1260	0.00209	0.0000500	0.000100	mg/L	1	0.00250	---	83	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9040432-BSD1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 11:06				C-07, Q-19						
608 PCB												
Aroclor 1016	0.00185	0.0000500	0.000100	mg/L	1	0.00250	---	74	50-140%	1	36%	
Aroclor 1260	0.00210	0.0000500	0.000100	mg/L	1	0.00250	---	84	8-140%	0.7	38%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						

Apex Laboratories

Lisa Domenighini, Client Services 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.



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9031333 - EPA 3510C (Neutral pH)/3640A (GPC)						Water						
Blank (9031333-BLK1)		Prepared: 03/29/19 07:26			Analyzed: 04/02/19 16:09			C-05				
608 Pest												
Aldrin	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDD	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDE	ND	0.00000455	0.00000909	mg/L	1	---	---	---	---	---	---	
4,4'-DDT	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Dieldrin	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Endosulfan I	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Endosulfan II	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	0.000336	0.000682	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>64 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS (9031333-BS1)						C-05						
Prepared: 03/29/19 07:26		Analyzed: 04/02/19 16:27										
608 Pest												
Aldrin	0.000411	0.0000300	0.0000600	mg/L	1	0.000500	---	82	42-140%	---	---	
4,4'-DDD	0.000497	0.0000300	0.0000600	mg/L	1	0.000500	---	99	31-141%	---	---	
4,4'-DDE	0.000489	0.00000500	0.0000100	mg/L	1	0.000500	---	98	30-145%	---	---	
4,4'-DDT	0.000612	0.0000300	0.0000600	mg/L	1	0.000500	---	122	25-160%	---	---	
Dieldrin	0.000515	0.0000300	0.0000600	mg/L	1	0.000500	---	103	36-146%	---	---	
Endosulfan I	0.000468	0.0000300	0.0000600	mg/L	1	0.000500	---	94	45-153%	---	---	
Endosulfan II	0.000469	0.0000300	0.0000600	mg/L	1	0.000500	---	94	10-202%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>73 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS Dup (9031333-BSD1)						C-05, Q-19						
Prepared: 03/29/19 07:26		Analyzed: 04/02/19 16:45										
608 Pest												
Aldrin	0.000343	0.0000300	0.0000600	mg/L	1	0.000500	---	69	42-140%	18	35%	
4,4'-DDD	0.000433	0.0000300	0.0000600	mg/L	1	0.000500	---	87	31-141%	14	39%	
4,4'-DDE	0.000441	0.00000500	0.0000100	mg/L	1	0.000500	---	88	30-145%	10	35%	
4,4'-DDT	0.000552	0.0000300	0.0000600	mg/L	1	0.000500	---	110	25-160%	10	42%	
Dieldrin	0.000459	0.0000300	0.0000600	mg/L	1	0.000500	---	92	36-146%	12	49%	
Endosulfan I	0.000420	0.0000300	0.0000600	mg/L	1	0.000500	---	84	45-153%	11	28%	
Endosulfan II	0.000433	0.0000300	0.0000600	mg/L	1	0.000500	---	87	10-202%	8	53%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 9031333 - EPA 3510C (Neutral pH)/3640A (GPC)						Water							
LCS Dup (9031333-BSD1)		Prepared: 03/29/19 07:26 Analyzed: 04/02/19 16:45						C-05, Q-19					
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 30-135 %</i>		<i>Dilution: 1x</i>							

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD RPD	Notes
Batch 9040369 - EPA 3510C (Acid Extraction)						Water				
Blank (9040369-BLK2)		Prepared: 04/01/19 07:28		Analyzed: 04/01/19 17:30						
EPA 625										
Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 71 %		Limits: 45-120 %		Dilution: 1x				
<i>p-Terphenyl-d14 (Surr)</i>		75 %		30-125 %		"				
<i>2,4,6-Tribromophenol (Surr)</i>		63 %		35-125 %		"				

LCS (9040369-BS2)						Prepared: 04/01/19 07:28 Analyzed: 04/01/19 18:06				
EPA 625										
Acenaphthene	0.00321	0.000200	0.000200	mg/L	4	0.00400	---	80	47-145%	---
Anthracene	0.00349	0.000200	0.000200	mg/L	4	0.00400	---	87	27-133%	---
Benz(a)anthracene	0.00365	0.000200	0.000200	mg/L	4	0.00400	---	91	33-143%	---
Benzo(a)pyrene	0.00362	0.000200	0.000200	mg/L	4	0.00400	---	90	17-163%	---
Benzo(b)fluoranthene	0.00351	0.000200	0.000200	mg/L	4	0.00400	---	88	24-159%	---
Benzo(k)fluoranthene	0.00388	0.000200	0.000200	mg/L	4	0.00400	---	97	11-162%	---
Chrysene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	17-168%	---
Dibenz(a,h)anthracene	0.00367	0.000200	0.000200	mg/L	4	0.00400	---	92	1-227%	---
Fluoranthene	0.00349	0.000200	0.000200	mg/L	4	0.00400	---	87	26-137%	---
Fluorene	0.00342	0.000200	0.000200	mg/L	4	0.00400	---	85	59-121%	---
Hexachlorobenzene	0.00315	0.000200	0.000200	mg/L	4	0.00400	---	79	5-152%	---
Indeno(1,2,3-cd)pyrene	0.00363	0.000200	0.000200	mg/L	4	0.00400	---	91	1-171%	---
Pyrene	0.00352	0.000200	0.000200	mg/L	4	0.00400	---	88	52-115%	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040369 - EPA 3510C (Acid Extraction)						Water						
LCS (9040369-BS2)		Prepared: 04/01/19 07:28		Analyzed: 04/01/19 18:06								
Pentachlorophenol (PCP)	0.00303	0.000800	0.000800	mg/L	4	0.00400	---	76	14-176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 82 %		Limits: 45-120 %		Dilution: 4x						
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		72 %		35-125 %		"						
LCS Dup (9040369-BSD2)		Prepared: 04/01/19 07:28		Analyzed: 04/01/19 18:41		Q-19						
EPA 625												
Acenaphthene	0.00332	0.000200	0.000200	mg/L	4	0.00400	---	83	47-145%	3	30%	
Anthracene	0.00361	0.000200	0.000200	mg/L	4	0.00400	---	90	27-133%	3	30%	
Benz(a)anthracene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	33-143%	2	30%	
Benzo(a)pyrene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	17-163%	3	30%	
Benzo(b)fluoranthene	0.00369	0.000200	0.000200	mg/L	4	0.00400	---	92	24-159%	5	30%	
Benzo(k)fluoranthene	0.00384	0.000200	0.000200	mg/L	4	0.00400	---	96	11-162%	0.9	30%	
Chrysene	0.00376	0.000200	0.000200	mg/L	4	0.00400	---	94	17-168%	1	30%	
Dibenz(a,h)anthracene	0.00361	0.000200	0.000200	mg/L	4	0.00400	---	90	1-227%	1	30%	
Fluoranthene	0.00356	0.000200	0.000200	mg/L	4	0.00400	---	89	26-137%	2	30%	
Fluorene	0.00355	0.000200	0.000200	mg/L	4	0.00400	---	89	59-121%	4	30%	
Hexachlorobenzene	0.00313	0.000200	0.000200	mg/L	4	0.00400	---	78	5-152%	0.7	30%	
Indeno(1,2,3-cd)pyrene	0.00367	0.000200	0.000200	mg/L	4	0.00400	---	92	1-171%	1	30%	
Pyrene	0.00352	0.000200	0.000200	mg/L	4	0.00400	---	88	52-115%	0.003	30%	
Pentachlorophenol (PCP)	0.00321	0.000800	0.000800	mg/L	4	0.00400	---	80	14-176%	5	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 82 %		Limits: 45-120 %		Dilution: 4x						
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		69 %		35-125 %		"						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040672 - EPA 3015A						Water						
Blank (9040672-BLK1)		Prepared: 04/09/19 10:14 Analyzed: 04/09/19 18:44										
<u>EPA 200.8</u>												
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	
LCS (9040672-BS1)		Prepared: 04/09/19 10:14 Analyzed: 04/09/19 18:49										
<u>EPA 200.8</u>												
Iron	2.62	0.0250	0.0500	mg/L	1	2.78	---	94	85-115%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040612 - Matrix Matched Direct Inject						Water						
Blank (9040612-BLK1)		Prepared: 04/08/19 09:10 Analyzed: 04/08/19 14:05										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
LCS (9040612-BS1)		Prepared: 04/08/19 09:10 Analyzed: 04/08/19 14:09										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0570	0.000500	0.00100	mg/L	1	0.0556	---	103	85-115%	---	---	---
Lead	0.0537	0.000100	0.000200	mg/L	1	0.0556	---	97	85-115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040417 - ASTM D7511-12 (W)						Water						
Blank (9040417-BLK1)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:36										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	---
LCS (9040417-BS1)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:38										
<u>D7511-12</u>												
Cyanide, Total	0.0243	0.00250	0.00500	mg/L	1	0.0250	---	97	84-116%	---	---	---
LCS (9040417-BS2)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:34										
<u>D7511-12</u>												
Cyanide, Total	0.00260	0.00250	0.00500	mg/L	1	0.0500	---	5	0-100%	---	---	CN_I, J



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9D0230 - EPA 245.1						Water						
Blank (W9D0230-BLK1)		Prepared: 04/03/19 13:01 Analyzed: 04/09/19 13:22										
EPA 245.1												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	---
LCS (W9D0230-BS1)						Prepared: 04/03/19 13:01 Analyzed: 04/09/19 13:24						
EPA 245.1												
Mercury, Total	0.000896	0.000017	0.000050	mg/l	1	0.00100	---	90	85-115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040432							
A9C1031-01	Water	608 PCB	03/29/19 08:30	04/02/19 11:21	970mL/5mL	1000mL/5mL	1.03

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9031333							
A9C1031-01RE1	Water	608 Pest	03/29/19 08:30	03/29/19 16:27	1010mL/10mL	1000mL/5mL	1.98

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040369							
A9C1031-01	Water	EPA 625	03/29/19 08:30	04/01/19 08:28	1020mL/5mL	1000mL/5mL	0.98

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040672							
A9C1031-01	Water	EPA 200.8	03/29/19 08:30	04/09/19 10:14	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040612							
A9C1031-01	Water	EPA 200.8 (Diss)	03/29/19 08:30	04/08/19 09:10	45mL/50mL	45mL/50mL	1.00

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040417							
A9C1031-01	Water	D7511-12	03/29/19 08:30	04/02/19 08:37	10mL/10mL	10mL/10mL	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

SAMPLE PREPARATION INFORMATION

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	-------------------------	--------------------------	-------------------

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9D0230</u>							
A9C1031-01	Water	EPA 245.1	03/29/19 08:30	04/03/19 13:01	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-05** Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Lisa Domenighini, Client Services 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.



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9C031

Project/Project #: OPLC Portland DF

Delivery Info:
Date/time received: 3/21/19 @ 9:50 By: MS
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 3/21/19 @ 9:50 By: MS
Chain of Custody included? Yes No Custody seals? Yes No
Signed/dated by client? Yes No
Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.6</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA
Out of temperature samples form initiated? Yes/No/NA NA
Samples Inspection: Date/time inspected: 3/29/19 @ 12:51 By: TAG
All samples intact? Yes No Comments: _____
Bottle labels/COCs agree? Yes No Comments: _____
COC/container discrepancies form initiated? Yes No NA
Containers/volumes received appropriate for analysis? Yes No Comments: _____
Do VOA vials have visible headspace? Yes No NA
Comments: _____
Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
Comments: _____
Additional information: Subsamples: TAG
witness: HKK
Labeled by: TAG Witness: HKK Cooler Inspected by: TAG See Project Contact Form: Y



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Monday, May 13, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9D0912 - OPLC Portland DF-NPDES - OPLC-PDX

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9D0912, which was received by the laboratory on 4/26/2019 at 10:00:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 5.8 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9D0912-01	Water	04/26/19 08:45	04/26/19 10:00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	---	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A9D0912-01	Stormwater 001	7.36	11.7	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050480		C-07
Aroclor 1016	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1221	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1232	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1242	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1248	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1254	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1260	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>05/07/19</i>	<i>608 PCB</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)		Matrix: Water			Batch: 9050470			
Aldrin	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
4,4'-DDD	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
4,4'-DDE	ND	0.00000248	0.00000495	mg/L	1	05/10/19	608 Pest	
4,4'-DDT	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
Dieldrin	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
Chlordane (Technical)	ND	0.000183	0.000371	mg/L	1	05/10/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 44-124 %</i>		<i>1</i>	<i>05/10/19</i>	<i>608 Pest</i>
<i>Decachlorobiphenyl (Surr)</i>		<i>80 %</i>		<i>30-135 %</i>		<i>1</i>	<i>05/10/19</i>	<i>608 Pest</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9041454		
Acenaphthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benz(a)anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(a)pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Chrysene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Fluorene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Hexachlorobenzene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 45-120 %</i>	3	05/01/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>63 %</i>		<i>30-125 %</i>	3	05/01/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>94 %</i>		<i>35-125 %</i>	3	05/01/19	EPA 625	



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9041472								
Copper	0.00396	0.000500	0.00100	mg/L	1	05/01/19	EPA 200.8	
Iron	0.565	0.0250	0.0500	mg/L	1	05/01/19	EPA 200.8	
Lead	0.000454	0.000100	0.000200	mg/L	1	05/01/19	EPA 200.8	
Zinc	0.0546	0.00200	0.00400	mg/L	1	05/01/19	EPA 200.8	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9041453								
Copper	0.00341	0.000500	0.00100	mg/L	1	04/30/19	EPA 200.8 (Diss)	
Lead	0.000123	0.000100	0.000200	mg/L	1	04/30/19	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050387		
HEM (Oil and Grease)	ND	4.81	4.81	mg/L	1	05/03/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050350		
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	05/01/19	D7511-12	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9050352								
Total Suspended Solids	13.0	5.00	5.00	mg/L	1	05/01/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: W9E0012		
<u>Batch: W9E0012</u>								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	05/07/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050480 - EPA 3510C (Neutral pH)						Water						
Blank (9050480-BLK1)		Prepared: 05/03/19 13:00		Analyzed: 05/07/19 08:26								C-07
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9050480-BS1)		Prepared: 05/03/19 13:00		Analyzed: 05/07/19 08:44								C-07
608 PCB												
Aroclor 1016	0.00154	0.0000500	0.000100	mg/L	1	0.00250	---	62	50 - 140%	---	---	
Aroclor 1260	0.00197	0.0000500	0.000100	mg/L	1	0.00250	---	79	8 - 140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9050480-BSD1)		Prepared: 05/03/19 13:00		Analyzed: 05/07/19 09:02								C-07, Q-19
608 PCB												
Aroclor 1016	0.00147	0.0000500	0.000100	mg/L	1	0.00250	---	59	50 - 140%	5	36%	
Aroclor 1260	0.00199	0.0000500	0.000100	mg/L	1	0.00250	---	80	8 - 140%	1	38%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050470 - EPA 3510C (Neutral pH)						Water						
Blank (9050470-BLK1)		Prepared: 05/03/19 10:07			Analyzed: 05/10/19 16:15							
608 Pest												
Aldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
4,4'-DDD	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
4,4'-DDE	ND	0.00000227	0.00000455	mg/L	1	---	---	---	---	---	---	
4,4'-DDT	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
Dieldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 46 %		Limits: 44-124 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		78 %		30-135 %		"						
LCS (9050470-BS1)						Prepared: 05/03/19 10:07 Analyzed: 05/10/19 16:33						
608 Pest												
Aldrin	0.000354	0.0000150	0.0000300	mg/L	1	0.000500	---	71	42 - 140%	---	---	
4,4'-DDD	0.000414	0.0000150	0.0000300	mg/L	1	0.000500	---	83	31 - 141%	---	---	
4,4'-DDE	0.000405	0.00000250	0.00000500	mg/L	1	0.000500	---	81	30 - 145%	---	---	
4,4'-DDT	0.000547	0.0000150	0.0000300	mg/L	1	0.000500	---	109	25 - 160%	---	---	Q-41
Dieldrin	0.000427	0.0000150	0.0000300	mg/L	1	0.000500	---	85	36 - 146%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 74 %		Limits: 44-124 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		73 %		30-135 %		"						
LCS Dup (9050470-BSD1)						Prepared: 05/03/19 10:07 Analyzed: 05/10/19 16:50						
608 Pest												
Aldrin	0.000356	0.0000150	0.0000300	mg/L	1	0.000500	---	71	42 - 140%	0.5	35%	
4,4'-DDD	0.000445	0.0000150	0.0000300	mg/L	1	0.000500	---	89	31 - 141%	7	39%	
4,4'-DDE	0.000421	0.00000250	0.00000500	mg/L	1	0.000500	---	84	30 - 145%	4	35%	
4,4'-DDT	0.000601	0.0000150	0.0000300	mg/L	1	0.000500	---	120	25 - 160%	9	42%	Q-41
Dieldrin	0.000455	0.0000150	0.0000300	mg/L	1	0.000500	---	91	36 - 146%	6	49%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 79 %		Limits: 44-124 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		76 %		30-135 %		"						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 9041454 - EPA 3510C (Acid Extraction)						Water						
Blank (9041454-BLK2)		Prepared: 04/30/19 10:05			Analyzed: 04/30/19 15:08							
EPA 625												
Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>93 %</i>		<i>35-125 %</i>		<i>"</i>						

Q-41

LCS (9041454-BS2)						Prepared: 04/30/19 10:05 Analyzed: 04/30/19 15:44						
EPA 625												
Acenaphthene	0.00293	0.000100	0.000100	mg/L	2	0.00400	---	73	47 - 145%	---	---	---
Anthracene	0.00325	0.000100	0.000100	mg/L	2	0.00400	---	81	27 - 133%	---	---	---
Benz(a)anthracene	0.00333	0.000100	0.000100	mg/L	2	0.00400	---	83	33 - 143%	---	---	---
Benzo(a)pyrene	0.00398	0.000100	0.000100	mg/L	2	0.00400	---	100	17 - 163%	---	---	---
Benzo(b)fluoranthene	0.00383	0.000100	0.000100	mg/L	2	0.00400	---	96	24 - 159%	---	---	---
Benzo(k)fluoranthene	0.00390	0.000100	0.000100	mg/L	2	0.00400	---	98	11 - 162%	---	---	---
Chrysene	0.00340	0.000100	0.000100	mg/L	2	0.00400	---	85	17 - 168%	---	---	---
Dibenz(a,h)anthracene	0.00340	0.000100	0.000100	mg/L	2	0.00400	---	85	1 - 227%	---	---	---
Fluoranthene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	86	26 - 137%	---	---	---
Fluorene	0.00332	0.000100	0.000100	mg/L	2	0.00400	---	83	59 - 121%	---	---	---
Hexachlorobenzene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	87	5 - 152%	---	---	---
Indeno(1,2,3-cd)pyrene	0.00328	0.000100	0.000100	mg/L	2	0.00400	---	82	1 - 171%	---	---	---
Pyrene	0.00350	0.000100	0.000100	mg/L	2	0.00400	---	88	52 - 115%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041454 - EPA 3510C (Acid Extraction)						Water						
LCS (9041454-BS2)		Prepared: 04/30/19 10:05		Analyzed: 04/30/19 15:44								
Pentachlorophenol (PCP)	0.00374	0.000400	0.000400	mg/L	2	0.00400	---	94	14 - 176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 2x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>80 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>97 %</i>		<i>35-125 %</i>		<i>"</i>						
											Q-41	

LCS Dup (9041454-BSD2)		Prepared: 04/30/19 10:05		Analyzed: 04/30/19 16:20								Q-19
EPA 625												
Acenaphthene	0.00299	0.000100	0.000100	mg/L	2	0.00400	---	75	47 - 145%	2	30%	
Anthracene	0.00333	0.000100	0.000100	mg/L	2	0.00400	---	83	27 - 133%	3	30%	
Benz(a)anthracene	0.00341	0.000100	0.000100	mg/L	2	0.00400	---	85	33 - 143%	2	30%	
Benzo(a)pyrene	0.00404	0.000100	0.000100	mg/L	2	0.00400	---	101	17 - 163%	2	30%	
Benzo(b)fluoranthene	0.00389	0.000100	0.000100	mg/L	2	0.00400	---	97	24 - 159%	2	30%	
Benzo(k)fluoranthene	0.00395	0.000100	0.000100	mg/L	2	0.00400	---	99	11 - 162%	1	30%	
Chrysene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	86	17 - 168%	2	30%	
Dibenz(a,h)anthracene	0.00349	0.000100	0.000100	mg/L	2	0.00400	---	87	1 - 227%	2	30%	
Fluoranthene	0.00351	0.000100	0.000100	mg/L	2	0.00400	---	88	26 - 137%	1	30%	
Fluorene	0.00336	0.000100	0.000100	mg/L	2	0.00400	---	84	59 - 121%	1	30%	
Hexachlorobenzene	0.00362	0.000100	0.000100	mg/L	2	0.00400	---	90	5 - 152%	4	30%	
Indeno(1,2,3-cd)pyrene	0.00327	0.000100	0.000100	mg/L	2	0.00400	---	82	1 - 171%	0.1	30%	
Pyrene	0.00353	0.000100	0.000100	mg/L	2	0.00400	---	88	52 - 115%	0.8	30%	
Pentachlorophenol (PCP)	0.00393	0.000400	0.000400	mg/L	2	0.00400	---	98	14 - 176%	5	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 2x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>75 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>98 %</i>		<i>35-125 %</i>		<i>"</i>						
											Q-41	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041472 - EPA 3015A												
Water												
Blank (9041472-BLK1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 18:48												
<u>EPA 200.8</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (9041472-BS1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 18:53												
<u>EPA 200.8</u>												
Copper	0.0531	0.000500	0.00100	mg/L	1	0.0556	---	96	85 - 115%	---	---	---
Iron	2.71	0.0250	0.0500	mg/L	1	2.78	---	98	85 - 115%	---	---	---
Lead	0.0539	0.000100	0.000200	mg/L	1	0.0556	---	97	85 - 115%	---	---	---
Zinc	0.0540	0.00200	0.00400	mg/L	1	0.0556	---	97	85 - 115%	---	---	---
Duplicate (9041472-DUP1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 19:44												
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>EPA 200.8</u>												
Copper	0.00357	0.000500	0.00100	mg/L	1	---	0.00396	---	---	10	20%	---
Iron	0.612	0.0250	0.0500	mg/L	1	---	0.565	---	---	8	20%	---
Lead	0.000443	0.000100	0.000200	mg/L	1	---	0.000454	---	---	3	20%	---
Zinc	0.0532	0.00200	0.00400	mg/L	1	---	0.0546	---	---	3	20%	---
Matrix Spike (9041472-MS1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 19:49												
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>EPA 200.8</u>												
Copper	0.0550	0.000500	0.00100	mg/L	1	0.0556	0.00396	92	70 - 130%	---	---	---
Iron	3.25	0.0250	0.0500	mg/L	1	2.78	0.565	97	70 - 130%	---	---	---
Lead	0.0530	0.000100	0.000200	mg/L	1	0.0556	0.000454	95	70 - 130%	---	---	---
Zinc	0.107	0.00200	0.00400	mg/L	1	0.0556	0.0546	95	70 - 130%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041453 - Matrix Matched Direct Inject						Water						
Blank (9041453-BLK1)		Prepared: 04/30/19 10:02 Analyzed: 04/30/19 21:31										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
LCS (9041453-BS1)		Prepared: 04/30/19 10:02 Analyzed: 04/30/19 21:35										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0521	0.000500	0.00100	mg/L	1	0.0556	---	94	85 - 115%	---	---	---
Lead	0.0485	0.000100	0.000200	mg/L	1	0.0556	---	87	85 - 115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050387 - EPA 1664						Water						
Blank (9050387-BLK1)		Prepared: 05/02/19 07:15 Analyzed: 05/03/19 08:21										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9050387-BS1)		Prepared: 05/02/19 07:15 Analyzed: 05/03/19 08:21										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	34.4			mg/L	1	40.0	---	86	78 - 114%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050350 - ASTM D7511-12 (W)						Water						
Blank (9050350-BLK1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:24										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	---
LCS (9050350-BS1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:26										
<u>D7511-12</u>												
Cyanide, Total	0.0241	0.00250	0.00500	mg/L	1	0.0250	---	96	84 - 116%	---	---	---
LCS (9050350-BS2)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:22										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---		0 - 100%	---	---	CN_I
Matrix Spike (9050350-MS1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:32										
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0236	0.00251	0.00503	mg/L	1	0.0251	ND	94	64 - 136%	---	---	---
Matrix Spike Dup (9050350-MSD1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:34										
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0243	0.00251	0.00503	mg/L	1	0.0251	ND	97	64 - 136%	3	47%	---



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050352 - Total Suspended Solids						Water						
Blank (9050352-BLK1)		Prepared: 05/01/19 09:00 Analyzed: 05/01/19 12:01										
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Reference (9050352-SRM1)		Prepared: 05/01/19 09:00 Analyzed: 05/01/19 12:01										
SM 2540 D												
Total Suspended Solids	88.0			mg/L	1	100		88	77.1 - 110%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9E0012 - EPA 245.1						Water						
Blank (W9E0012-BLK1)		Prepared: 05/02/19 13:14 Analyzed: 05/07/19 13:57										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W9E0012-BS1)		Prepared: 05/02/19 13:14 Analyzed: 05/07/19 13:59										
<u>EPA 245.1</u>												
Mercury, Total	0.00103	0.000017	0.000050	mg/l	1	0.00100	---	103	85 - 115%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050480							
A9D0912-01	Water	608 PCB	04/26/19 08:45	05/03/19 13:00	1020mL/5mL	1000mL/5mL	0.98

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050470							
A9D0912-01	Water	608 Pest	04/26/19 08:45	05/03/19 10:07	1010mL/5mL	1000mL/5mL	0.99

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041454							
A9D0912-01	Water	EPA 625	04/26/19 08:45	04/30/19 10:05	1000mL/5mL	1000mL/5mL	1.00

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041472							
A9D0912-01	Water	EPA 200.8	04/26/19 08:45	04/30/19 13:06	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041453							
A9D0912-01	Water	EPA 200.8 (Diss)	04/26/19 08:45	04/30/19 10:02	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050387							
A9D0912-01	Water	EPA 1664A	04/26/19 08:45	05/02/19 07:15			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Batch: 9050350

A9D0912-01	Water	D7511-12	04/26/19 08:45	05/01/19 07:48	10mL/10mL	10mL/10mL	1.00
------------	-------	----------	----------------	----------------	-----------	-----------	------

Solid and Moisture Determinations

Prep: Total Suspended Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Batch: 9050352

A9D0912-01	Water	SM 2540 D	04/26/19 08:45	05/01/19 09:00			NA
------------	-------	-----------	----------------	----------------	--	--	----



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9E0012</u>							
A9D0912-01	Water	EPA 245.1	04/26/19 08:45	05/02/19 13:14	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.
 - " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Lisa Domenighini, Client Services 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.



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES
Project Number: OPLC-PDX
Project Manager: Megan Richard

Report ID:
A9D0912 - 05 13 19 1527

CHAIN OF CUSTODY

Lab # A9D0912 COC 1 of 1

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Antea Group Project Mgr: Megan Richard Project Name: OPLC-PDX Project #/PO#

Address: 181 SW Salmon St. Suite 100, Portland, OR Phone: 503-478-7711 Fax:

Sampled by: Brend Jackson Email: m.richard@antea.com

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	1664 O/G	608 PCB	608 Pst	625 Semivol	Total Metals Cu, Pb, Zn, Hg, Fe	Dissolved Metals cu, Pb	TSS	Total Cyanide	ANALYSIS REQUEST			
<u>Stormwater 001</u>		<u>4/26/19</u>	<u>08:45</u>	<u>AQ 13</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				

Normal Turn Around Time (TAT) 10 Business Days

TAT Requested (circle): 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:
pH = 7.36
Temp = 11.7°C
See attached list for specific analytes.

SAMPLES ARE HELD FOR 30 DAYS			
RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: <u>[Signature]</u>	Signature: <u>[Signature]</u>	Signature:	Signature:
Date: <u>4/26/19</u>	Date: <u>4/26/19</u>	Date:	Date:
Printed Name: <u>Brend Jackson</u>	Printed Name: <u>[Signature]</u>	Printed Name:	Printed Name:
Time: <u>10:00</u>	Time: <u>10:00</u>	Time:	Time:
Company: <u>Antea Group</u>	Company: <u>[Signature]</u>	Company:	Company:

Lisa Domenighini



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9 D0912

Project/Project #: OPLC PDX

Delivery Info:
Date/time received: 4/26/19 @ 10:00 By: JS
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 4/26/19 @ 10:00 By: JS
Chain of Custody included? Yes No Custody seals? Yes No
Signed/dated by client? Yes No
Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.8</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA
Out of temperature samples form initiated? Yes/No/NA NA
Samples Inspection: Date/time inspected: 4/26/19 @ 10:12 By: JS
All samples intact? Yes No Comments: _____
Bottle labels/COCs agree? Yes No Comments: _____
COC/container discrepancies form initiated? Yes No NA
Containers/volumes received appropriate for analysis? Yes No Comments: _____
Do VOA vials have visible headspace? Yes No NA
Comments: _____
Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
Comments: _____

Additional information: Sub Sampler: JS
Witness: JS

Labeled by: JS Witness: JS Cooler Inspected by: JS See Project Contact Form: Y

Lisa Domenighini



Antea USA, Inc.
4006 148th Avenue NE
Redmond, WA 98052 USA

July 30, 2019

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Fourth Quarter 2018-2019
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Fourth Quarter 2018-2019 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

As this is the Tier II evaluation year for the Facility, all sample results collected between July 1, 2018 through June 30, 2019 are reported on this DMR for calculation of the annual geometric mean. The geometric mean for each pollutant does not exceed applicable statewide benchmarks or impairment reference concentrations. Therefore, OPLC is respectfully requesting a monitoring waiver for the remainder of the permit period.

The DMR is included as Appendix A. The pH meter calibration log, as well as the field notes indicating pH readings at the time of sample collection is included as Appendix B. Copies of the laboratory analytical reports with chain of custody is included as Appendix C.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR" with a flourish.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosures

Appendices

- Appendix A Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit
- Appendix B Calibration Log and Field pH Readings
- Appendix C Laboratory Analytical Reports with QA and Chain of Custody

Appendix A

Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System Permit
Industrial Stormwater Discharge General Permit

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 18 to 20 19
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 Primary SIC Code: 4613 Secondary SIC Code: _____ City of Portland City of Eugene

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1

If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

- Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 7/31/19
 Printed Name: Alexandria Crooks Title: Environmental Coordinator
 Legally Authorized Representative Email: alex.crooks@BP.com
 Telephone: 425-981-2590



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001	11/18/18	7.41	10	ND (4.85)	0.00265	0.000479	0.0567	NS	
001	12/26/18	7.51	ND (5.0)	ND (4.85)	0.00145	0.000142	0.0549	NS	
001	01/09/19	7.05	10	ND (5.0)	0.00213	0.000453	0.06	NS	
001	03/29/19	7.14	NS	NS	NS	NS	NS	NS	
001	04/26/19	7.36	13	ND (4.81)	0.000396	0.000454	0.0546	NS	
Geometric Mean			8	2	0.001	0.000	0.06		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Portland Harbor Benchmarks	5.5-9.0	30	10	0.020	0.040	0.12	406	
-----------------------------------	----------------	-----------	-----------	--------------	--------------	-------------	------------	--



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	ND (0.0000594)	NS	NS	NS	NS	ID (0.000743)	NS	NS
001	12/26/18	NS	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	ND (0.0000152)	NS	NS	NS	NS	ID (0.000187)	NS	NS
001	03/29/19	ND (0.0000297)	NS	NS	NS	NS	ID (0.000366)	NS	NS
001	04/26/19	ND (0.0000149)	NS	NS	NS	NS	ID (0.000183)	NS	NS
Geometric Mean		0.000					0.000		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations

(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
001	11/18/18	0.00218	ND (0.00250)	ND (0.0000594)	ND (0.00000990)	ND (0.0000594)	NS	NS	NS
001	12/26/18	NS	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	0.00138	0.00436	ND (0.0000152)	ND (0.00000253)	ND (0.0000152)	NS	NS	NS
001	03/29/19	0.0032	0.00296	ND (0.0000297)	ND (0.00000495)	ND (0.0000297)	NS	NS	NS
001	04/26/19	0.00341	ND (0.00250)	ND (0.00003228)	ND (0.00000248)	ND (0.0000149)	NS	NS	NS
Geometric Mean		0.002	0.002	0.0000	0.00000	0.00001			
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
-------------------------------	------------	-------	--------	---------	---------	-----	---------	---------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	ND (0.000980)	0.473	0.000177	NS	ND (0.000017)	NS
001	12/26/18	NS	NS	NS	0.204	NS	NS	NS (0.00017)	NS
001	01/09/19	NS	NS	ND (0.000750)	0.472	ND (0.000100)	NS	ND (0.000017)	NS
001	03/29/19	NS	NS	ND (0.000980)	0.526	0.000128	NS	ND (0.000017)	NS
001	04/26/19	NS	NS	ND (0.000750)	0.565	0.000123	NS	ND (0.000017)	NS
Geometric Mean			ERROR	0.000	0.4	0.0001	ERROR	0.0000	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	D (0.000346)	7.41	NS	NS	NS	NS	NS
001	12/26/18	NS	NS	NS	7.51	NS	NS	NS	NS	NS
001	01/09/19	NS	NS	ND (0.000343)	7.05	NS	NS	NS	NS	NS
001	03/29/19	NS	NS	D (0.000360)	7.14	NS	NS	NS	NS	NS
001	04/26/19	NS	NS	ND (0.000343)	7.36	NS	NS	NS	NS	NS
Geometric Mean				0.000						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	11/18/18	NS	NS	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
001	12/26/18	NS	NS	NS	NS	NS	NS	NS
001	01/09/19	NS	NS	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
001	03/29/19	NS	NS	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
001	04/26/19	NS	NS	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
Geometric Mean				0.000	0.0	0.000	0.000	0.000
Geometric Mean								
Geometric Mean								
Geometric Mean								

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

nd November
ducted during
onitoring
le the
re

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August, and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample frequency at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. Include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

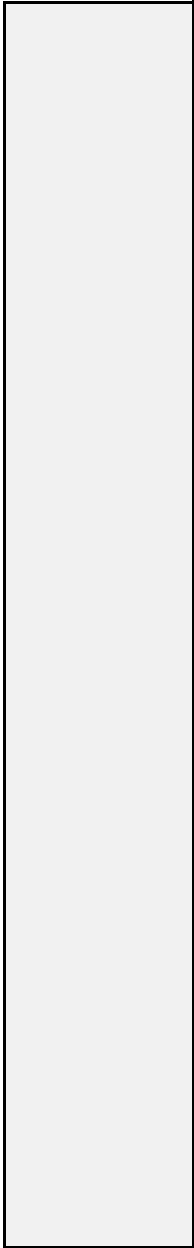
Benzo(k) fluoranthene mg/L	Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ND (0.000980)	001	11/18/18	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
NS	001	12/26/18	NS	NS	NS	NS	NS	NS
ND (0.000750)	001	01/09/19	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
ND (0.000980)	001	03/29/19	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)	ND (0.000980)
ND (0.000750)	001	04/26/19	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)	ND (0.000750)
0.000	Geometric Mean		0.000	0.000	0.000	0.00	0.000	0.00
	Geometric Mean							
	Geometric Mean							
0.001	Impairment Ref. Concentration		0.001	0.001	0.014	0.39	0.001	0.29

g Report

-Z Permit



st and
monitoring
or the pollutants
. You must
l methods for



Appendix B

Calibration Log and Field pH Readings



Fieldwork Daily Log

Site number/name: OPLC Portland DF

Location: 9420 NW St. Helens rd
Portland OR

Date: 11/14/12 Recorded by: BDJ

(if found, please call 1-800-888-1331)

Page: 1 of 1

Fieldwork Assignment	
	OPLC Portland DF Stormwater Sampling
Time	Activity Description
0950	Onsite, review HAST, SS/TP
	check in, Calibrate meter,
	Begin Swale inspection.
1050	Begin Discharging water
	3,000 gallons in sump at arrival
	1,500 gallons discharged
1100	Collect Sample (a) 1100
	Temp = 8.0 C
	pH = 7.41
1120	check out, Leave site to deliver sample to laboratory.

Remaining scope: _____



Fieldwork Daily Log

Site number/name:

OPLC - Portland OF

Location:

9420 NW ST Helens Rd
Portland OR

Date:

1/9/19

Recorded by:

BMC

(if found, please call 1-800-888-1331)

Page:

1

of

1

Fieldwork Assignment	Stormwater Sample
Time	Activity Description
1130	Arrive
	paperwork at site , calibration
1215	Sample
	Inspection 6500 gallons
	pH = 7.05
	Temp = 7.0°C
	Cleanup Equipment and depart to lab.

Remaining scope: _____



Fieldwork Daily Log

Site number/name: OPLC Portland DF
 Location: 9420 NW St. Helens rd
Portland OR
 Date: 3/29/19 Recorded by: BDJ
 Page: 1 of 1

(if found, please call 1-800-888-1331)

Fieldwork Assignment	OPLC Portland DF Stormwater Sampling.
Time	Activity Description
0800	Onsite, check in w/ Jerry (OPLC), review HASP, Calibrate meter. Begin discharging water from holding tank.
	6,200 gallons in tank on arrival
	3,500 gallons discharged at time of sampling.
	few leaves in holding tank. Minimal sediment accumulation. Containment pads at facility are clean.
	Swale in good condition, Grass < 2' tall. Some silt/sediment present in swale 1/3 way down to outfall. No sign of pests or beavers since last visit.
	Collect sample @ 0830
	Temp = 9.7°C
	pH = 7.14 Sv
	Meter used is a Milwaukee M; 806 #F0087336.
0915	check out, Leave site, deliver samples to Lab.

Remaining scope: _____



Fieldwork Daily Log

Site number/name: UPLC

Location: Palmdale DF

Date: 4/26/19 Recorded by: BDJ

(if found, please call 1-800-888-1331)

Page: 1 of 1

Fieldwork Assignment	Stormwater Sampling
Time	Activity Description
0820	Onsite, check in w/ Jerry, calibrate Oulton 30 ³⁰ Series meter, Vault has 5500 gallons in it.
	Begin pumping vault.
	Some minor amount of sediment & leaves in vault.
	Jerry says a vault cleanout is scheduled for May.
	Soil in good condition, some short < 8" blackberries.
	Grass is getting tall 36" in spots, Jerry says maintenance/mowing is scheduled for summer.
0845	Collect sample
	pH = 7.36
	temp = 11.7°C
	check out, mobilize to laboratory

Remaining scope: _____

Appendix C

Laboratory Analytical Reports with QA and Chain of Custody



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Thursday, March 28, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A8K0460 - OPLC Portland DF-NPDES - PORTDF191

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8K0460, which was received by the laboratory on 11/14/2018 at 12:20:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1	4.5 degC
----------	----------

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A8K0460-01	Water	11/14/18 11:00	11/14/18 12:20

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES

Project Number: **PORTDF191**

Project Manager: **Megan Richard**

Report ID:

A8K0460 - 03 28 19 1511

ANALYTICAL CASE NARRATIVE

Work Order: A8K0460

Sample Identification Change-

At the request of the client, the following sample ID has been edited from the original chain of custody:

Stormwater Discharge is now Stormwater 001.

Lisa Domenighini
Client Services Manager
3/28/19

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A8K0460-01	Stormwater 001	7.41	8.0	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)		Matrix: Water			Batch: 8111109		C-07	
Aroclor 1016	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1221	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1232	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1242	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1248	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1254	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
Aroclor 1260	ND	0.0000495	0.0000990	mg/L	1	11/27/18	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 58 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>11/27/18</i>	<i>608 PCB</i>



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01RE1)				Matrix: Water		Batch: 8111132		C-05
Aldrin	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
4,4'-DDD	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
4,4'-DDE	ND	---	0.0000990	mg/L	1	11/27/18	608 Pest	
4,4'-DDT	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
Dieldrin	ND	---	0.0000594	mg/L	1	11/27/18	608 Pest	
Chlordane (Technical)	ND	---	0.000743	mg/L	1	11/27/18	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 36 %</i>	<i>Limits: 25-140 %</i>	<i>1</i>	<i>11/27/18</i>	<i>608 Pest</i>	
<i>Decachlorobiphenyl (Surr)</i>			<i>43 %</i>	<i>30-135 %</i>	<i>1</i>	<i>11/27/18</i>	<i>608 Pest</i>	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110889		
Acenaphthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benz(a)anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(a)pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(b)fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Benzo(k)fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Chrysene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Dibenz(a,h)anthracene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Fluoranthene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Fluorene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Hexachlorobenzene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
Pyrene	ND	0.000980	0.000980	mg/L	4	11/15/18	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 45-120 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>62 %</i>		<i>30-125 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>81 %</i>		<i>35-125 %</i>		<i>4</i>	<i>11/15/18</i>	<i>EPA 625</i>



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)		Matrix: Water						
Batch: 8111036								
Copper	0.00265	0.000500	0.00100	mg/L	1	11/20/18	EPA 200.8	
Iron	0.473	0.0250	0.0500	mg/L	1	11/20/18	EPA 200.8	
Lead	0.000479	0.000100	0.000200	mg/L	1	11/20/18	EPA 200.8	
Zinc	0.0567	0.00200	0.00400	mg/L	1	11/20/18	EPA 200.8	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water				
Batch: 8111032								
Copper	0.00218	0.000500	0.00100	mg/L	1	11/26/18	EPA 200.8 (Diss)	
Lead	0.000177	0.000100	0.000200	mg/L	1	11/26/18	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110997		
HEM (Oil and Grease)	ND	4.85	4.85	mg/L	1	11/21/18	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: 8110912		
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	11/16/18	D7511-12	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water				
Batch: 8110965								
Total Suspended Solids	10.0	5.00	5.00	mg/L	1	11/20/18	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8K0460-01)				Matrix: Water		Batch: W8K1066		
Batch: W8K1066								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	11/28/18	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111109 - EPA 3510C (Neutral pH)						Water						
Blank (8111109-BLK1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 08:39				C-07						
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 52 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (8111109-BS1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 08:57				C-07						
608 PCB												
Aroclor 1016	0.00190	0.0000500	0.000100	mg/L	1	0.00250	---	76	50-140%	---	---	
Aroclor 1260	0.00222	0.0000500	0.000100	mg/L	1	0.00250	---	89	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 54 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (8111109-BSD1)		Prepared: 11/26/18 11:37 Analyzed: 11/27/18 09:14				C-07, Q-19						
608 PCB												
Aroclor 1016	0.00186	0.0000500	0.000100	mg/L	1	0.00250	---	74	50-140%	2	30%	
Aroclor 1260	0.00220	0.0000500	0.000100	mg/L	1	0.00250	---	88	8-140%	0.8	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111132 - EPA 3510C (Neutral pH)/3640A (GPC)						Water						
Blank (8111132-BLK1)		Prepared: 11/20/18 11:23			Analyzed: 11/27/18 11:57			C-05				
608 Pest												
Aldrin	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.0000909	mg/L	1	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	
Dieldrin	ND	---	0.0000545	mg/L	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	0.000682	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 34 %		Limits: 25-140 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		41 %		30-135 %		"						
LCS (8111132-BS1)						C-05						
Prepared: 11/20/18 11:23		Analyzed: 11/27/18 12:14										
608 Pest												
Aldrin	0.000336	---	0.0000600	mg/L	1	0.000500	---	67	42-122%	---	---	
4,4'-DDD	0.000496	---	0.0000600	mg/L	1	0.000500	---	99	31-141%	---	---	
4,4'-DDE	0.000447	---	0.0000100	mg/L	1	0.000500	---	89	30-145%	---	---	
4,4'-DDT	0.000600	---	0.0000600	mg/L	1	0.000500	---	120	25-160%	---	---	
Dieldrin	0.000500	---	0.0000600	mg/L	1	0.000500	---	100	36-146%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 41 %		Limits: 25-140 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		44 %		30-135 %		"						
LCS Dup (8111132-BSD1)						C-05, Q-19						
Prepared: 11/20/18 11:23		Analyzed: 11/27/18 12:31										
608 Pest												
Aldrin	0.000395	---	0.0000600	mg/L	1	0.000500	---	79	42-122%	16	30%	
4,4'-DDD	0.000526	---	0.0000600	mg/L	1	0.000500	---	105	31-141%	6	30%	
4,4'-DDE	0.000475	---	0.0000100	mg/L	1	0.000500	---	95	30-145%	6	30%	
4,4'-DDT	0.000626	---	0.0000600	mg/L	1	0.000500	---	125	25-160%	4	30%	
Dieldrin	0.000540	---	0.0000600	mg/L	1	0.000500	---	108	36-146%	8	30%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		Recovery: 51 %		Limits: 25-140 %		Dilution: 1x						
<i>Decachlorobiphenyl (Surr)</i>		51 %		30-135 %		"						

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	Limit RPD	RPD Limit	Notes
Batch 8110889 - EPA 3510C (Acid Extraction)						Water					
Blank (8110889-BLK2)		Prepared: 11/15/18 11:23			Analyzed: 11/15/18 14:51						
EPA 625											
Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 75 %		Limits: 45-120 %		Dilution: 1x					
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"					
<i>2,4,6-Tribromophenol (Surr)</i>		79 %		35-125 %		"					

LCS (8110889-BS2)						Prepared: 11/15/18 11:23 Analyzed: 11/15/18 15:27					
EPA 625											
Acenaphthene	0.00320	0.0000500	0.0000500	mg/L	1	0.00400	---	80	47-145%	---	---
Anthracene	0.00352	0.0000500	0.0000500	mg/L	1	0.00400	---	88	27-133%	---	---
Benz(a)anthracene	0.00362	0.0000500	0.0000500	mg/L	1	0.00400	---	91	33-143%	---	---
Benzo(a)pyrene	0.00380	0.0000500	0.0000500	mg/L	1	0.00400	---	95	17-163%	---	---
Benzo(b)fluoranthene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	24-159%	---	---
Benzo(k)fluoranthene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	11-162%	---	---
Chrysene	0.00366	0.0000500	0.0000500	mg/L	1	0.00400	---	91	17-168%	---	---
Dibenz(a,h)anthracene	0.00335	0.0000500	0.0000500	mg/L	1	0.00400	---	84	1-227%	---	---
Fluoranthene	0.00353	0.0000500	0.0000500	mg/L	1	0.00400	---	88	26-137%	---	---
Fluorene	0.00344	0.0000500	0.0000500	mg/L	1	0.00400	---	86	59-121%	---	---
Hexachlorobenzene	0.00308	0.0000500	0.0000500	mg/L	1	0.00400	---	77	5-152%	---	---
Indeno(1,2,3-cd)pyrene	0.00348	0.0000500	0.0000500	mg/L	1	0.00400	---	87	1-171%	---	---
Pyrene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	52-115%	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 8110889 - EPA 3510C (Acid Extraction)						Water							
LCS (8110889-BS2)		Prepared: 11/15/18 11:23			Analyzed: 11/15/18 15:27								
Pentachlorophenol (PCP)	0.00320	0.000200	0.000200	mg/L	1	0.00400	---	80	14-176%	---	---		
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 73 %		Limits: 45-120 %		Dilution: 1x							
<i>p-Terphenyl-d14 (Surr)</i>		87 %		30-125 %		"							
<i>2,4,6-Tribromophenol (Surr)</i>		83 %		35-125 %		"							
LCS Dup (8110889-BSD2)		Prepared: 11/15/18 11:23			Analyzed: 11/15/18 16:04								Q-19
EPA 625													
Acenaphthene	0.00317	0.0000500	0.0000500	mg/L	1	0.00400	---	79	47-145%	1	30%		
Anthracene	0.00337	0.0000500	0.0000500	mg/L	1	0.00400	---	84	27-133%	4	30%		
Benz(a)anthracene	0.00348	0.0000500	0.0000500	mg/L	1	0.00400	---	87	33-143%	4	30%		
Benzo(a)pyrene	0.00359	0.0000500	0.0000500	mg/L	1	0.00400	---	90	17-163%	6	30%		
Benzo(b)fluoranthene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	24-159%	0.2	30%		
Benzo(k)fluoranthene	0.00360	0.0000500	0.0000500	mg/L	1	0.00400	---	90	11-162%	0.03	30%		
Chrysene	0.00338	0.0000500	0.0000500	mg/L	1	0.00400	---	85	17-168%	8	30%		
Dibenz(a,h)anthracene	0.00335	0.0000500	0.0000500	mg/L	1	0.00400	---	84	1-227%	0.2	30%		
Fluoranthene	0.00357	0.0000500	0.0000500	mg/L	1	0.00400	---	89	26-137%	1	30%		
Fluorene	0.00340	0.0000500	0.0000500	mg/L	1	0.00400	---	85	59-121%	1	30%		
Hexachlorobenzene	0.00296	0.0000500	0.0000500	mg/L	1	0.00400	---	74	5-152%	4	30%		
Indeno(1,2,3-cd)pyrene	0.00356	0.0000500	0.0000500	mg/L	1	0.00400	---	89	1-171%	2	30%		
Pyrene	0.00355	0.0000500	0.0000500	mg/L	1	0.00400	---	89	52-115%	1	30%		
Pentachlorophenol (PCP)	0.00313	0.000200	0.000200	mg/L	1	0.00400	---	78	14-176%	2	30%		
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 72 %		Limits: 45-120 %		Dilution: 1x							
<i>p-Terphenyl-d14 (Surr)</i>		80 %		30-125 %		"							
<i>2,4,6-Tribromophenol (Surr)</i>		81 %		35-125 %		"							

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111036 - EPA 3015A						Water						
Blank (8111036-BLK1)		Prepared: 11/20/18 13:56			Analyzed: 11/20/18 18:31							
EPA 200.8												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (8111036-BS1)						Prepared: 11/20/18 13:56 Analyzed: 11/20/18 18:36						
EPA 200.8												
Copper	0.0582	0.000500	0.00100	mg/L	1	0.0556	---	105	85-115%	---	---	---
Iron	2.82	0.0250	0.0500	mg/L	1	2.78	---	102	85-115%	---	---	---
Lead	0.0568	0.000100	0.000200	mg/L	1	0.0556	---	102	85-115%	---	---	---
Zinc	0.0559	0.00200	0.00400	mg/L	1	0.0556	---	101	85-115%	---	---	---



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8111032 - Matrix Matched Direct Inject						Water						
Blank (8111032-BLK1)		Prepared: 11/20/18 12:19 Analyzed: 11/26/18 21:00										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
LCS (8111032-BS2)		Prepared: 11/20/18 12:19 Analyzed: 11/27/18 14:27										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0545	0.000500	0.00100	mg/L	1	0.0556	---	98	85-115%	---	---	Q-16
Lead	0.0559	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	Q-16



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110997 - EPA 1664						Water						
Blank (8110997-BLK1)		Prepared: 11/20/18 07:08 Analyzed: 11/21/18 11:10										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (8110997-BS1)		Prepared: 11/20/18 07:08 Analyzed: 11/21/18 11:10										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	36.4			mg/L	1	40.0	---	91	78-114%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110912 - Method Prep: Aq						Water						
Blank (8110912-BLK1)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:11										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (8110912-BS1)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:13										
<u>D7511-12</u>												
Cyanide, Total	0.0260	0.00250	0.00500	mg/L	1	0.0250	---	104	84-116%	---	---	
LCS (8110912-BS2)		Prepared: 11/16/18 07:36 Analyzed: 11/16/18 11:09										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---		0-100%	---	---	CN_I



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8110965 - Total Suspended Solids						Water						
Blank (8110965-BLK1)		Prepared: 11/19/18 09:43 Analyzed: 11/20/18 08:16										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Reference (8110965-SRM1)		Prepared: 11/19/18 09:43 Analyzed: 11/21/18 09:21										
SM 2540 D												
Total Suspended Solids	94.0			mg/L	1	100		94	77.1-110%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W8K1066 - EPA 245.1						Water						
Blank (W8K1066-BLK1)		Prepared: 11/20/18 11:48 Analyzed: 11/28/18 12:46										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W8K1066-BS1)		Prepared: 11/20/18 11:48 Analyzed: 11/28/18 12:48										
<u>EPA 245.1</u>												
Mercury, Total	0.00103	0.000017	0.000050	mg/l	1	0.00100	---	103	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111109</u>							
A8K0460-01	Water	608 PCB	11/14/18 11:00	11/26/18 11:53	1010mL/5mL	1000mL/5mL	0.99

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)/3640A (GPC)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111132</u>							
A8K0460-01RE1	Water	608 Pest	11/14/18 11:00	11/20/18 11:23	1010mL/10mL	1000mL/5mL	1.98

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110889</u>							
A8K0460-01	Water	EPA 625	11/14/18 11:00	11/15/18 11:23	1020mL/5mL	1000mL/5mL	0.98

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111036</u>							
A8K0460-01	Water	EPA 200.8	11/14/18 11:00	11/20/18 13:56	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8111032</u>							
A8K0460-01	Water	EPA 200.8 (Diss)	11/14/18 11:00	11/20/18 12:19	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110997</u>							
A8K0460-01	Water	EPA 1664A	11/14/18 11:00	11/20/18 07:08			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: Method Prep: Aq					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110912</u>							
A8K0460-01	Water	D7511-12	11/14/18 11:00	11/16/18 07:36	10mL/10mL	10mL/10mL	1.00

Solid and Moisture Determinations

Prep: Total Suspended Solids					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 8110965</u>							
A8K0460-01	Water	SM 2540 D	11/14/18 11:00	11/19/18 09:43			NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

<u>Prep: EPA 245.1</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: W8K1066</u>							
A8K0460-01	Water	EPA 245.1	11/14/18 11:00	11/20/18 11:48	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**

Project Number: **PORTDF191**

Project Manager: **Megan Richard**

Report ID:

A8K0460 - 03 28 19 1511

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-05** Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.
 - " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	--	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF191 Project Manager: Megan Richard	Report ID: A8K0460 - 03 28 19 1511
--	---	--

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
--------	----------	--------	---------	--------	---------------

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



AMENDED REPORT

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF191**
Project Manager: **Megan Richard**

Report ID:
A8K0460 - 03 28 19 1511

COC 1 of 1

Lab # **ARX0400**

PO#

Project # **PORTDF191**

Email: **Megan.Richard@AnteaGroup.com**

Project Name: **OPLC Portland DF**

Phone: **425-482-7111**

Fax:

Project Mgr: **Megan Richard**

Address: **121 SW Salmon St. Portland, OR 97204**

Company: **Antea Group**

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Chain of Custody

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS			SPECIAL INSTRUCTIONS:
				YES	NO	NO	
1	11/12/10	AG 12	Stormwater Discharge				SPECIAL INSTRUCTIONS: At time of sample pH = 7.41 and Temp = 8.0°C See attached Permit required Analysis list.
2							
3							
4							
5							
6							
7							
8							
9							
10							

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RECEIVED BY: _____ RECEIVED BY: _____

Signature: **[Signature]** Signature: **[Signature]**

Date: **11/11/10** Date: _____

Printed Name: **Sam Jackson** Printed Name: **[Signature]**

Time: **12:20** Time: **12:20**

Company: **Antea Group** Company: **Apex**

RELINQUISHED BY: _____ RELINQUISHED BY: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Printed Name: _____ Printed Name: _____

Time: _____ Time: _____

Company: _____ Company: _____

Apex Laboratories

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.

Lisa Domenighini

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES
Project Number: PORTDF191
Project Manager: Megan Richard

Report ID:
A8K0460 - 03 28 19 1511

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A8K0460

Project/Project #: OPLC Portland, DF / PORTDF191

Delivery Info:

Date/time received: 12:20 @ 11/14/18 By: [Signature]

Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 11/14/18 @ 12:20 By: [Signature]

Chain of Custody included? Yes No Custody seals? Yes No

Signed/dated by client? Yes No

Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.5</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 11/14/18 @ 18:40 By: TAB

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: Cont read: Stormwater Discharge

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: _____

Additional information: _____

Labeled by: TAB Witness: [Signature] Cooler Inspected by: TAB See Project Contact Form: Y
SUBSAMPLER: TAB
WITNESS: [Signature]

Lisa Domenighini



AMENDED REPORT

Thursday, March 28, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A8L0881 - OPLC Portland DF-NPDES - Port DF191

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8L0881, which was received by the laboratory on 12/26/2018 at 2:08:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 2.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.





Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **Port DF191**
Project Manager: **Megan Richard**

Report ID:
A8L0881 - 03 28 19 1518

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A8L0881-01	Water	12/26/18 10:15	12/26/18 14:08

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES

Project Number: **Port DF191**

Project Manager: **Megan Richard**

Report ID:

A8L0881 - 03 28 19 1518

ANALYTICAL CASE NARRATIVE

Work Order: A8L0881

Sample Identification Change-

At the request of the client, the following sample ID has been edited from the original chain of custody:

Stormwater Discharge is now Stormwater 001.

Lisa Domenighini
Client Services Manager
3/28/19

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)		Matrix: Water						
Batch: 9010503								
Iron	0.204	0.0250	0.0500	mg/L	1	01/08/19	EPA 200.8	
Lead	0.000142	0.000100	0.000200	mg/L	1	01/08/19	EPA 200.8	J
Zinc	0.0549	0.00200	0.00400	mg/L	1	01/08/19	EPA 200.8	
Stormwater 001 (A8L0881-01RE1)		Matrix: Water						
Batch: 9010570								
Copper	0.00145	0.000500	0.00100	mg/L	1	01/11/19	EPA 200.8	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water		Batch: 9010522		
HEM (Oil and Grease)	ND	4.85	4.85	mg/L	1	01/10/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water				
<u>Batch: 8121256</u>								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	01/02/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water				
Batch: 8121094								
pH	7.46	---		pH Units	1	12/26/18	SM 4500-H+ B	H-12

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A8L0881-01)				Matrix: Water		Batch: W9A0016		
<u>Batch: W9A0016</u>								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	01/02/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010503 - EPA 3015A						Water						
Blank (9010503-BLK1)		Prepared: 01/08/19 11:20			Analyzed: 01/08/19 22:45							
<u>EPA 200.8</u>												
Copper	0.000658	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	B-02, J
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	
<hr/>												
LCS (9010503-BS1)		Prepared: 01/08/19 11:20			Analyzed: 01/08/19 23:12							
<u>EPA 200.8</u>												
Copper	0.0612	0.000500	0.00100	mg/L	1	0.0556	---	110	85-115%	---	---	B-02
Iron	2.63	0.0250	0.0500	mg/L	1	2.78	---	95	85-115%	---	---	
Lead	0.0541	0.000100	0.000200	mg/L	1	0.0556	---	97	85-115%	---	---	
Zinc	0.0591	0.00200	0.00400	mg/L	1	0.0556	---	106	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010570 - EPA 3015A						Water						
Blank (9010570-BLK1)		Prepared: 01/10/19 08:03 Analyzed: 01/11/19 19:39										
<u>EPA 200.8</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
LCS (9010570-BS1)		Prepared: 01/10/19 08:03 Analyzed: 01/11/19 19:34										
<u>EPA 200.8</u>												
Copper	0.0596	0.000500	0.00100	mg/L	1	0.0556	---	107	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010522 - EPA 1664						Water						
Blank (9010522-BLK1)		Prepared: 01/09/19 07:24 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9010522-BS1)		Prepared: 01/09/19 07:24 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	35.6			mg/L	1	40.0	---	89	78-114%	---	---	
LCS Dup (9010522-BSD1)		Prepared: 01/09/19 07:27 Analyzed: 01/10/19 06:36										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	34.2			mg/L	1	40.0	---	86	78-114%	4	200%	Q-19



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8121256 - Total Suspended Solids						Water						
Blank (8121256-BLK1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Duplicate (8121256-DUP1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
QC Source Sample: Stormwater 001 (A8L0881-01)												
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	ND	---	---	---	10%	
Reference (8121256-SRM1)		Prepared: 12/31/18 16:13 Analyzed: 01/02/19 12:53										
SM 2540 D												
Total Suspended Solids	97.0			mg/L	1	100		97	77.1-110%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 8121094 - Method Prep: Aq						Water						
Duplicate (8121094-DUP1)		Prepared: 12/26/18 17:40 Analyzed: 12/26/18 17:53										
<u>QC Source Sample: Stormwater 001 (A8L0881-01)</u>												
<u>SM 4500-H+ B</u>												
pH	7.43	---		pH Units	1	---	7.46	---	---	0.4	5%	H-12
Reference (8121094-SRM1)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 08:20										
<u>SM 4500-H+ B</u>												
pH	5.96	---		pH Units	1	6.00		99	8.333-101.667%	---	---	
Reference (8121094-SRM2)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 08:21										
<u>SM 4500-H+ B</u>												
pH	7.95	---		pH Units	1	8.00		99	98.75-101.25%	---	---	
Reference (8121094-SRM3)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 17:49										
<u>SM 4500-H+ B</u>												
pH	5.93	---		pH Units	1	6.00		99	98.75-101.25%	---	---	
Reference (8121094-SRM4)		Prepared: 12/26/18 07:58 Analyzed: 12/26/18 17:55										
<u>SM 4500-H+ B</u>												
pH	7.92	---		pH Units	1	8.00		99	98.75-101.25%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9A0016 - EPA 245.1						Water						
Blank (W9A0016-BLK1)		Prepared: 01/02/19 09:35 Analyzed: 01/02/19 15:34										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W9A0016-BS1)		Prepared: 01/02/19 09:35 Analyzed: 01/02/19 15:36										
<u>EPA 245.1</u>												
Mercury, Total	0.00101	0.000017	0.000050	mg/l	1	0.00100	---	101	85-115%	---	---	



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 9010503							
A8L0881-01	Water	EPA 200.8	12/26/18 10:15	01/08/19 11:20	45mL/50mL	45mL/50mL	1.00
Batch: 9010570							
A8L0881-01RE1	Water	EPA 200.8	12/26/18 10:15	01/10/19 08:03	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 9010522							
A8L0881-01	Water	EPA 1664A	12/26/18 10:15	01/09/19 07:27			NA

Solid and Moisture Determinations

Prep: Total Suspended Solids					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 8121256							
A8L0881-01	Water	SM 2540 D	12/26/18 10:15	12/31/18 16:13			NA

Conventional Chemistry Parameters

Prep: Method Prep: Aq					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 8121094							
A8L0881-01	Water	SM 4500-H+ B	12/26/18 10:15	12/26/18 17:40	20mL/20mL	20mL/20mL	NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W9A0016							
A8L0881-01	Water	EPA 245.1	12/26/18 10:15	01/02/19 09:35	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Antea Group

121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**

Project Number: **Port DF191**

Project Manager: **Megan Richard**

Report ID:

A8L0881 - 03 28 19 1518

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- H-12** Sample analysis was performed >15 minutes after sample collection. Consult regulator or permit manager to determine the usability of data for intended use.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



AMENDED REPORT

Antea Group Project: **OPLC Portland DF-NPDES**
121 SW Salmon Street, Suite 1100 Project Number: **Port DF191**
Portland, OR 97204 Project Manager: **Megan Richard** Report ID:
A8L0881 - 03 28 19 1518

CHAIN OF CUSTODY

APEX LABS Lab # A8881 COC 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Antea Corp Project Mgr: Megan Richard Project Name: OPLC Portland DF Project #: Port DF191

Address: 121 SW Salmon St Suite 1100 Phone: 503 998 7711 Fax: _____ Email: _____

Sampled by: Ableen Lewis

Site Location: OR WA _____
Other: _____

SAMPLE ID
50 meters 1

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	YES	NO
1	<u>11/26/18</u>	<u>10:15</u>	<u>AB</u>	<u>4</u>		
2						
3						
4						
5						
6						
7						
8						
9						
10						

ANALYSIS REQUEST

Al, Sb, As, Ba, Be, Bi, Cd, Cr, Cu, Pb, Fe, Hg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn
TOTAL DISS TCLP
1200-COLS
1200-Z
Al/Grease
Coliform
PH
TSS

SPECIAL INSTRUCTIONS:

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RECEIVED BY: Ableen Lewis Date: 12/18/18 Signature: _____
Signature: _____ Date: _____
Printed Name: Ableen Lewis Time: 1408 Printed Name: _____
Signature: _____ Date: _____
Printed Name: _____ Time: _____
Company: _____



AMENDED REPORT

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: Port DF191 Project Manager: Megan Richard	Report ID: A8L0881 - 03 28 19 1518
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A8 L0881

Project/Project #: OPLC Portland DF / PortDF191

Delivery Info:
Date/time received: 12/26/18 @ 1408 By: [Signature]
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 12/26/18 @ 1410 By: [Signature]
Chain of Custody included? Yes No Custody seals? Yes No
Signed/dated by client? Yes No
Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.4</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>good</u>						

Cooler out of temp? (Y/N) Possible reason why: [Signature]
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA
Out of temperature samples form initiated? Yes/No/NA NA
Samples Inspection: Date/time inspected: 12/26/18 @ 1543 By: [Signature]
All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: D on COC reads 11/26/18, D on Cnts. read 12/26/18.

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: _____

Additional information: _____

Labeled by: [Signature] Witness: [Signature] Cooler Inspected by: [Signature] See Project Contact Form:

Subsampler: [Signature]
Witness: [Signature]

Lisa Domenighini



AMENDED REPORT

Antea Group Project: OPLC Portland DF-NPDES
121 SW Salmon Street, Suite 1100 Project Number: Port DF191
Portland, OR 97204 Project Manager: Megan Richard Report ID:
A8L0881 - 03 28 19 1518

CHAIN OF CUSTODY

**Updated*

Lab # A8L0881 COC 1 of 1

PO# _____ Project # Port DF191

Company: Antea Group Project Mgr: Megan Richard Project Name: OPLC Portland DF Email: _____

Address: 121 SW Salmon St Suite 1100 Phone: 503 498 7744 Fax: _____

Sampled by: Alycia Lewis

Site Location: OR WA
Other: _____

SAMPLE ID: 5Bmets 1

LAB ID # 11/24/19 15 DATE 11/24/19 TIME 15:00

MATRIX AB 4 # OF CONTAINERS _____

ANALYSIS REQUEST

1200-Z	
1200-COLS	
TOTAL DISS TCLP	
Se. Ar. Na. TL. V. Zn	
Hg. Mn. Ni. Pb. Cd. Cr. Cu. Fe. Ni. K. P. S. Se. Tl. V. Zn	
TCLP Metals (8)	
RCRA Metals (8)	
600 TTO	
8082 PCBs	
8270 SMI PAHs	
8270 SVOC	
8260 BTEX VOCs	
8260 HVOCS	
8260 RBDM VOCs	
8260 VOCs Full LM	
NWTPH-GX	
NWTPH-DX	
NWTPH-HCID	

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

RECEIVED BY: [Signature] Date: 12/12/18 Time: 1408 Company: Antea Group

RELINQUISHED BY: [Signature] Date: _____ Time: _____ Company: _____

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Tuesday, January 22, 2019

Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9A0219 - OPLC Portland DF-NPDES - PORTDF18

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9A0219, which was received by the laboratory on 1/9/2019 at 4:50:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 1.9 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9A0219-01	Water	01/09/19 12:15	01/09/19 16:50

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010673		C-07
Aroclor 1016	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1221	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1232	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1242	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1248	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1254	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
Aroclor 1260	ND	0.0000490	0.0000980	mg/L	1	01/15/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 55 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>01/15/19</i>	<i>608 PCB</i>

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)		Matrix: Water			Batch: 9010604			
Aldrin	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
4,4'-DDD	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
4,4'-DDE	ND	0.00000253	0.00000505	mg/L	1	01/16/19	608 Pest	
4,4'-DDT	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
Dieldrin	ND	0.0000152	0.0000303	mg/L	1	01/16/19	608 Pest	
Chlordane (Technical)	ND	0.000187	0.000379	mg/L	1	01/16/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 25-140 %</i>		<i>1</i>	<i>01/16/19</i>	<i>608 Pest</i>
<i>Decachlorobiphenyl (Surr)</i>		<i>43 %</i>		<i>30-135 %</i>		<i>1</i>	<i>01/16/19</i>	<i>608 Pest</i>

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010672		
Acenaphthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benz(a)anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(a)pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Chrysene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Fluoranthene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Fluorene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Hexachlorobenzene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
Pyrene	ND	0.000750	0.000750	mg/L	3	01/14/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 45-120 %</i>	3	01/14/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>73 %</i>		<i>30-125 %</i>	3	01/14/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>99 %</i>		<i>35-125 %</i>	3	01/14/19	EPA 625	<i>Q-41</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010699								
Copper	0.00213	0.000500	0.00100	mg/L	1	01/17/19	EPA 200.8	
Iron	0.472	0.0250	0.0500	mg/L	1	01/17/19	EPA 200.8	
Lead	0.000453	0.000100	0.000200	mg/L	1	01/17/19	EPA 200.8	
Zinc	0.0600	0.00200	0.00400	mg/L	1	01/17/19	EPA 200.8	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010651								
Copper	0.00138	0.000500	0.00100	mg/L	1	01/15/19	EPA 200.8 (Diss)	
Lead	ND	0.000100	0.000200	mg/L	1	01/15/19	EPA 200.8 (Diss)	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010904		
HEM (Oil and Grease)	ND	5.00	5.00	mg/L	1	01/22/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: 9010614		
Cyanide, Total	0.00436	0.00250	0.00500	mg/L	1	01/11/19	D7511-12	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010660								
Total Suspended Solids	10.0	5.00	5.00	mg/L	1	01/11/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water				
Batch: 9010520								
pH	7.44	---		pH Units	1	01/09/19	SM 4500-H+ B	H-12

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9A0219-01)				Matrix: Water		Batch: W9A0744		
Batch: W9A0744								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	01/17/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010673 - EPA 3510C (Neutral pH)						Water						
Blank (9010673-BLK1)		Prepared: 01/14/19 07:25 Analyzed: 01/15/19 08:28				C-07						
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9010673-BS1)						C-07						
608 PCB												
Aroclor 1016	0.00201	0.0000500	0.000100	mg/L	1	0.00250	---	81	50-140%	---	---	
Aroclor 1260	0.00221	0.0000500	0.000100	mg/L	1	0.00250	---	88	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 48 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9010673-BSD1)						C-07, Q-19						
608 PCB												
Aroclor 1016	0.00204	0.0000500	0.000100	mg/L	1	0.00250	---	81	50-140%	1	30%	
Aroclor 1260	0.00228	0.0000500	0.000100	mg/L	1	0.00250	---	91	8-140%	3	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-----------------	-------	----------	--------------	---------------	-------	--------------	-----	-----------	-------

Batch 9010604 - EPA 3510C (Neutral pH)

Water

Blank (9010604-BLK1) Prepared: 01/10/19 15:42 Analyzed: 01/16/19 16:47

608 Pest												
Aldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
alpha-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
beta-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
delta-BHC	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
gamma-BHC (Lindane)	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
cis-Chlordane	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
trans-Chlordane	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
4,4'-DDD	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
4,4'-DDE	ND	0.00000227	0.00000455	mg/L	1	---	---	---	---	---	---	---
4,4'-DDT	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Dieldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan I	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan II	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endosulfan sulfate	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Endrin Aldehyde	ND	0.00000455	0.00000909	mg/L	1	---	---	---	---	---	---	---
Endrin ketone	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Heptachlor	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Heptachlor epoxide	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Methoxychlor	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	---
Chlordane (Technical)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	---
Toxaphene (Total)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	---

Surr: 2,4,5,6-TCMX (Surr) Recovery: 93 % Limits: 25-140 % Dilution: 1x
Decachlorobiphenyl (Surr) 60 % 30-135 % "

LCS (9010604-BS1)

Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:05

Q-19

608 Pest												
Aldrin	0.000485	0.0000150	0.0000300	mg/L	1	0.000500	---	97	42-122%	---	---	---
alpha-BHC	0.000516	0.0000150	0.0000300	mg/L	1	0.000500	---	103	37-134%	---	---	---
beta-BHC	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	17-147%	---	---	---
delta-BHC	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	19-140%	---	---	---
gamma-BHC (Lindane)	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	32-127%	---	---	---
cis-Chlordane	0.000535	0.0000150	0.0000300	mg/L	1	0.000500	---	107	65-125%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010604 - EPA 3510C (Neutral pH)						Water						
LCS (9010604-BS1)	Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:05					Q-19						
trans-Chlordane	0.000556	0.0000150	0.0000300	mg/L	1	0.000500	---	111	60-125%	---	---	
4,4'-DDD	0.000552	0.0000150	0.0000300	mg/L	1	0.000500	---	110	31-141%	---	---	
4,4'-DDE	0.000519	0.00000250	0.00000500	mg/L	1	0.000500	---	104	30-145%	---	---	
4,4'-DDT	0.000636	0.0000150	0.0000300	mg/L	1	0.000500	---	127	25-160%	---	---	Q-41
Dieldrin	0.000542	0.0000150	0.0000300	mg/L	1	0.000500	---	108	36-146%	---	---	
Endosulfan I	0.000574	0.0000150	0.0000300	mg/L	1	0.000500	---	115	45-153%	---	---	
Endosulfan II	0.000624	0.0000150	0.0000300	mg/L	1	0.000500	---	125	30-130%	---	---	
Endosulfan sulfate	0.000558	0.0000150	0.0000300	mg/L	1	0.000500	---	112	26-144%	---	---	
Endrin	0.000606	0.0000150	0.0000300	mg/L	1	0.000500	---	121	30-147%	---	---	Q-41
Endrin Aldehyde	0.000571	0.00000500	0.0000100	mg/L	1	0.000500	---	114	55-135%	---	---	
Endrin ketone	0.000565	0.0000150	0.0000300	mg/L	1	0.000500	---	113	58-134%	---	---	
Heptachlor	0.000500	0.0000150	0.0000300	mg/L	1	0.000500	---	100	34-111%	---	---	
Heptachlor epoxide	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	37-142%	---	---	
Methoxychlor	0.000651	0.0000150	0.0000300	mg/L	1	0.000500	---	130	54-145%	---	---	
Surr: 2,4,5,6-TCMX (Surr) Recovery: 76 % Limits: 25-140 % Dilution: 1x												
Decachlorobiphenyl (Surr) 48 % 30-135 % "												

LCS Dup (9010604-BSD1)	Prepared: 01/10/19 15:42 Analyzed: 01/16/19 17:22					Q-19						
608 Pest												
Aldrin	0.000524	0.0000150	0.0000300	mg/L	1	0.000500	---	105	42-122%	8	30%	
alpha-BHC	0.000518	0.0000150	0.0000300	mg/L	1	0.000500	---	104	37-134%	0.5	30%	
beta-BHC	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	17-147%	0.07	30%	
delta-BHC	0.000554	0.0000150	0.0000300	mg/L	1	0.000500	---	111	19-140%	0.09	30%	
gamma-BHC (Lindane)	0.000532	0.0000150	0.0000300	mg/L	1	0.000500	---	106	32-127%	0.4	30%	
cis-Chlordane	0.000540	0.0000150	0.0000300	mg/L	1	0.000500	---	108	65-125%	1	30%	
trans-Chlordane	0.000547	0.0000150	0.0000300	mg/L	1	0.000500	---	109	60-125%	2	30%	
4,4'-DDD	0.000527	0.0000150	0.0000300	mg/L	1	0.000500	---	105	31-141%	5	30%	
4,4'-DDE	0.000511	0.00000250	0.00000500	mg/L	1	0.000500	---	102	30-145%	2	30%	
4,4'-DDT	0.000590	0.0000150	0.0000300	mg/L	1	0.000500	---	118	25-160%	8	30%	Q-41
Dieldrin	0.000519	0.0000150	0.0000300	mg/L	1	0.000500	---	104	36-146%	4	30%	
Endosulfan I	0.000567	0.0000150	0.0000300	mg/L	1	0.000500	---	113	45-153%	1	30%	
Endosulfan II	0.000603	0.0000150	0.0000300	mg/L	1	0.000500	---	121	30-130%	3	30%	
Endosulfan sulfate	0.000537	0.0000150	0.0000300	mg/L	1	0.000500	---	107	26-144%	4	30%	
Endrin	0.000570	0.0000150	0.0000300	mg/L	1	0.000500	---	114	30-147%	6	30%	Q-41

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010604 - EPA 3510C (Neutral pH)						Water						
LCS Dup (9010604-BSD1)		Prepared: 01/10/19 15:42			Analyzed: 01/16/19 17:22			Q-19				
Endrin Aldehyde	0.000519	0.00000500	0.0000100	mg/L	1	0.000500	---	104	55-135%	10	30%	
Endrin ketone	0.000559	0.0000150	0.0000300	mg/L	1	0.000500	---	112	58-134%	1	30%	
Heptachlor	0.000534	0.0000150	0.0000300	mg/L	1	0.000500	---	107	34-111%	6	30%	
Heptachlor epoxide	0.000542	0.0000150	0.0000300	mg/L	1	0.000500	---	108	37-142%	2	30%	
Methoxychlor	0.000619	0.0000150	0.0000300	mg/L	1	0.000500	---	124	54-145%	5	30%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 25-140 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>57 %</i>		<i>30-135 %</i>		<i>"</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD RPD	Notes
Batch 9010672 - EPA 3510C (Acid Extraction)						Water				
Blank (9010672-BLK2)		Prepared: 01/14/19 07:11			Analyzed: 01/14/19 19:22					
EPA 625										
Acenaphthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Benz(a)anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Chrysene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Fluoranthene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Fluorene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Hexachlorobenzene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Pyrene	ND	0.0000909	0.0000909	mg/L	1	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000364	0.000364	mg/L	1	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 81 %		Limits: 45-120 %		Dilution: 1x				
<i>p-Terphenyl-d14 (Surr)</i>		98 %		30-125 %		"				
<i>2,4,6-Tribromophenol (Surr)</i>		100 %		35-125 %		"				
										Q-41

LCS (9010672-BS2)						Prepared: 01/14/19 07:11 Analyzed: 01/14/19 19:58				
EPA 625										
Acenaphthene	0.00645	0.000100	0.000100	mg/L	1	0.00800	---	81	47-145%	---
Anthracene	0.00714	0.000100	0.000100	mg/L	1	0.00800	---	89	27-133%	---
Benz(a)anthracene	0.00762	0.000100	0.000100	mg/L	1	0.00800	---	95	33-143%	---
Benzo(a)pyrene	0.00758	0.000100	0.000100	mg/L	1	0.00800	---	95	17-163%	---
Benzo(b)fluoranthene	0.00737	0.000100	0.000100	mg/L	1	0.00800	---	92	24-159%	---
Benzo(k)fluoranthene	0.00764	0.000100	0.000100	mg/L	1	0.00800	---	96	11-162%	---
Chrysene	0.00747	0.000100	0.000100	mg/L	1	0.00800	---	93	17-168%	---
Dibenz(a,h)anthracene	0.00677	0.000100	0.000100	mg/L	1	0.00800	---	85	1-227%	---
Fluoranthene	0.00712	0.000100	0.000100	mg/L	1	0.00800	---	89	26-137%	---
Fluorene	0.00669	0.000100	0.000100	mg/L	1	0.00800	---	84	59-121%	---
Hexachlorobenzene	0.00761	0.000100	0.000100	mg/L	1	0.00800	---	95	5-152%	---
Indeno(1,2,3-cd)pyrene	0.00682	0.000100	0.000100	mg/L	1	0.00800	---	85	1-171%	---
Pyrene	0.00717	0.000100	0.000100	mg/L	1	0.00800	---	90	52-115%	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010672 - EPA 3510C (Acid Extraction)						Water						
LCS (9010672-BS2)		Prepared: 01/14/19 07:11		Analyzed: 01/14/19 19:58								
Pentachlorophenol (PCP)	0.00686	0.000400	0.000400	mg/L	1	0.00800	---	86	14-176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 75 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		93 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		106 %		35-125 %		"		Q-41				
LCS Dup (9010672-BS2)		Prepared: 01/14/19 07:11		Analyzed: 01/14/19 20:35								
EPA 625												
Acenaphthene	0.00670	0.000100	0.000100	mg/L	1	0.00800	---	84	47-145%	4	30%	
Anthracene	0.00737	0.000100	0.000100	mg/L	1	0.00800	---	92	27-133%	3	30%	
Benz(a)anthracene	0.00797	0.000100	0.000100	mg/L	1	0.00800	---	100	33-143%	5	30%	
Benzo(a)pyrene	0.00785	0.000100	0.000100	mg/L	1	0.00800	---	98	17-163%	3	30%	
Benzo(b)fluoranthene	0.00834	0.000100	0.000100	mg/L	1	0.00800	---	104	24-159%	12	30%	
Benzo(k)fluoranthene	0.00794	0.000100	0.000100	mg/L	1	0.00800	---	99	11-162%	4	30%	
Chrysene	0.00774	0.000100	0.000100	mg/L	1	0.00800	---	97	17-168%	4	30%	
Dibenz(a,h)anthracene	0.00728	0.000100	0.000100	mg/L	1	0.00800	---	91	1-227%	7	30%	
Fluoranthene	0.00726	0.000100	0.000100	mg/L	1	0.00800	---	91	26-137%	2	30%	
Fluorene	0.00689	0.000100	0.000100	mg/L	1	0.00800	---	86	59-121%	3	30%	
Hexachlorobenzene	0.00797	0.000100	0.000100	mg/L	1	0.00800	---	100	5-152%	5	30%	
Indeno(1,2,3-cd)pyrene	0.00731	0.000100	0.000100	mg/L	1	0.00800	---	91	1-171%	7	30%	
Pyrene	0.00744	0.000100	0.000100	mg/L	1	0.00800	---	93	52-115%	4	30%	
Pentachlorophenol (PCP)	0.00708	0.000400	0.000400	mg/L	1	0.00800	---	88	14-176%	3	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 79 %		Limits: 45-120 %		Dilution: 1x						
<i>p-Terphenyl-d14 (Surr)</i>		93 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		106 %		35-125 %		"		Q-41				



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010699 - EPA 3015A						Water						
Blank (9010699-BLK1)		Prepared: 01/14/19 13:17 Analyzed: 01/17/19 16:37										
EPA 200.8												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	---
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (9010699-BS1)						Prepared: 01/14/19 13:17 Analyzed: 01/17/19 16:42						
EPA 200.8												
Copper	0.0594	0.000500	0.00100	mg/L	1	0.0556	---	107	85-115%	---	---	---
Iron	2.72	0.0250	0.0500	mg/L	1	2.78	---	98	85-115%	---	---	---
Lead	0.0559	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	---
Zinc	0.0599	0.00200	0.00400	mg/L	1	0.0556	---	108	85-115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010651 - Matrix Matched Direct Inject						Water						
Blank (9010651-BLK1)		Prepared: 01/11/19 14:15 Analyzed: 01/15/19 20:30										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
LCS (9010651-BS1)		Prepared: 01/11/19 14:15 Analyzed: 01/15/19 20:34										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0586	0.000500	0.00100	mg/L	1	0.0556	---	106	85-115%	---	---	
Lead	0.0561	0.000100	0.000200	mg/L	1	0.0556	---	101	85-115%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010904 - EPA 1664						Water						
Blank (9010904-BLK1)		Prepared: 01/21/19 07:47 Analyzed: 01/22/19 12:34										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9010904-BS1)		Prepared: 01/21/19 07:47 Analyzed: 01/22/19 12:34										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	35.7			mg/L	1	40.0	---	89	78-114%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010614 - ASTM D7511-12 (W)						Water						
Blank (9010614-BLK1)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:28										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9010614-BS1)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:30										
<u>D7511-12</u>												
Cyanide, Total	0.0273	0.00250	0.00500	mg/L	1	0.0250	---	109	84-116%	---	---	
LCS (9010614-BS2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 13:26										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---		0-100%	---	---	CN_I
Matrix Spike (9010614-MS2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 14:42										
<u>QC Source Sample: Stormwater 001 (A9A0219-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0316	0.00251	0.00503	mg/L	1	0.0251	0.00436	108	64-136%	---	---	
Matrix Spike Dup (9010614-MSD2)		Prepared: 01/11/19 08:07 Analyzed: 01/11/19 14:44										
<u>QC Source Sample: Stormwater 001 (A9A0219-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0326	0.00251	0.00503	mg/L	1	0.0251	0.00436	112	64-136%	4	47%	



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9010660 - Total Suspended Solids						Water						
Blank (9010660-BLK1)		Prepared: 01/11/19 16:21 Analyzed: 01/11/19 19:32										
SM 2540 D												
Total Suspended Solids	ND	2.00	2.00	mg/L	1	---	---	---	---	---	---	
Reference (9010660-SRM1)		Prepared: 01/11/19 16:21 Analyzed: 01/11/19 19:32										
SM 2540 D												
Total Suspended Solids	98.0			mg/L	1	100	98	77.1-110%		---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits RPD	RPD Limit	Notes
Batch 9010520 - Method Prep: Aq						Water					
Reference (9010520-SRM1) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 07:31											
SM 4500-H+ B											
pH	6.01	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM2) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 07:32											
SM 4500-H+ B											
pH	7.95	---		pH Units	1	8.00		99	8.333-101.667%	---	---
Reference (9010520-SRM3) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 15:47											
SM 4500-H+ B											
pH	6.00	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM4) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 15:52											
SM 4500-H+ B											
pH	7.94	---		pH Units	1	8.00		99	8.75-101.25%	---	---
Reference (9010520-SRM5) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 19:12											
SM 4500-H+ B											
pH	6.01	---		pH Units	1	6.00		100	8.333-101.667%	---	---
Reference (9010520-SRM6) Prepared: 01/09/19 07:04 Analyzed: 01/09/19 19:20											
SM 4500-H+ B											
pH	7.96	---		pH Units	1	8.00		100	8.75-101.25%	---	---



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9A0744 - EPA 245.1						Water						
Blank (W9A0744-BLK1)		Prepared: 01/14/19 16:07 Analyzed: 01/17/19 14:33										
EPA 245.1												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	
LCS (W9A0744-BS1)						Prepared: 01/14/19 16:07 Analyzed: 01/17/19 14:34						
EPA 245.1												
Mercury, Total	0.00101	0.000017	0.000050	mg/l	1	0.00100	---	101	85-115%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010673							
A9A0219-01	Water	608 PCB	01/09/19 12:15	01/14/19 07:25	1020mL/5mL	1000mL/5mL	0.98

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010604							
A9A0219-01	Water	608 Pest	01/09/19 12:15	01/10/19 15:54	990mL/5mL	1000mL/5mL	1.01

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010672							
A9A0219-01	Water	EPA 625	01/09/19 12:15	01/14/19 11:14	1000mL/5mL	1000mL/5mL	1.00

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010699							
A9A0219-01	Water	EPA 200.8	01/09/19 12:15	01/14/19 13:17	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010651							
A9A0219-01	Water	EPA 200.8 (Diss)	01/09/19 12:15	01/11/19 14:15	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9010904							
A9A0219-01	Water	EPA 1664A	01/09/19 12:15	01/21/19 07:47			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010614</u>							
A9A0219-01	Water	D7511-12	01/09/19 12:15	01/11/19 08:07	10mL/10mL	10mL/10mL	1.00

Solid and Moisture Determinations

Prep: Total Suspended Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010660</u>							
A9A0219-01	Water	SM 2540 D	01/09/19 12:15	01/11/19 16:21			NA

Conventional Chemistry Parameters

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010520</u>							
A9A0219-01	Water	SM 4500-H+ B	01/09/19 12:15	01/09/19 15:32	20mL/20mL	20mL/20mL	NA



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9A0744</u>							
A9A0219-01	Water	EPA 245.1	01/09/19 12:15	01/14/19 16:07	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF18**
Project Manager: **Megan Richard**

Report ID:
A9A0219 - 01 22 19 1454

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- H-12** Sample analysis was performed >15 minutes after sample collection. Consult regulator or permit manager to determine the usability of data for intended use.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



Antea Group Project: **OPLC Portland DF-NPDES**
 121 SW Salmon Street, Suite 1100 Project Number: **PORTDF18**
 Portland, OR 97204 Project Manager: **Megan Richard** Report ID:
A9A0219 - 01 22 19 1454

CHAIN OF CUSTODY

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Antea Group Project Mgr: Megan Richard Project Name: OPLC Portland DF Project #/PO# PORTDF-18
 Address: 4840 SW Macadam ave, Portland OR 97238 Phone: (425) 498-7711 Fax: Email: megan.richard@anteagroup.com
 Sampled by: *Alison Lewis*

Lab # _____ *A9A0219* *revised*
 coc 1 of 1

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	Total - Cu, Pb, Zn, Fe, Hg	Dissolved - Cu, Pb	pH	TSS	Total Oil and Grease	Aldrin	Chlordane	Total Cyanide	DDT, DDE	Dieldrin	Hexachlorobenzene	PCBs	Acenaphthalene	Anthracene	Benz(a)anthracene	Benzofluoranthene	Benzofluoranthene 3,4	Benzofluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pyrene
Stormwater Discharge-001		11/19/19	12:15	Ag		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
At time of sampling pH = _____

Normal Turn Around Time (TAT) = 6-10 Business Days

TAT Requested (circle): 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: <i>[Signature]</i> Printed Name: <i>Alison Lewis</i> Company: <i>Antea Group</i>	RECEIVED BY: Signature: <i>[Signature]</i> Printed Name: <i>Alison Lewis</i> Company: <i>Antea Group</i>	RELINQUISHED BY: Signature: _____ Printed Name: _____ Company: _____	RECEIVED BY: Signature: _____ Printed Name: _____ Company: _____
---	---	---	---

Alisa Domenighini



Antea Group Project: **OPLC Portland DF-NPDES**
 121 SW Salmon Street, Suite 1100 Project Number: **PORTDF18**
 Portland, OR 97204 Project Manager: **Megan Richard** Report ID: **A9A0219 - 01 22 19 1454**

CHAIN OF CUSTODY

Lab # A9A0219 coc 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

APEX LABS Project Mgr: Megan Richard Project Name: OPLC Portland DF Project #/PO# PORTDF18

Company: Antea Group Address: 4640 SW Macadam ave, Portland OR 97239 Phone: (425) 498-7711 Fax: Email: megan.richard@antegrup.com

Sampled by: Nolen Lewis

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	Total - Cu, Pb, Zn, Fe, Hg	Dissolved - Cu, Pb	pH	TSS	Total Oil and Grease	Aldrin	Chlordane	Total Cyanide	DDT, DDE	Dieldrin	Hexachlorobenzene	PCBs	Acenaphthalene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benzofluoranthene 3,4	Benzofluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Pyrene
Stormwater, Discharge-001	844	1/18/19	12:15	NA		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Normal Turn Around Time (TAT) = 6-10 Business Days

TAT Requested (circle): 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS: At time of sampling pH = _____

RECEIVED BY: Signature: [Signature] Date: 1/19/19

RELINQUISHED BY: Signature: [Signature] Date: 1/19/19

Printed Name: Nolen Lewis Printed Name: [Signature]

Time: 1650 Time: 1100

Company: Antea Group Company: [Signature]

SAMPLES ARE HELD FOR 30 DAYS

Lisa Domenighini



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF18 Project Manager: Megan Richard	Report ID: A9A0219 - 01 22 19 1454
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9 A0219
 Project/Project #: OPLC Portland DF / PORTDF18

Delivery Info:
 Date/time received: 1/9/19 @ 11:50 By: (Signature)
 Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 1/9/19 @ 11:50 By: (Signature)
 Chain of Custody included? Yes No Custody seals? Yes No
 Signed/dated by client? Yes No
 Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.9</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>real</u>						
Condition:	<u>good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA (NA)
 Out of temperature samples form initiated? Yes/No/NA (NA)
Samples Inspection: Date/time inspected: 1/9/19 @ 17:40 By: (Signature)
 All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: conts. read stormwater
1. date on coc reads 1/9/18, date on conts. read
 COC/container discrepancies form initiated? Yes No NA
 Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA
 Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
 Comments: _____

Additional information: 1/9/19

Labeled by: (Signature) Witness: (Signature) Cooler Inspected by: (Signature) See Project Contact Form: (Signature)
 Subsampled by: (Signature)
 subsample witness: (Signature)

Lisa Domenighini



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Monday, April 15, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9C1031 - OPLC Portland DF-NPDES - PORTDF19

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9C1031, which was received by the laboratory on 3/29/2019 at 9:50:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1 4.6 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9C1031-01	Water	03/29/19 08:30	03/29/19 09:50

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A9C1031-01	Stormwater 001	7.14	---	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040432		C-07
Aroclor 1016	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1221	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1232	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1242	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1248	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1254	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
Aroclor 1260	ND	0.0000515	0.000103	mg/L	1	04/03/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>04/03/19</i>	<i>608 PCB</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01RE1)				Matrix: Water		Batch: 9031333		C-05
Aldrin	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
4,4'-DDD	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
4,4'-DDE	ND	0.00000495	0.00000990	mg/L	1	04/02/19	608 Pest	
4,4'-DDT	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
Dieldrin	ND	0.0000297	0.0000594	mg/L	1	04/02/19	608 Pest	
Chlordane (Technical)	ND	0.000366	0.000743	mg/L	1	04/02/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 44-124 %</i>		<i>1</i>	<i>04/02/19</i>	<i>608 Pest</i>
<i>Decachlorobiphenyl (Surr)</i>		<i>81 %</i>		<i>30-135 %</i>		<i>1</i>	<i>04/02/19</i>	<i>608 Pest</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040369		
Acenaphthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benz(a)anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(a)pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Chrysene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Fluoranthene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Fluorene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Hexachlorobenzene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
Pyrene	ND	0.000980	0.000980	mg/L	4	04/01/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 45-120 %</i>	4	04/01/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>75 %</i>		<i>30-125 %</i>	4	04/01/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>69 %</i>		<i>35-125 %</i>	4	04/01/19	EPA 625	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water				
Batch: 9040672								
Iron	0.526	0.0250	0.0500	mg/L	1	04/09/19	EPA 200.8	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water				
Batch: 9040612								
Copper	0.00320	0.000500	0.00100	mg/L	1	04/08/19	EPA 200.8 (Diss)	
Lead	0.000128	0.000100	0.000200	mg/L	1	04/08/19	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: 9040417		
Cyanide, Total	0.00296	0.00250	0.00500	mg/L	1	04/02/19	D7511-12	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9C1031-01)				Matrix: Water		Batch: W9D0230		
<u>Batch: W9D0230</u>								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	04/09/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040432 - EPA 3510C (Neutral pH)						Water						
Blank (9040432-BLK1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 10:30				C-07						
608 PCB												
Aroclor 1016	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000500	0.000100	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9040432-BS1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 10:48				C-07						
608 PCB												
Aroclor 1016	0.00183	0.0000500	0.000100	mg/L	1	0.00250	---	73	50-140%	---	---	
Aroclor 1260	0.00209	0.0000500	0.000100	mg/L	1	0.00250	---	83	8-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9040432-BSD1)		Prepared: 04/02/19 11:21 Analyzed: 04/03/19 11:06				C-07, Q-19						
608 PCB												
Aroclor 1016	0.00185	0.0000500	0.000100	mg/L	1	0.00250	---	74	50-140%	1	36%	
Aroclor 1260	0.00210	0.0000500	0.000100	mg/L	1	0.00250	---	84	8-140%	0.7	38%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9031333 - EPA 3510C (Neutral pH)/3640A (GPC)						Water						
Blank (9031333-BLK1)		Prepared: 03/29/19 07:26			Analyzed: 04/02/19 16:09			C-05				
608 Pest												
Aldrin	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDD	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
4,4'-DDE	ND	0.00000455	0.00000909	mg/L	1	---	---	---	---	---	---	
4,4'-DDT	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Dieldrin	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Endosulfan I	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Endosulfan II	ND	0.0000273	0.0000545	mg/L	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	0.000336	0.000682	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>64 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS (9031333-BS1)						C-05						
Prepared: 03/29/19 07:26		Analyzed: 04/02/19 16:27										
608 Pest												
Aldrin	0.000411	0.0000300	0.0000600	mg/L	1	0.000500	---	82	42-140%	---	---	
4,4'-DDD	0.000497	0.0000300	0.0000600	mg/L	1	0.000500	---	99	31-141%	---	---	
4,4'-DDE	0.000489	0.00000500	0.0000100	mg/L	1	0.000500	---	98	30-145%	---	---	
4,4'-DDT	0.000612	0.0000300	0.0000600	mg/L	1	0.000500	---	122	25-160%	---	---	
Dieldrin	0.000515	0.0000300	0.0000600	mg/L	1	0.000500	---	103	36-146%	---	---	
Endosulfan I	0.000468	0.0000300	0.0000600	mg/L	1	0.000500	---	94	45-153%	---	---	
Endosulfan II	0.000469	0.0000300	0.0000600	mg/L	1	0.000500	---	94	10-202%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>73 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS Dup (9031333-BSD1)						C-05, Q-19						
Prepared: 03/29/19 07:26		Analyzed: 04/02/19 16:45										
608 Pest												
Aldrin	0.000343	0.0000300	0.0000600	mg/L	1	0.000500	---	69	42-140%	18	35%	
4,4'-DDD	0.000433	0.0000300	0.0000600	mg/L	1	0.000500	---	87	31-141%	14	39%	
4,4'-DDE	0.000441	0.00000500	0.0000100	mg/L	1	0.000500	---	88	30-145%	10	35%	
4,4'-DDT	0.000552	0.0000300	0.0000600	mg/L	1	0.000500	---	110	25-160%	10	42%	
Dieldrin	0.000459	0.0000300	0.0000600	mg/L	1	0.000500	---	92	36-146%	12	49%	
Endosulfan I	0.000420	0.0000300	0.0000600	mg/L	1	0.000500	---	84	45-153%	11	28%	
Endosulfan II	0.000433	0.0000300	0.0000600	mg/L	1	0.000500	---	87	10-202%	8	53%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9031333 - EPA 3510C (Neutral pH)/3640A (GPC)						Water						
LCS Dup (9031333-BSD1)		Prepared: 03/29/19 07:26 Analyzed: 04/02/19 16:45 C-05, Q-19										
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 65 % Limits: 30-135 % Dilution: 1x</i>										

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-----------------	-------	----------	--------------	---------------	-------	--------------	-----	-----------	-------

Batch 9040369 - EPA 3510C (Acid Extraction)

Water

Blank (9040369-BLK2) Prepared: 04/01/19 07:28 Analyzed: 04/01/19 17:30

EPA 625

Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr) Recovery: 71 % Limits: 45-120 % Dilution: 1x
 p-Terphenyl-d14 (Surr) 75 % 30-125 % "
 2,4,6-Tribromophenol (Surr) 63 % 35-125 % "

LCS (9040369-BS2)

Prepared: 04/01/19 07:28 Analyzed: 04/01/19 18:06

EPA 625

Acenaphthene	0.00321	0.000200	0.000200	mg/L	4	0.00400	---	80	47-145%	---	---	---
Anthracene	0.00349	0.000200	0.000200	mg/L	4	0.00400	---	87	27-133%	---	---	---
Benz(a)anthracene	0.00365	0.000200	0.000200	mg/L	4	0.00400	---	91	33-143%	---	---	---
Benzo(a)pyrene	0.00362	0.000200	0.000200	mg/L	4	0.00400	---	90	17-163%	---	---	---
Benzo(b)fluoranthene	0.00351	0.000200	0.000200	mg/L	4	0.00400	---	88	24-159%	---	---	---
Benzo(k)fluoranthene	0.00388	0.000200	0.000200	mg/L	4	0.00400	---	97	11-162%	---	---	---
Chrysene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	17-168%	---	---	---
Dibenz(a,h)anthracene	0.00367	0.000200	0.000200	mg/L	4	0.00400	---	92	1-227%	---	---	---
Fluoranthene	0.00349	0.000200	0.000200	mg/L	4	0.00400	---	87	26-137%	---	---	---
Fluorene	0.00342	0.000200	0.000200	mg/L	4	0.00400	---	85	59-121%	---	---	---
Hexachlorobenzene	0.00315	0.000200	0.000200	mg/L	4	0.00400	---	79	5-152%	---	---	---
Indeno(1,2,3-cd)pyrene	0.00363	0.000200	0.000200	mg/L	4	0.00400	---	91	1-171%	---	---	---
Pyrene	0.00352	0.000200	0.000200	mg/L	4	0.00400	---	88	52-115%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040369 - EPA 3510C (Acid Extraction)						Water						
LCS (9040369-BS2)		Prepared: 04/01/19 07:28		Analyzed: 04/01/19 18:06								
Pentachlorophenol (PCP)	0.00303	0.000800	0.000800	mg/L	4	0.00400	---	76	14-176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 82 %		Limits: 45-120 %		Dilution: 4x						
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		72 %		35-125 %		"						
LCS Dup (9040369-BSD2)		Prepared: 04/01/19 07:28		Analyzed: 04/01/19 18:41		Q-19						
EPA 625												
Acenaphthene	0.00332	0.000200	0.000200	mg/L	4	0.00400	---	83	47-145%	3	30%	
Anthracene	0.00361	0.000200	0.000200	mg/L	4	0.00400	---	90	27-133%	3	30%	
Benz(a)anthracene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	33-143%	2	30%	
Benzo(a)pyrene	0.00372	0.000200	0.000200	mg/L	4	0.00400	---	93	17-163%	3	30%	
Benzo(b)fluoranthene	0.00369	0.000200	0.000200	mg/L	4	0.00400	---	92	24-159%	5	30%	
Benzo(k)fluoranthene	0.00384	0.000200	0.000200	mg/L	4	0.00400	---	96	11-162%	0.9	30%	
Chrysene	0.00376	0.000200	0.000200	mg/L	4	0.00400	---	94	17-168%	1	30%	
Dibenz(a,h)anthracene	0.00361	0.000200	0.000200	mg/L	4	0.00400	---	90	1-227%	1	30%	
Fluoranthene	0.00356	0.000200	0.000200	mg/L	4	0.00400	---	89	26-137%	2	30%	
Fluorene	0.00355	0.000200	0.000200	mg/L	4	0.00400	---	89	59-121%	4	30%	
Hexachlorobenzene	0.00313	0.000200	0.000200	mg/L	4	0.00400	---	78	5-152%	0.7	30%	
Indeno(1,2,3-cd)pyrene	0.00367	0.000200	0.000200	mg/L	4	0.00400	---	92	1-171%	1	30%	
Pyrene	0.00352	0.000200	0.000200	mg/L	4	0.00400	---	88	52-115%	0.003	30%	
Pentachlorophenol (PCP)	0.00321	0.000800	0.000800	mg/L	4	0.00400	---	80	14-176%	5	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		Recovery: 82 %		Limits: 45-120 %		Dilution: 4x						
<i>p-Terphenyl-d14 (Surr)</i>		85 %		30-125 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		69 %		35-125 %		"						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040672 - EPA 3015A						Water						
Blank (9040672-BLK1)		Prepared: 04/09/19 10:14 Analyzed: 04/09/19 18:44										
<u>EPA 200.8</u>												
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	
LCS (9040672-BS1)		Prepared: 04/09/19 10:14 Analyzed: 04/09/19 18:49										
<u>EPA 200.8</u>												
Iron	2.62	0.0250	0.0500	mg/L	1	2.78	---	94	85-115%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040612 - Matrix Matched Direct Inject						Water						
Blank (9040612-BLK1)		Prepared: 04/08/19 09:10 Analyzed: 04/08/19 14:05										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
LCS (9040612-BS1)		Prepared: 04/08/19 09:10 Analyzed: 04/08/19 14:09										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0570	0.000500	0.00100	mg/L	1	0.0556	---	103	85-115%	---	---	
Lead	0.0537	0.000100	0.000200	mg/L	1	0.0556	---	97	85-115%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9040417 - ASTM D7511-12 (W)						Water						
Blank (9040417-BLK1)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:36										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9040417-BS1)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:38										
<u>D7511-12</u>												
Cyanide, Total	0.0243	0.00250	0.00500	mg/L	1	0.0250	---	97	84-116%	---	---	
LCS (9040417-BS2)		Prepared: 04/02/19 08:37 Analyzed: 04/02/19 16:34										
<u>D7511-12</u>												
Cyanide, Total	0.00260	0.00250	0.00500	mg/L	1	0.0500	---	5	0-100%	---	---	CN_I, J



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9D0230 - EPA 245.1						Water						
Blank (W9D0230-BLK1)		Prepared: 04/03/19 13:01 Analyzed: 04/09/19 13:22										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	---
LCS (W9D0230-BS1)						Prepared: 04/03/19 13:01 Analyzed: 04/09/19 13:24						
<u>EPA 245.1</u>												
Mercury, Total	0.000896	0.000017	0.000050	mg/l	1	0.00100	---	90	85-115%	---	---	---



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040432							
A9C1031-01	Water	608 PCB	03/29/19 08:30	04/02/19 11:21	970mL/5mL	1000mL/5mL	1.03

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9031333							
A9C1031-01RE1	Water	608 Pest	03/29/19 08:30	03/29/19 16:27	1010mL/10mL	1000mL/5mL	1.98

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040369							
A9C1031-01	Water	EPA 625	03/29/19 08:30	04/01/19 08:28	1020mL/5mL	1000mL/5mL	0.98

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040672							
A9C1031-01	Water	EPA 200.8	03/29/19 08:30	04/09/19 10:14	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040612							
A9C1031-01	Water	EPA 200.8 (Diss)	03/29/19 08:30	04/08/19 09:10	45mL/50mL	45mL/50mL	1.00

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9040417							
A9C1031-01	Water	D7511-12	03/29/19 08:30	04/02/19 08:37	10mL/10mL	10mL/10mL	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

SAMPLE PREPARATION INFORMATION

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	-------------------------	--------------------------	-------------------

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9D0230</u>							
A9C1031-01	Water	EPA 245.1	03/29/19 08:30	04/03/19 13:01	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-05** Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	--	--

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: PORTDF19 Project Manager: Megan Richard	Report ID: A9C1031 - 04 15 19 1245
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

CHAIN OF CUSTODY

Lab # A9C1031 of 1
COC # 104

APEX LABS
12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Antea Group	Project Mgr: Megan Richard	Project Name: OPLC Portland DF	Project #/PO# PORTDF19																										
Address: 4640 SW Macadam ave, Portland OR 97239	Phone: (425) 488-7711	Fax:	Email: megan.richard@antegrp.com																										
ANALYSIS REQUEST																													
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	Total - Cu, Pb, Zn, Fe, Ni, Mn	Mercury	TSS	Total Oil and Grease	Adrin	Chlordane	Total Cyande	DDT, DDE	Dieldrn	Hexachlorobenze	PCBs	Acnaphthalene	Anthracene	Benz(a)anthracene	Benz(e)a-pyrene	Benz(b)fluoranthene 3,4	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pyrene	
Stormwater-Discharge-004		3/27/19	0830	AQ10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Stormwater UOI																													
Normal Turn Around Time (TAT) = 6-10 Business Days						At time of sampling pH = <u>7.14</u>		SPECIAL INSTRUCTIONS: Contact Megan Richard w/ questions.		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____		RECEIVED BY: Signature: _____ Date: _____			
TAT Requested (circle)						1 DAY	2 DAY	3 DAY	4 DAY	5 DAY	Other: Standard	RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>		RECEIVED BY: Signature: <u>[Signature]</u> Date: <u>3/29/19</u>			
SAMPLES ARE HELD FOR 30 DAYS						Date: <u>3/29/19</u>	Time: <u>0950</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>	Date: <u>3/29/19</u>	Time: <u>4:50</u>
Company: Antea Group						Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group		Company: Antea Group	

Apex Laboratories

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.

Lisa Domenighini

Lisa Domenighini, Client Services Manager



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **PORTDF19**
Project Manager: **Megan Richard**

Report ID:
A9C1031 - 04 15 19 1245

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9C031

Project/Project #: OPLC Portland DF

Delivery Info:

Date/time received: 3/21/19 @ 9:50 By: MS

Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 3/21/19 @ 9:50 By: MS

Chain of Custody included? Yes No Custody seals? Yes No

Signed/dated by client? Yes No

Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.6</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: NA

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 3/29/19 @ 12:51 By: TAG

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: _____

COC/container discrepancies form initiated? Yes No NA

Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA

Comments: _____

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA

Comments: _____

Additional information: Subsamples: TAG

witness: HKK

Labeled by: TAG Witness: HKK Cooler Inspected by: TAG See Project Contact Form: Y



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Monday, May 13, 2019
Megan Richard
Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

RE: A9D0912 - OPLC Portland DF-NPDES - OPLC-PDX

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9D0912, which was received by the laboratory on 4/26/2019 at 10:00:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1 5.8 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stormwater 001	A9D0912-01	Water	04/26/19 08:45	04/26/19 10:00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	---	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	pH	@Temp(C)	Flow (gal/min)	Residual Cl (mg/L)	Turbidity
A9D0912-01	Stormwater 001	7.36	11.7	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050480		C-07
Aroclor 1016	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1221	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1232	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1242	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1248	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1254	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
Aroclor 1260	ND	0.0000490	0.0000980	mg/L	1	05/07/19	608 PCB	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 40-135 %</i>		<i>1</i>	<i>05/07/19</i>	<i>608 PCB</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)		Matrix: Water			Batch: 9050470			
Aldrin	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
4,4'-DDD	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
4,4'-DDE	ND	0.00000248	0.00000495	mg/L	1	05/10/19	608 Pest	
4,4'-DDT	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
Dieldrin	ND	0.0000149	0.0000297	mg/L	1	05/10/19	608 Pest	
Chlordane (Technical)	ND	0.000183	0.000371	mg/L	1	05/10/19	608 Pest	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 44-124 %</i>		<i>1</i>	<i>05/10/19</i>	<i>608 Pest</i>
<i>Decachlorobiphenyl (Surr)</i>		<i>80 %</i>		<i>30-135 %</i>		<i>1</i>	<i>05/10/19</i>	<i>608 Pest</i>



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9041454		
Acenaphthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benz(a)anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(a)pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(b)fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Benzo(k)fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Chrysene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Dibenz(a,h)anthracene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Fluoranthene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Fluorene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Hexachlorobenzene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Indeno(1,2,3-cd)pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
Pyrene	ND	0.000750	0.000750	mg/L	3	05/01/19	EPA 625	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 45-120 %</i>	3	05/01/19	EPA 625	
<i>p-Terphenyl-d14 (Surr)</i>		<i>63 %</i>		<i>30-125 %</i>	3	05/01/19	EPA 625	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>94 %</i>		<i>35-125 %</i>	3	05/01/19	EPA 625	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9041472								
Copper	0.00396	0.000500	0.00100	mg/L	1	05/01/19	EPA 200.8	
Iron	0.565	0.0250	0.0500	mg/L	1	05/01/19	EPA 200.8	
Lead	0.000454	0.000100	0.000200	mg/L	1	05/01/19	EPA 200.8	
Zinc	0.0546	0.00200	0.00400	mg/L	1	05/01/19	EPA 200.8	



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9041453								
Copper	0.00341	0.000500	0.00100	mg/L	1	04/30/19	EPA 200.8 (Diss)	
Lead	0.000123	0.000100	0.000200	mg/L	1	04/30/19	EPA 200.8 (Diss)	J

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050387		
HEM (Oil and Grease)	ND	4.81	4.81	mg/L	1	05/03/19	EPA 1664A	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: 9050350		
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	05/01/19	D7511-12	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water				
Batch: 9050352								
Total Suspended Solids	13.0	5.00	5.00	mg/L	1	05/01/19	SM 2540 D	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Metals by EPA 200 Series Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Stormwater 001 (A9D0912-01)				Matrix: Water		Batch: W9E0012		
<u>Batch: W9E0012</u>								
Mercury, Total	ND	0.000017	0.000050	mg/l	1	05/07/19	EPA 245.1	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050480 - EPA 3510C (Neutral pH)						Water						
Blank (9050480-BLK1)		Prepared: 05/03/19 13:00			Analyzed: 05/07/19 08:26			C-07				
608 PCB												
Aroclor 1016	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0000455	0.0000909	mg/L	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS (9050480-BS1)		Prepared: 05/03/19 13:00			Analyzed: 05/07/19 08:44			C-07				
608 PCB												
Aroclor 1016	0.00154	0.0000500	0.000100	mg/L	1	0.00250	---	62	50 - 140%	---	---	
Aroclor 1260	0.00197	0.0000500	0.000100	mg/L	1	0.00250	---	79	8 - 140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						
LCS Dup (9050480-BSD1)		Prepared: 05/03/19 13:00			Analyzed: 05/07/19 09:02			C-07, Q-19				
608 PCB												
Aroclor 1016	0.00147	0.0000500	0.000100	mg/L	1	0.00250	---	59	50 - 140%	5	36%	
Aroclor 1260	0.00199	0.0000500	0.000100	mg/L	1	0.00250	---	80	8 - 140%	1	38%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 40-135 %</i>		<i>Dilution: 1x</i>						



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 608

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050470 - EPA 3510C (Neutral pH)						Water						
Blank (9050470-BLK1)		Prepared: 05/03/19 10:07			Analyzed: 05/10/19 16:15							
608 Pest												
Aldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
4,4'-DDD	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
4,4'-DDE	ND	0.00000227	0.00000455	mg/L	1	---	---	---	---	---	---	
4,4'-DDT	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
Dieldrin	ND	0.0000136	0.0000273	mg/L	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	0.000168	0.000341	mg/L	1	---	---	---	---	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 46 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>78 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS (9050470-BS1)						Prepared: 05/03/19 10:07 Analyzed: 05/10/19 16:33						
608 Pest												
Aldrin	0.000354	0.0000150	0.0000300	mg/L	1	0.000500	---	71	42 - 140%	---	---	
4,4'-DDD	0.000414	0.0000150	0.0000300	mg/L	1	0.000500	---	83	31 - 141%	---	---	
4,4'-DDE	0.000405	0.00000250	0.00000500	mg/L	1	0.000500	---	81	30 - 145%	---	---	
4,4'-DDT	0.000547	0.0000150	0.0000300	mg/L	1	0.000500	---	109	25 - 160%	---	---	Q-41
Dieldrin	0.000427	0.0000150	0.0000300	mg/L	1	0.000500	---	85	36 - 146%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>73 %</i>		<i>30-135 %</i>		<i>"</i>						
LCS Dup (9050470-BSD1)						Prepared: 05/03/19 10:07 Analyzed: 05/10/19 16:50						
608 Pest												
Aldrin	0.000356	0.0000150	0.0000300	mg/L	1	0.000500	---	71	42 - 140%	0.5	35%	
4,4'-DDD	0.000445	0.0000150	0.0000300	mg/L	1	0.000500	---	89	31 - 141%	7	39%	
4,4'-DDE	0.000421	0.00000250	0.00000500	mg/L	1	0.000500	---	84	30 - 145%	4	35%	
4,4'-DDT	0.000601	0.0000150	0.0000300	mg/L	1	0.000500	---	120	25 - 160%	9	42%	Q-41
Dieldrin	0.000455	0.0000150	0.0000300	mg/L	1	0.000500	---	91	36 - 146%	6	49%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 44-124 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>		<i>76 %</i>		<i>30-135 %</i>		<i>"</i>						

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 9041454 - EPA 3510C (Acid Extraction)						Water						
Blank (9041454-BLK2)		Prepared: 04/30/19 10:05			Analyzed: 04/30/19 15:08							
EPA 625												
Acenaphthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Chrysene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Fluorene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Hexachlorobenzene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pyrene	ND	0.0000455	0.0000455	mg/L	1	---	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	0.000182	0.000182	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>88 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>93 %</i>		<i>35-125 %</i>		<i>"</i>						

Q-41

LCS (9041454-BS2)						Prepared: 04/30/19 10:05 Analyzed: 04/30/19 15:44						
EPA 625												
Acenaphthene	0.00293	0.000100	0.000100	mg/L	2	0.00400	---	73	47 - 145%	---	---	---
Anthracene	0.00325	0.000100	0.000100	mg/L	2	0.00400	---	81	27 - 133%	---	---	---
Benz(a)anthracene	0.00333	0.000100	0.000100	mg/L	2	0.00400	---	83	33 - 143%	---	---	---
Benzo(a)pyrene	0.00398	0.000100	0.000100	mg/L	2	0.00400	---	100	17 - 163%	---	---	---
Benzo(b)fluoranthene	0.00383	0.000100	0.000100	mg/L	2	0.00400	---	96	24 - 159%	---	---	---
Benzo(k)fluoranthene	0.00390	0.000100	0.000100	mg/L	2	0.00400	---	98	11 - 162%	---	---	---
Chrysene	0.00340	0.000100	0.000100	mg/L	2	0.00400	---	85	17 - 168%	---	---	---
Dibenz(a,h)anthracene	0.00340	0.000100	0.000100	mg/L	2	0.00400	---	85	1 - 227%	---	---	---
Fluoranthene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	86	26 - 137%	---	---	---
Fluorene	0.00332	0.000100	0.000100	mg/L	2	0.00400	---	83	59 - 121%	---	---	---
Hexachlorobenzene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	87	5 - 152%	---	---	---
Indeno(1,2,3-cd)pyrene	0.00328	0.000100	0.000100	mg/L	2	0.00400	---	82	1 - 171%	---	---	---
Pyrene	0.00350	0.000100	0.000100	mg/L	2	0.00400	---	88	52 - 115%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 625

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041454 - EPA 3510C (Acid Extraction)						Water						
LCS (9041454-BS2)		Prepared: 04/30/19 10:05		Analyzed: 04/30/19 15:44								
Pentachlorophenol (PCP)	0.00374	0.000400	0.000400	mg/L	2	0.00400	---	94	14 - 176%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 2x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>80 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>97 %</i>		<i>35-125 %</i>		<i>"</i>						
												Q-41
LCS Dup (9041454-BSD2)		Prepared: 04/30/19 10:05		Analyzed: 04/30/19 16:20								
EPA 625												
Acenaphthene	0.00299	0.000100	0.000100	mg/L	2	0.00400	---	75	47 - 145%	2	30%	
Anthracene	0.00333	0.000100	0.000100	mg/L	2	0.00400	---	83	27 - 133%	3	30%	
Benz(a)anthracene	0.00341	0.000100	0.000100	mg/L	2	0.00400	---	85	33 - 143%	2	30%	
Benzo(a)pyrene	0.00404	0.000100	0.000100	mg/L	2	0.00400	---	101	17 - 163%	2	30%	
Benzo(b)fluoranthene	0.00389	0.000100	0.000100	mg/L	2	0.00400	---	97	24 - 159%	2	30%	
Benzo(k)fluoranthene	0.00395	0.000100	0.000100	mg/L	2	0.00400	---	99	11 - 162%	1	30%	
Chrysene	0.00346	0.000100	0.000100	mg/L	2	0.00400	---	86	17 - 168%	2	30%	
Dibenz(a,h)anthracene	0.00349	0.000100	0.000100	mg/L	2	0.00400	---	87	1 - 227%	2	30%	
Fluoranthene	0.00351	0.000100	0.000100	mg/L	2	0.00400	---	88	26 - 137%	1	30%	
Fluorene	0.00336	0.000100	0.000100	mg/L	2	0.00400	---	84	59 - 121%	1	30%	
Hexachlorobenzene	0.00362	0.000100	0.000100	mg/L	2	0.00400	---	90	5 - 152%	4	30%	
Indeno(1,2,3-cd)pyrene	0.00327	0.000100	0.000100	mg/L	2	0.00400	---	82	1 - 171%	0.1	30%	
Pyrene	0.00353	0.000100	0.000100	mg/L	2	0.00400	---	88	52 - 115%	0.8	30%	
Pentachlorophenol (PCP)	0.00393	0.000400	0.000400	mg/L	2	0.00400	---	98	14 - 176%	5	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 2x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>75 %</i>		<i>30-125 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>98 %</i>		<i>35-125 %</i>		<i>"</i>						
												Q-41



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041472 - EPA 3015A												
Water												
Blank (9041472-BLK1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 18:48												
EPA 200.8												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Iron	ND	0.0250	0.0500	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
Zinc	ND	0.00200	0.00400	mg/L	1	---	---	---	---	---	---	
LCS (9041472-BS1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 18:53												
EPA 200.8												
Copper	0.0531	0.000500	0.00100	mg/L	1	0.0556	---	96	85 - 115%	---	---	
Iron	2.71	0.0250	0.0500	mg/L	1	2.78	---	98	85 - 115%	---	---	
Lead	0.0539	0.000100	0.000200	mg/L	1	0.0556	---	97	85 - 115%	---	---	
Zinc	0.0540	0.00200	0.00400	mg/L	1	0.0556	---	97	85 - 115%	---	---	
Duplicate (9041472-DUP1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 19:44												
QC Source Sample: Stormwater 001 (A9D0912-01)												
EPA 200.8												
Copper	0.00357	0.000500	0.00100	mg/L	1	---	0.00396	---	---	10	20%	
Iron	0.612	0.0250	0.0500	mg/L	1	---	0.565	---	---	8	20%	
Lead	0.000443	0.000100	0.000200	mg/L	1	---	0.000454	---	---	3	20%	
Zinc	0.0532	0.00200	0.00400	mg/L	1	---	0.0546	---	---	3	20%	
Matrix Spike (9041472-MS1) Prepared: 04/30/19 13:06 Analyzed: 05/01/19 19:49												
QC Source Sample: Stormwater 001 (A9D0912-01)												
EPA 200.8												
Copper	0.0550	0.000500	0.00100	mg/L	1	0.0556	0.00396	92	70 - 130%	---	---	
Iron	3.25	0.0250	0.0500	mg/L	1	2.78	0.565	97	70 - 130%	---	---	
Lead	0.0530	0.000100	0.000200	mg/L	1	0.0556	0.000454	95	70 - 130%	---	---	
Zinc	0.107	0.00200	0.00400	mg/L	1	0.0556	0.0546	95	70 - 130%	---	---	



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9041453 - Matrix Matched Direct Inject						Water						
Blank (9041453-BLK1)		Prepared: 04/30/19 10:02 Analyzed: 04/30/19 21:31										
<u>EPA 200.8 (Diss)</u>												
Copper	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	
Lead	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	
LCS (9041453-BS1)		Prepared: 04/30/19 10:02 Analyzed: 04/30/19 21:35										
<u>EPA 200.8 (Diss)</u>												
Copper	0.0521	0.000500	0.00100	mg/L	1	0.0556	---	94	85 - 115%	---	---	
Lead	0.0485	0.000100	0.000200	mg/L	1	0.0556	---	87	85 - 115%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050387 - EPA 1664						Water						
Blank (9050387-BLK1)		Prepared: 05/02/19 07:15 Analyzed: 05/03/19 08:21										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	ND	4.55	4.55	mg/L	1	---	---	---	---	---	---	
LCS (9050387-BS1)		Prepared: 05/02/19 07:15 Analyzed: 05/03/19 08:21										
<u>EPA 1664A</u>												
HEM (Oil and Grease)	34.4			mg/L	1	40.0	---	86	78 - 114%	---	---	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050350 - ASTM D7511-12 (W)						Water						
Blank (9050350-BLK1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:24										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9050350-BS1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:26										
<u>D7511-12</u>												
Cyanide, Total	0.0241	0.00250	0.00500	mg/L	1	0.0250	---	96	84 - 116%	---	---	
LCS (9050350-BS2)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:22										
<u>D7511-12</u>												
Cyanide, Total	ND	0.00250	0.00500	mg/L	1	0.0500	---		0 - 100%	---	---	CN_I
Matrix Spike (9050350-MS1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:32										
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0236	0.00251	0.00503	mg/L	1	0.0251	ND	94	64 - 136%	---	---	
Matrix Spike Dup (9050350-MSD1)		Prepared: 05/01/19 07:48 Analyzed: 05/01/19 10:34										
<u>QC Source Sample: Stormwater 001 (A9D0912-01)</u>												
<u>D7511-12</u>												
Cyanide, Total	0.0243	0.00251	0.00503	mg/L	1	0.0251	ND	97	64 - 136%	3	47%	



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9050352 - Total Suspended Solids						Water						
Blank (9050352-BLK1)		Prepared: 05/01/19 09:00 Analyzed: 05/01/19 12:01										
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Reference (9050352-SRM1)		Prepared: 05/01/19 09:00 Analyzed: 05/01/19 12:01										
SM 2540 D												
Total Suspended Solids	88.0			mg/L	1	100		88	77.1 - 110%	---	---	



Apex Laboratories, LLC

12232 S.W. Garden Place
 Tigard, OR 97223
 503-718-2323
 EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Metals by EPA 200 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9E0012 - EPA 245.1						Water						
Blank (W9E0012-BLK1)		Prepared: 05/02/19 13:14 Analyzed: 05/07/19 13:57										
<u>EPA 245.1</u>												
Mercury, Total	ND	0.000017	0.000050	mg/l	1	---	---	---	---	---	---	---
LCS (W9E0012-BS1)		Prepared: 05/02/19 13:14 Analyzed: 05/07/19 13:59										
<u>EPA 245.1</u>												
Mercury, Total	0.00103	0.000017	0.000050	mg/l	1	0.00100	---	103	85 - 115%	---	---	---

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050480							
A9D0912-01	Water	608 PCB	04/26/19 08:45	05/03/19 13:00	1020mL/5mL	1000mL/5mL	0.98

Organochlorine Pesticides by EPA 608

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050470							
A9D0912-01	Water	608 Pest	04/26/19 08:45	05/03/19 10:07	1010mL/5mL	1000mL/5mL	0.99

Semivolatile Organic Compounds by EPA 625

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041454							
A9D0912-01	Water	EPA 625	04/26/19 08:45	04/30/19 10:05	1000mL/5mL	1000mL/5mL	1.00

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041472							
A9D0912-01	Water	EPA 200.8	04/26/19 08:45	04/30/19 13:06	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9041453							
A9D0912-01	Water	EPA 200.8 (Diss)	04/26/19 08:45	04/30/19 10:02	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9050387							
A9D0912-01	Water	EPA 1664A	04/26/19 08:45	05/02/19 07:15			NA

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

SAMPLE PREPARATION INFORMATION

HEM (Oil and Grease) and SGT-HEM by EPA 1664A

Prep: EPA 1664

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12 (W)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Batch: 9050350

A9D0912-01	Water	D7511-12	04/26/19 08:45	05/01/19 07:48	10mL/10mL	10mL/10mL	1.00
------------	-------	----------	----------------	----------------	-----------	-----------	------

Solid and Moisture Determinations

Prep: Total Suspended Solids

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
------------	--------	--------	---------	----------	----------------------	-----------------------	----------------

Batch: 9050352

A9D0912-01	Water	SM 2540 D	04/26/19 08:45	05/01/19 09:00			NA
------------	-------	-----------	----------------	----------------	--	--	----



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	---	---

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Metals by EPA 200 Series Methods

Prep: EPA 245.1

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9E0012</u>							
A9D0912-01	Water	EPA 245.1	04/26/19 08:45	05/02/19 13:14	50ml/50ml	50ml/50ml	1.00

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- CN_I** Cyanide Interference Challenge Solution. No Cyanide is present in spike solution. Results are valid if Non Detect (No Cyanide detected.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: **OPLC Portland DF-NPDES**
Project Number: **OPLC-PDX**
Project Manager: **Megan Richard**

Report ID:
A9D0912 - 05 13 19 1527

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Lisa Domenighini, Client Services 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.



Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: <u>OPLC Portland DF-NPDES</u> Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	---	---

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager



Antea Group
121 SW Salmon Street, Suite 1100
Portland, OR 97204

Project: OPLC Portland DF-NPDES
Project Number: OPLC-PDX
Project Manager: Megan Richard

Report ID:
A9D0912 - 05 13 19 1527

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Lab # A9D0912 coc 1 of 1

Form with fields for Company, Project Name, Address, Project #/PO# and a table for ANALYSIS REQUEST with columns for Sample ID, DATE, TIME, MATRIX, # OF CONTAINERS, and various chemical analyses.

SPECIAL INSTRUCTIONS:
pH = 7.36
Temp = 11.7 C
See attached list for specific analytes.

Handwritten signature: Lisa Domenighini



Antea Group 121 SW Salmon Street, Suite 1100 Portland, OR 97204	Project: OPLC Portland DF-NPDES Project Number: OPLC-PDX Project Manager: Megan Richard	Report ID: A9D0912 - 05 13 19 1527
--	--	--

APEX LABS COOLER RECEIPT FORM

Client: Antea Group Element WO#: A9 D0912

Project/Project #: OPLC PDX

Delivery Info:
Date/time received: 4/26/19 @ 10:00 By: JS
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 4/26/19 @ 10:00 By: JS
Chain of Custody included? Yes No Custody seals? Yes No
Signed/dated by client? Yes No
Signed/dated by Apex? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.8</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA
Out of temperature samples form initiated? Yes/No/NA NA
Samples Inspection: Date/time inspected: 4/26/19 @ 10:12 By: JS
All samples intact? Yes No Comments: _____
Bottle labels/COCs agree? Yes No Comments: _____
COC/container discrepancies form initiated? Yes No NA
Containers/volumes received appropriate for analysis? Yes No Comments: _____
Do VOA vials have visible headspace? Yes No NA
Comments: _____
Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
Comments: _____

Additional information: Sub Sampler: JS
Witness: JS

Labeled by: JS Witness: JS Cooler Inspected by: JS See Project Contact Form: Y



Antea USA, Inc.
4006 148th Avenue NE
Redmond, WA 98052 USA

October 17, 2019

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – First Quarter 2019-2020
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this First Quarter 2019-2020 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

No samples were collected during the first quarter 2019 – 2020 reporting period. The DMR is included as Appendix A.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR" with a flourish.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosure

Appendix

Appendix A Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Appendix A

Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit





State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System Permit
Industrial Stormwater Discharge General Permit

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 19 to 20 20
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 City of Portland City of Eugene
 Primary SIC Code: 4613 Secondary SIC Code: _____

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1
 If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 10/21/19
 Printed Name: Alexandria Crooks Title: environmental coordinator
 Legally Authorized Representative
 Email: alex.crooks@BP.com
 Telephone: 425-981-2590



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Columbia River Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								

Columbia River Benchmarks	5.5-9.0	100	10	0.020	0.040	0.12	406	
----------------------------------	----------------	------------	-----------	--------------	--------------	-------------	------------	--

* E. coli is only required for landfills and sewage treatment plants.



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Columbia Slough Benchmarks										
Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli	Total Phosphorus	BOD ₅
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	mg/L	mg/L
Geometric Mean										
Geometric Mean										
Geometric Mean										
Geometric Mean										
Columbia Slough Benchmarks		5.5-8.5	30	10	0.020	0.060	0.24	406	0.16	33



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Columbia Slough Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli	Total Phosphorus	BOD ₅
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	mg/L	mg/L
Geometric Mean										
Geometric Mean										
Geometric Mean										
Geometric Mean										
Columbia Slough Benchmarks		5.5-8.5	30	10	0.020	0.060	0.24	406	0.16	33



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml
001	NS	NS	NS	NS	NS	NS	NS	NS
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406

* E. coli only required for landfills and sewage treatment plants.



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Regional Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli is only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Regional Benchmarks	5.5-9.0	100	10	0.020	0.015	0.12	406	
----------------------------	----------------	------------	-----------	--------------	--------------	-------------	------------	--



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Regional Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								
Regional Benchmarks		5.5-9.0	100	10	0.020	0.015	0.12	406

* E. coli is only required for landfills and sewage treatment plants.



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Sector-Specific Benchmarks

(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Iron, Total	Aluminum, Total	Nitrate + Nitrite Nitrogen	COD	BOD ₅	Ammonia	Phosphorus, Total	Arsenic, Total
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Sector-Specific Benchmark		1.0	0.75	0.68	120	30	2.14	2.0	0.34



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

November 2017 and 2018 discharges are reported during the reporting period. This report must be completed for each quarter and submitted by the 15th of February, May, August and to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Sector-Specific Benchmarks
(see permit assignment letter for identification of required parameters)

Cadmium, Total	Monitoring Location(s)	Sample Date	Mercury, Total	Nickel, Total	Antimony, Total	Beryllium, Total	Cyanide, Total	Selenium, Total	Silver, Total	Hardness Calculation
mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Geometric Mean									
	Geometric Mean									
	Geometric Mean									
	Geometric Mean									
0.001	Sector-Specific Benchmark		0.0014	0.5	0.64	0.13	0.022	0.005	0.0005	See Sector G



For official use only:
Legal Name: Olympic Pipeline Comp
DEQ File No: 112103

In November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Samples at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. Include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and any other parameters analyzed. You must also submit pH field notes and chain of custody.

Sector-Specific Benchmarks
(see permit assignment letter for identification of required parameters)

Turbidity	Monitoring Location(s)	Sample Date	Magnesium, Total	Iron, Dissolved	Radium, Dissolved	Radium, Total	Selenium, Total	Total Recoverable Iron	Aluminum, Total Recoverable
NTU			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Geometric Mean								
	Geometric Mean								
	Geometric Mean								
	Geometric Mean								

50	Sector-Specific Benchmark	0.064	1.0	See Sector G	See Sector G	0.0050	1.0	0.75
----	----------------------------------	-------	-----	--------------	--------------	--------	-----	------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Sector-Specific Benchmarks

(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Iron, Total	Aluminum, Total	Nitrate + Nitrite Nitrogen	COD	BOD ₅	Ammonia	Phosphorus, Total	Arsenic, Total
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Report
Permit



Oregon Department of Environmental Quality
Stormwater Program

Discharge Monitoring F
1200-Z

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

November
cted during
oring
the

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring condu each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monit location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Sector-Specific Benchmarks (see permit assignment letter for identification of required parameters)										
Cadmium, Total	Monitoring Location(s)	Sample Date	Mercury, Total	Nickel, Total	Antimony, Total	Beryllium, Total	Cyanide, Total	Selenium, Total	Silver, Total	Hardness Calculation
mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Geometric Mean									
	Geometric Mean									
	Geometric Mean		5.0000							

Sector-Specific Benchmark	1.0	0.75	0.68	120	30	2.14	2.0	0.34
----------------------------------	------------	-------------	-------------	------------	-----------	-------------	------------	-------------

0.001	Sector-Specific Benchmark	0.0014	0.5	0.64	0.13	0.022	0.005	0.0005	See Sector G
-------	---------------------------	--------	-----	------	------	-------	-------	--------	--------------

50	Sector-Specific Benchmark	0.064	1.0	See Sector G	See Sector G	0.0050	1.0	0.75
----	---------------------------	-------	-----	--------------	--------------	--------	-----	------

See Letter	
-------------------	--



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	NS	NS	NS	NS	NS	NS
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
001	-	NS	NS	NS	NS	NS	NS	NS	NS
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
-------------------------------	------------	-------	--------	---------	---------	-----	---------	---------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	NS	NS	NS	NS	NS	NS
Geometric Mean			ERROR	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	NS	NS	NS	NS	NS	NS	NS
Geometric Mean										
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	NS	NS	NS	NS	NS
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

and November
ducted during
monitoring
the the
re

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August, and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample collection and analysis must be conducted at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. Each report must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Benzo(k) fluoranthene	Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NS	001	-	NS	NS	NS	NS	NS	NS
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								

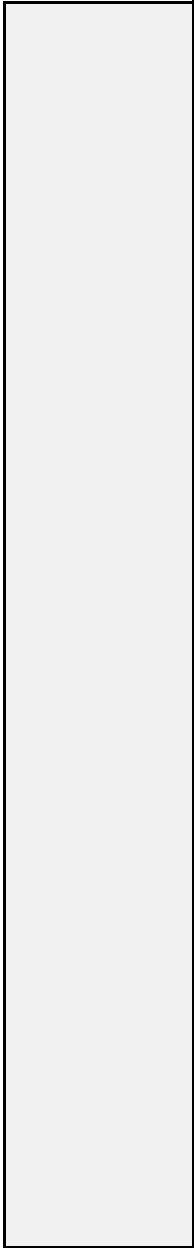
0.001	Impairment Ref. Concentration	0.001	0.001	0.014	0.39	0.001	0.29
-------	--	-------	-------	-------	------	-------	------

g Report

-Z Permit



st and
monitoring
or the pollutants
. You must
l methods for





For official use only:
 Legal Name:
 DEQ File No: DEQ File No:

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	-------	-----	------	----	------------	--------	----------	------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
--------------------------------------	-------------------	--------------	---------------	----------------	----------------	------------	----------------	----------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean										
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August a
to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring con
each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at mo
location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must inclu
laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for th
parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Table with 9 columns: Monitoring Location(s), Sample Date, Turbidity (mg/L), Zinc, Dissolved (mg/L), Acenaphthene (mg/L), Anthracene (mg/L), Benzo(a) anthracene (mg/L), Benzo(a) pyrene (mg/L), Benzo(b) fluoranthene 3,4 (mg/L). The table contains multiple rows, including several rows labeled 'Geometric Mean'.

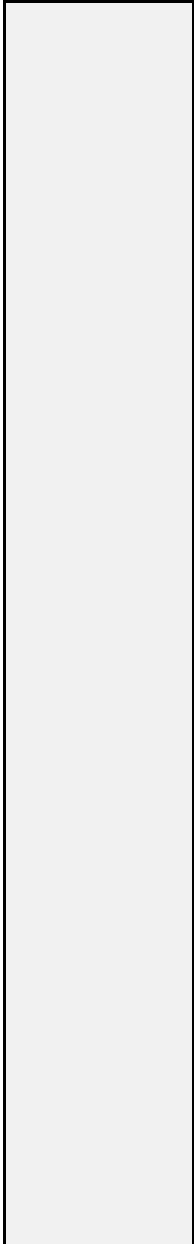
Table with 9 columns: Impairment Ref. Concentration, 100, See Letter, 0.095, 2.9, 0.001, 0.001, 0.001.

g Report

-Z Permit



st and
monitoring
or the pollutants
. You must
I methods for





For official use only:

Legal Name:

DEQ File No: DEQ File No:

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the permit at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods parameters analyzed. You must also submit pH field notes and chain of custody.

Federal Numeric Effluent Guidelines (twice per year, unless exceedance occurs)

Refer to the permit assignment letter for effluent limit sampling requirements

Monitoring Location(s)	Sample Date	Discharges from asphalt emulsion facilities	Total Suspended Solids	Total Oil & Grease	pH	Discharges from material storage piles at cement manufacturing facilities	Discharges from coal storage piles at Steam Electric Generating Facilities	Total Suspended Solids	pH	Runoff containing area from airfield pavement deicing
			mg/L	mg/L	s.u.			mg/L	s.u.	
			23.0	15.0	6.0-9.0			50	6.0-9.0	
Monitoring Location(s)	Sample Date	Discharges from non-hazardous waste landfills	BOD ₅	Total Suspended Solids	Ammonia	Alpha Terpineol	Benzoic Acid	p-Cresol	Phenol	Zinc, Total
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit			140	88	10	0.033	0.12	0.025	0.026	0.20
Monitoring Location(s)	Sample Date	Discharges from hazardous waste landfills	BOD ₅	Total Suspended Solids	Ammonia	Alpha Terpineol	Aniline	Benzoic Acid	Naphthalene	p-Cresol
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit			220	88	10	0.042	0.024	0.119	0.059	0.024
Monitoring Location(s)	Sample Date	Discharges from hazardous waste landfills	Pyridine	Arsenic, Total	Chromium, Total	Zinc, Total	pH			
			mg/L	mg/L	mg/L	mg/L	s.u.			

Limit	0.072	1.1	1.1	0.535	6.0-9.0
-------	-------	-----	-----	-------	---------



Oregon Department of Environmental Quality
Stormwater Program

Discharge Monitoring Report

1200-Z I

For official use only:
Legal Name:
DEQ File No: DEQ File No:

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the permit at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods parameters analyzed. You must also submit pH field notes and chain of custody.

Federal Numeric Effluent Guidelines (twice per year, unless exceedance occurs).

Refer to the permit assignment letter for effluent limit sampling requirements.

Monitoring Location(s)	Sample Date	Discharges from asphalt emulsion facilities	Total Suspended Solids	Total Oil & Grease	pH	Discharges from material storage piles at cement manufacturing facilities	Discharges from coal storage piles at Steam Electric Generating Facilities	Total Suspended Solids	pH	Runoff containing urea from airfield pavement deicing
			mg/L	mg/L	s.u.			mg/L	s.u.	
Limit			23.0	15.0	6.0-9.0			50	6.0-9.0	
Monitoring Location(s)	Sample Date	Discharges from non-hazardous waste landfills	BOD ₅	Total Suspended Solids	Ammonia	Alpha Terpeneol	Benzoic Acid	p-Cresol	Phenol	Zinc, Total
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit			140	88	10	0.033	0.12	0.025	0.026	0.20
Monitoring Location(s)	Sample Date	Discharges from hazardous waste landfills	BOD ₅	Total Suspended Solids	Ammonia	Alpha Terpeneol	Aniline	Benzoic Acid	Naphthalene	p-Cresol
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit			220	88	10	0.042	0.024	0.119	0.059	0.024
Monitoring Location(s)	Sample Date	Discharges from hazardous waste landfills	Pyridine	Arsenic, Total	Chromium, Total	Zinc, Total	pH			
			mg/L	mg/L	mg/L	mg/L	s.u.			

		Discharge limit						
Limit			0.072	1.1	1.1	0.535	6.0-9.0	

Report

Permit

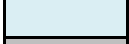
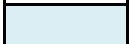


ing
ollutants
rust
ds for the



Ammonia
as Nitrogen

mg/L

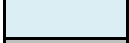


14.7

pH

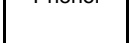


s.u.



6.0-9.0

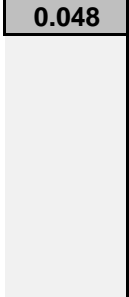
Phenol



mg/L



0.048





Report
Permit

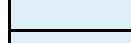
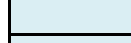
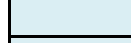


ing
ollutants
rust
ds for the

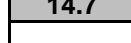


Ammonia
as Nitrogen

mg/L

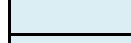
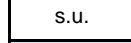


14.7

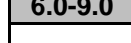


pH

s.u.

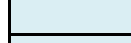
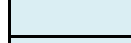
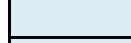
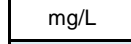


6.0-9.0

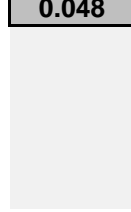


Phenol

mg/L



0.048







Antea USA, Inc.
4006 148th Avenue NE
Redmond, WA 98052 USA

January 29, 2020

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Second Quarter 2019-2020
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Second Quarter 2019-2020 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the second quarter 2019 – 2020 reporting period. The Monitoring Waiver is included as Appendix A. The DMR is included as Appendix B.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR" with a flourish.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosure

Appendix

Appendix A Monitoring Waiver – October 3, 2019
Appendix B Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Appendix A

Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew Poole', written in a cursive style.

Matthew Poole
Industrial Stormwater Program

Appendix B

Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit





Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 19 to 20 20
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 City of Portland City of Eugene
 Primary SIC Code: 4613 Secondary SIC Code:

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1

If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

<u>2-Oct-19</u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 01/30/2020
 Printed Name: Alexandria Crooks Title: Environmental Coordinator
 Legally Authorized Representative
 Email: alex.crooks@bp.com
 Telephone: 425-981-2590



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml
001		W	W	W	W	W	W	
Geometric Mean			W	W	W	W	W	
Geometric Mean								
Geometric Mean								
Geometric Mean								
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406

* E. coli only required for landfills and sewage treatment plants.



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	NS	NS	NS	NS	W	NS	NS
Geometric Mean		W					W		
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
001	-	W	W	W	W	W	NS	NS	NS
Geometric Mean		W	W	W	W	W			
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
--------------------------------------	-------------------	--------------	---------------	----------------	----------------	------------	----------------	----------------



State of Oregon
Department of
Environmental
Quality

For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	NS	NS	NS	NS	NS
Geometric Mean				W						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------	--------------	--------------



State of Oregon
Department of
Environmental
Quality

For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	W	W	W	W	W
Geometric Mean		W	W	W	W	W	W
Geometric Mean							
Geometric Mean							
Geometric Mean							

Impairment Ref. Concentration	0.001	0.001	0.014	0.39	0.001	0.29
--------------------------------------	--------------	--------------	--------------	-------------	--------------	-------------



For official use only:

Legal Name:

DEQ File No: DEQ File No:

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Table with 10 columns: Monitoring Location(s), Sample Date, Guthion (mg/L), Heptachlor (mg/L), Hexachlorobenzene (mg/L), Iron, Total (mg/L), Lead, Dissolved (mg/L), Malathion (mg/L), Mercury, Total (mg/L), Nickel, Dissolved (mg/L). Includes rows for Geometric Mean.

Reference concentrations row:
Impairment Ref. Concentration | 0.001 | 0.00052 | 0.001 | 1.0 | See Letter | 0.0002 | 0.0024 | See Letter



State of Oregon
Department of
Environmental
Quality

For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Table with 10 columns: Monitoring Location(s), Sample Date, Turbidity, Zinc, Dissolved, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene. Includes rows for data entry and 'Geometric Mean' rows.

Table with 10 columns: Impairment Ref. Concentration, 100, See Letter, 0.095, 2.9, 0.001, 0.001, 0.001, 0.001



Antea USA, Inc.
4006 148th Avenue NE
Redmond, WA 98052 USA

April 15, 2020

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Third Quarter 2019-2020
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Third Quarter 2019-2020 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the third quarter 2019 – 2020 reporting period. The Monitoring Waiver is included as **Appendix A**. The DMR is included as **Appendix B**.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR" with a flourish.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosure

Appendix

Appendix A Monitoring Waiver – October 3, 2019
Appendix B Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Appendix A

Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew Poole', written in a cursive style.

Matthew Poole
Industrial Stormwater Program

Appendix B

Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System Permit
Industrial Stormwater Discharge General Permit

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 19 to 20 20
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 Primary SIC Code: 4613 Secondary SIC Code: _____ City of Portland City of Eugene

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1

If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

<u>2-Oct-19</u>				

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

- Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 4/20/20
 Printed Name: Alexandria Crooks Title: environmental coordinator
 Legally Authorized Representative Email: alex.crooks@BP.com
 Telephone: 425-591-3579



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001		W	W	W	W	W	W		
Geometric Mean			W	W	W	W	W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



Oregon Department of Environmental Quality
Stormwater Program

State of Oregon
Department of
Environmental
Quality

Discharge Monitoring Report

1200-Z Permit

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								

* E. coli only required for landfills and sewage treatment plants.

Portland Harbor Benchmarks	5.5-9.0	30	10	0.020	0.040	0.12	406	
-----------------------------------	----------------	-----------	-----------	--------------	--------------	-------------	------------	--



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	NS	NS	NS	NS	W	NS	NS
Geometric Mean		W					W		
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	-------	-----	------	----	------------	--------	----------	------------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	mg/L	mg/L
001	-	W	W	W	W	W	NS	NS	NS
Geometric Mean		W	W	W	W	W			
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
--------------------------------------	-------------------	--------------	---------------	----------------	----------------	------------	----------------	----------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	NS	NS	NS	NS	NS
Geometric Mean				W						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	------	-------	-------	------------	-----	------------	--------	--------	--------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									
Impairment Ref. Concentration		100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001



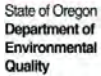
For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	W	W	W	W	W
Geometric Mean		W	W	W	W	W	W
Geometric Mean							
Geometric Mean							
Geometric Mean							

Impairment Ref. Concentration	0.001	0.001	0.014	0.39	0.001	0.29
--------------------------------------	--------------	--------------	--------------	-------------	--------------	-------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
--------------------------------------	-------------------	-------	--------	---------	---------	-----	---------	---------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)									
Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Geometric Mean							
		Geometric Mean							
		Geometric Mean							
		Geometric Mean							
Impairment Ref. Concentration		0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------	--------------



State of Oregon
Department of
Environmental
Quality

For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Geometric Mean								
Geometric Mean								
Geometric Mean								
Geometric Mean								
Impairment Ref. Concentration		0.001	0.001	0.014	0.39	0.001	0.29	



July 9, 2020

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Fourth Quarter 2019-2020
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group, on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Fourth Quarter 2019-2020 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the fourth quarter 2019 – 2020 reporting period. The Monitoring Waiver is included as **Appendix A**. The DMR is included as **Appendix B**.

Please feel free to contact me at (425) 498-7711 if you have additional questions or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "MR" with a flourish.

Megan Richard, LG
Senior Project Manager
800.477.7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group



The logo and ANTEA are registration trademarks of Antea USA, Inc.

us.anteagroup.com

Contact Information

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

Enclosure

Appendix A- Monitoring Waiver – October 3, 2019

Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



Appendix A- Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew Poole', written in a cursive style.

Matthew Poole
Industrial Stormwater Program

Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 19 to 20 20
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 Primary SIC Code: 4613 Secondary SIC Code: _____ City of Portland City of Eugene

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1
 If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

<u>2-Oct-19</u>			

DMR Submittal Checklist Please check all applicable documents are included with you DMR submittal:

Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 7/10/2020
 Printed Name: Alexandria Crooks Title: Environmental Coordinator
 Legally Authorized Representative
 Email: alex.crooks@BP.com
 Telephone: 425-591-3599



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001		W	W	W	W	W	W		
Geometric Mean			W	W	W	W	W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Portland Harbor Benchmarks	5.5-9.0	30	10	0.020	0.040	0.12	406
-----------------------------------	----------------	-----------	-----------	--------------	--------------	-------------	------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	NS	NS	NS	NS	W	NS	NS
Geometric Mean		W					W		
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
001	-	W	W	W	W	W	NS	NS	NS
Geometric Mean		W	W	W	W	W			
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
-------------------------------	------------	-------	--------	---------	---------	-----	---------	---------



For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	NS	NS	NS	NS	NS
Geometric Mean				W						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------	--------------	--------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)							
Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	W	W	W	W	W
Geometric Mean		W	W	W	W	W	W
Geometric Mean							
Geometric Mean							
Geometric Mean							

Impairment Ref. Concentration	0.001	0.001	0.014	0.39	0.001	0.29	
-------------------------------	-------	-------	-------	------	-------	------	--



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)									
Monitoring Location(s)	Sample Date	Copper, Dissolved	Cyanide	DDT or DDT+ metabolites	DDE	Dieldrin	E. Coli	Endrin Aldehyde	Endosulfan
		mg/L	mg/L	mg/L	mg/L	mg/L	counts/100 ml	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	See Letter	0.022	0.0011	0.00001	0.00024	406	0.00003	0.00022
-------------------------------	------------	-------	--------	---------	---------	-----	---------	---------

October 30, 2020

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – First Quarter 2020-2021
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group (Antea Group), on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this First Quarter 2020-2021 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the first quarter 2020 – 2021 reporting period. On October 1, 2020 it was discovered that a section of the bioswale was unintentionally damaged by a track hoe operating in the vicinity. The damage was reported to the City of Portland on October 2, 2020 and the bioswale was subsequently restored to its original condition. The Monitoring Waiver is included as **Appendix A**. The DMR is included as **Appendix B**. A photo of the restored bioswale is included as **Photo 1**.

Please feel free to contact me at +1 425 498 7711 if you have additional questions or require additional information.

Sincerely,



Megan Richard, LG
Senior Project Manager
+1 800 477 7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group

CONTACT INFORMATION

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

ENCLOSURE

Photo 1 - Restored Bioswale

Appendix A- Monitoring Waiver – October 3, 2019

Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Photolog

Photo 1 – Restored Bioswale

Photo 1 – Restored
Bioswale



Appendix A- Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew Poole', is written over the typed name.

Matthew Poole
Industrial Stormwater Program

Industrial Stormwater Discharge Monitoring Report – First Quarter 2020-2021
OPLC Portland Delivery Facility
October 30, 2020



Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 20 to 20 21
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 City of Portland City of Eugene
 Primary SIC Code: 4613 Secondary SIC Code:

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1
 If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

<u>2-Oct-19</u>				

DMR Submittal Checklist Please check all applicable documents are included with you DMR submittal:

Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 10/21/2020
 Printed Name: Alexandria Crooks Title: Environmental Coordinator
 Legally Authorized Representative
 Email: alex.crooks@BP.com
 Telephone: 425-591-3599



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001		W	W	W	W	W	W		
Geometric Mean			W	W	W	W	W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



State of Oregon
Department of
Environmental
Quality

For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	NS	NS	NS	NS	W	NS	NS
Geometric Mean		W					W		
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter
--------------------------------------	--------------	------------	-------------	-----------	-------------------	---------------	-----------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	NS	NS	NS	NS	NS
Geometric Mean				W						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	-------------	--------------	--------------	-------------------	------------	-------------------	---------------	---------------	---------------



For official use only:
Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001
--------------------------------------	-----	------------	-------	-----	-------	-------	-------	-------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001
--------------------------------------	-----	------------	-------	-----	-------	-------	-------	-------

January 8, 2021

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Second Quarter 2020-2021
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group (Antea Group), on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Second Quarter 2020-2021 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the second quarter 2020 – 2021 reporting period. The Monitoring Waiver is included as Appendix A. The DMR is included as Appendix B.

Please feel free to contact me at +1 425 498 7711 if you have additional questions or require additional information.

Sincerely,



Megan Richard, LG
Senior Project Manager
+1 800 477 7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group

CONTACT INFORMATION

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

ENCLOSURE

Appendix A- Monitoring Waiver – October 3, 2019

Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Appendix A- Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matthew Poole', is written over the typed name.

Matthew Poole
Industrial Stormwater Program

Industrial Stormwater Discharge Monitoring Report – Second Quarter 2020-2021
OPLC Portland Delivery Facility
January 8, 2021



Appendix B- Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 20 to 20 21
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 Primary SIC Code: 4613 Secondary SIC Code: _____ City of Portland City of Eugene

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1

If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

2-Oct-19 _____

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks*
 Printed Name: Alexandria Crooks
 Legally Authorized Representative

Date: 01/08/2021
 Title: Environmental Coordinator
 Email: alex.crooks@olp.com
 Telephone: 425-591-3599



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001		W	W	W	W	W	W		
Geometric Mean			W	W	W	W	W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001
--------------------------------------	-----	------------	-------	-----	-------	-------	-------	-------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)									
Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Geometric Mean									
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	-------	---------	-------	-----	------------	--------	--------	------------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)							
Monitoring Location(s)	Sample Date	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Pyrene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		</					

April 23, 2021

City of Portland
Industrial Stormwater Program
6543 North Burlington Avenue
Portland, Oregon 97203-5452
Attn: Mr. Matt Poole

Subject: Industrial Stormwater Discharge Monitoring Report – Third Quarter 2020-2021
OPLC Portland Delivery Facility
1200-Z Permit (File No: 112103)

Dear Mr. Poole;

Antea®Group (Antea Group), on behalf of Olympic Pipe Line Company (OPLC), is pleased to submit this Third Quarter 2020-2021 Discharge Monitoring Report (DMR) for Industrial Stormwater Discharge Permit File No. 112103. File No. 112103 is assigned to the OPLC Portland Delivery Facility located at 9350 NW St. Helens Road in Portland, Oregon.

A Monitoring Waiver for the facility was issued on October 3, 2019. Therefore, no samples were collected during the third quarter 2020 – 2021 reporting period. The Monitoring Waiver is included as Appendix A. The DMR is included as Appendix B.

Please feel free to contact me at +1 425 498 7711 if you have additional questions or require additional information.

Sincerely,



Megan Richard, LG
Senior Project Manager
+1 800 477 7411
megan.richard@anteagroup.com
Antea Group

cc: Ms. Alexandria Crooks, Olympic Pipe Line Company
File, Antea Group

CONTACT INFORMATION

4006 148th Avenue NE
Redmond, WA 98052 USA

Toll Free +1 800 477 7411
International +1 651 639 9449

ENCLOSURE

Appendix A - Monitoring Waiver – October 3, 2019

Appendix B - Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit

Appendix A - Monitoring Waiver – October 3, 2019



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Avenue, Bldg 217, Portland, Oregon 97203 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

October 3, 2019

Alex Crooks
Olympic Pipe Line Co.
600 SW 39th Street, Suite 275
Renton, WA 98057

RE: **Monitoring waiver** for 1200-Z NPDES General Stormwater Discharge Permit, DEQ file #112103

Dear Ms. Crooks,

The City of Portland (City) has received your monitoring waiver request, dated July 30, 2019, for collecting stormwater samples as required by the 1200-Z NPDES General Stormwater Discharge Permit issued to the Olympic Pipe Line facility located at 9350 NW St. Helens Rd, Portland, Oregon. Olympic Pipe Line Company has requested a monitoring waiver for the following sample points and parameters:

Sample Point: 001

Benchmarks: Total Copper, Total Lead, Total Zinc, pH, TSS, Total Oil & Grease

Impairments: Aldrin, Chlordane, Dissolved Copper, Total Cyanide, DDT Metabolite (DDE), DDT, Dieldrin, Hexachlorobenzene, Total Iron, Dissolved Lead, Total Mercury, PCB (Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260), PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene 3,4, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Pyrene

The City has reviewed the results of the last four samples submitted and concurs these results are valid and the geometric mean is below permit benchmarks; therefore, the requested monitoring waiver meets permit conditions for a monitoring waiver. **Olympic Pipe Line Company now has a full monitoring waiver in effect.** The monitoring waiver is in effect for the remainder of the permit term unless revoked given the conditions listed in *Schedule B.4.g*.

Please ensure measures that are effective at reducing pollutants in stormwater discharge continue to be implemented. The implementation of the stormwater treatment system maintenance procedures at the frequency described in the SWPCP, completing a thorough monthly inspection to determine if maintenance is needed and completing maintenance promptly, upon discovery is imperative to continuing to meet the permit benchmarks. Olympic Pipe Line Company must ensure these activities occur according to permit requirements and as stated in the SWPCP in order to avoid full or partial revocation of the monitoring waiver. Per *Schedule B.4*, the DEQ or Agent may revoke a monitoring waiver in response to an inspection or corrective action, or if changes to site conditions are likely to affect stormwater discharge characteristics, such as an increase in pollutant sources exposed to stormwater.

Please note that the monthly visual observations for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points is still required and cannot be waived.

If you have any questions regarding this letter, please contact me at (503) 823-5537.

Sincerely,

A handwritten signature in blue ink, appearing to read "Matthew Poole", written in a cursive style.

Matthew Poole
Industrial Stormwater Program

Appendix B - Industrial Stormwater Discharge Monitoring Report – 1200-Z Permit



Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Facility Information

Legal name: Olympic Pipeline Company DEQ File No: 112103
 Common name: Portland Delivery Facility EPA #: ORR807276
 Facility address: 9420 NW Saint Helens Rd Reporting Quarter: 1st 2nd 3rd 4th
 Facility City, Zip: Portland, OR 97231 Reporting Year: 20 20 to 20 21
 Geo-Region: Columbia Slough Columbia River Portland Harbor Regional **Administrated by:**
 2nd Geo-Region Columbia Slough Columbia River Portland Harbor Regional DEQ Clean Water Services
 City of Portland City of Eugene
 Primary SIC Code: 4613 Secondary SIC Code: _____

Monitoring Information

Number of discharge point(s): 1 Number of monitoring location(s): 1

If different, you certify that the facility has established either: 1) the area has no exposure of stormwater to industrial activities, or 2) the effluent is substantially similar to effluent(s) monitored and the same BMPs are implemented and maintained. (See permit pg 23)

Monitoring Waiver(s) If yes list date on DEQ or Agent approval letter.

<u>2-Oct-19</u>				

DMR Submittal Checklist

Please check all applicable documents are included with you DMR submittal:

- Original Signature Laboratory Reports Chain of Custody QA/QC form Lab pH field sheets

Certification

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 person or 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 (40 CFR 122.22(d)).

Signature: *Alex Crooks* Date: 4/30/2021
 Printed Name: Alexandria Crooks Title: Environmental Coordinator
 Legally Authorized Representative
 Email: ALEX.CROOKS@BP.COM
 Telephone: 425-591-3599



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Portland Harbor Benchmarks

Monitoring Location(s)	Sample Date	pH	Total Suspended Solids	Total Oil & Grease	Total Copper	Total Lead	Total Zinc	E. coli *	* E. coli only required for landfills and sewage treatment plants.
		s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	counts/ 100 ml	
001		W	W	W	W	W	W		
Geometric Mean			W	W	W	W	W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Portland Harbor Benchmarks		5.5-9.0	30	10	0.020	0.040	0.12	406	



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations (see permit assignment letter for identification of required parameters)									
Monitoring Location(s)	Sample Date	Aldrin	Ammonia	Arsenic, Total Recoverable	BOD ₅	Cadmium, Dissolved	Chlordane	Chlorpyrifos	Chromium III, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	W	NS	NS	NS	NS	W	NS	NS
Geometric Mean		W					W		
Geometric Mean									
Geometric Mean									
Geometric Mean									
Impairment Ref. Concentration		0.003	1.0	0.34	30	See Letter	0.0024	0.000083	See Letter



For official use only:

Legal Name: Olympic Pipeline Company
DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Guthion	Heptachlor	Hexachlorobenzene	Iron, Total	Lead, Dissolved	Malathion	Mercury, Total	Nickel, Dissolved
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	NS	W	NS
Geometric Mean			ERROR	W	W	W	ERROR	W	ERROR
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	0.001	0.00052	0.001	1.0	See Letter	0.0002	0.0024	See Letter
--------------------------------------	--------------	----------------	--------------	------------	-------------------	---------------	---------------	-------------------



For official use only:

Legal Name: Olympic Pipeline Company

DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
(see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Nitrate + Nitrite Nitrogen	Parathion	PCBs	pH	Phosphorous	Silver, Dissolved	Tetrachloroethylene	Thallium	Trichloroethylene
		mg/L	mg/L	mg/L	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	NS	NS	NS	NS	NS
Geometric Mean				W						
Geometric Mean										
Geometric Mean										
Geometric Mean										

Impairment Ref. Concentration	10.0	0.010	0.002	See Letter	2.0	See Letter	0.0005	0.0001	0.0014
--------------------------------------	------	-------	-------	------------	-----	------------	--------	--------	--------



For official use only:
 Legal Name: Olympic Pipeline Company
 DEQ File No: 112103

Instructions: This report must be completed for each quarter and submitted by the 15th of February, May, August and November to the appropriate DEQ regional or agent office. The report must contain the results of all stormwater monitoring conducted during each quarter, and variance requests are due semi-annually, in February and August. Sample for the pollutants at monitoring location(s) specified in your SWPCP and use the monitoring location(s) number from your SWPCP. You must include the laboratory results, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed. You must also submit pH field notes and chain of custody.

Impairment Pollutants and Reference Concentrations
 (see permit assignment letter for identification of required parameters)

Monitoring Location(s)	Sample Date	Turbidity	Zinc, Dissolved	Acenaphthene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene 3,4	Benzo(k) fluoranthene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
001	-	NS	NS	W	W	W	W	W	W
Geometric Mean				W	W	W	W	W	W
Geometric Mean									
Geometric Mean									
Geometric Mean									

Impairment Ref. Concentration	100	See Letter	0.095	2.9	0.001	0.001	0.001	0.001
--------------------------------------	------------	-------------------	--------------	------------	--------------	--------------	--------------	--------------

