



April 20, 2021

Anthony Chavez
Western Region Environmental Cleanup
Oregon Department of Environmental Quality
165 E. 7th Avenue, Ste 100
Eugene, Oregon

Regarding: Soil and Groundwater Sampling Report
Mill Pond Crossing
1701 Chapel Drive
Philomath, Oregon
PBS Project 24159.000

Dear Mr. Chavez:

This letter presents the results of the recent grab groundwater sampling conducted at the Mill Pond Crossing housing development located at 1701 Chapel Drive in Philomath, Oregon (site; Figure 1). Sampling was performed to characterize soil and water near two areas associated with a former onsite lumber mill – a former log chain area (SB-1 and SB-2); and a former truck rack area (Figure 2).

BACKGROUND

The following section describes historical uses and investigation of the site.

The site consists of an approximate 30-acre square-shaped property which was formerly occupied by the Hoban Lumber Company and used as a sawmill and lumber processing facility from the 1950s until approximately 1998. Two large log ponds were historically present – one elongated pond on the western portion of the property and a larger pond on the northeast portion. Milling operation as were in the southeast corner of the property. Documented activities have included lumber milling, wood waste incineration using two ‘wigwam’ style burners, log loading, and equipment fueling. Reportedly, wood treatment did not occur at the site. The operations were dismantled from 1998 to 2000 and the ponds were reportedly filled with wood waste. Based on topography and local surface hydrology, it is likely that groundwater in the region flows to the south-southeast.

Currently, the site is being re-development as Millpond Crossing, a residential affordable housing development. Based on previous investigations the eastern log pond was filled primarily with silty- and clayey-sand and gravel with wood debris and organic material to depths as great as 15 feet below ground surface (bgs). The western log pond was reportedly filled with silty sand with wood debris and organic material overlying a low plastic clay. In the western pond, the contact between the fill material and clay ranges from 4.5 to 12 feet bgs. The fill in both ponds is often water-bearing, with perched groundwater at various depths depending on fill dynamics. The fill material is assumed to be the source of elevated methane concentrations that have been observed in the subsurface.

In preparation for site development, fill beneath existing residential buildings in the western portion of the site (lots 1 through 64) was excavated to depths ranging from 5 to 7 feet bgs. Additionally, fill within a north-south trending bioswale in the western portion of the site was excavated to approximately 5 feet bgs. Fill was not excavated beneath backyard areas.

OBJECTIVES AND SCOPE OF WORK

In October 2018, the site was enrolled into DEQ's Voluntary Cleanup Program (VCP). DEQ subsequently requested the following work:

- (1) **Suspect UST.** Conduct a geophysical survey to confirm the absence of USTs;
- (2) **Former incinerators.** Assess shallow soil near former wood waste burners for dioxins, semi-volatile organic compounds (SVOCs), and metals;
- (3) **Log chain area.** Assess soil and groundwater in areas that could have formerly had oil-driven log chain equipment;
- (4) **Ditches.** Assess shallow soil from ditches along Chapel Drive (TPH-d/o and metals);
- (5) **Truck fueling area.** Re-asses the truck refueling area to assess deeper soil and groundwater; and
- (6) **Former log ponds.** Assess former log ponds for methane and carbon dioxide in soil vapor to assess risk of future vapor intrusion.

Items (1) through (5) are addressed in this letter report and discussed below. Item (6) is currently being assessed and results will be presented under separate cover.

FIELD ACTIVITIES

To address items (1) through (5), the following activities were conducted from October 23, 2020 to March 25, 2021. Works was conducted consistent with the attached PBS Standard Operating Procedures (SOPs).

Geophysical survey. On October 30, 2020, Pacific Geophysics of Portland, Oregon conducted a geophysical survey of area of the suspect underground tank in the southern portion of the site. Results showed a large anomaly that appeared to be an underground tank. Subsequent excavation of the area on December 17, 2020 discovered that the anomaly was not a tank and instead a buried large, open section of corrugated pipe. The pipe was removed from the excavation and the adjacent soil was field screened using visual/olfactory observation and a photoionization detector (PID); no evidence of soil contamination was observed, and the excavation was backfilled.

ISM soil sampling- Former wood waste burners and log chain area. From October 22 through 23, 2020, PBS collected three soil samples at the site using Incremental Sampling Methodology (ISM). Samples were collected generally consistent with DEQ's *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*, dated January 2006 and updated in June 2019.

ISM samples were collected for three decision units (DU-1 through DU-3) at locations shown on Figure 2. Decision unit DU-1 and DU-2 were collected in the vicinity of the two former incinerators located in the north and south, respectively, of the processing area.

Soil and groundwater sampling – Log chain and truck rack area. On March 25, 2021, five soil and groundwater explorations were advanced at the site using a truck-mounted direct push rig (Figure 2) – two were located within the area of the former log chain (SB1 and SB2), and three were located near the former truck rack area (SB3 through SB5). Explorations were advanced to a depth of 27 to 30 feet bgs. Soil from each boring was continuously logged and field screened by visual/olfactory observation and use of a PID - no field evidence of

contamination was observed. Therefore, soil samples were collected from the former truck rack area only (shallow soil near the log chain area was sampled by ISM). Shallow soil samples (2- to 3-feet bgs) and samples near the soil-water interface (approximately 27- feet bgs) in the former truck rack area were collected.

Grab groundwater samples were collected from three of the exploration locations (SB1-GW, SB4-GW, and SB5-GW). Attempts to collect groundwater from locations SB2 and SB3 were unsuccessful due to poor recovery and boring advancement refusal at depths greater than 30 feet. A sample to the south of the truck rack area was not possible due to the presence of a utility corridor along the southern property boundary. Boring are attached.

Ditch sampling. Five discrete soil samples (Ditch-1 through Ditch-5) were collected in the former drainage ditches in the vicinity of the former mill processing area. Samples were collected from the upper 12-inches of soil at locations shown on Figure 2.

ANALYTICAL PROGRAM, RESULTS, AND RISK SCREENING

Soil and groundwater samples were submitted to Apex Laboratories of Tigard, Oregon under chain-of-custody documentation. The sections below describe the analyses, results, and risk screening. Analytical results and relevant screening levels are shown in Tables 1 through 3.

ISM soil sampling- Former wood waste burners and log chain area. ISM samples collected near the former wood waste burners (DU-1 and DU-2) were analyzed for:

- Semi-volatile organic compounds (SVOCs) by EPA Method 8270;
- RCRA 8 metals by EPA Method 6020A; and
- Dioxins/furans by EPA Method 1613B.

ISM sample DU-3, collected in the vicinity of the former log chain area was analyzed for:

- Total petroleum hydrocarbons as diesel and oil (TPH-d/o) by Northwest Method NWTPH-Dx.

While several analytes were detected, no concentrations exceeded relevant DEQ risk-based concentrations. A concentration of selenium (1.14 mg/kg) was slightly higher than DEQ background metal concentrations in DU-2. Results are shown in the attached Tables 1 and 2, and laboratory reports are attached.

Soil and groundwater sampling – Log chain and truck rack area. Groundwater sample SB1-GW collected from the log chain area was analyzed for:

- TPH-d/o by Northwest Method NWTPH-Dx; and
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270.

Groundwater samples SB4-GW and SB5-GW collected from the truck rack area were analyzed for:

- TPH-g by Northwest Method NWTPH-Gx; and
- TPH-d/o by Northwest Method NWTPH-Dx.

No analytes were detected above reporting limits with the exception of a TPH-d concentration in groundwater (289 milligrams per liter (mg/l)) detected in SB1-GW. The detection exceeds DEQ's RBC for ingestion and inhalation of groundwater in a residential scenario by approximately 2.9-times. A follow-up analysis for PAHs was

non-detect. Laboratory results are summarized in Tables 1 and 3. Laboratory analytical reports and groundwater field forms with water quality field parameter data are attached.

The future development will be connected to municipal water, therefore, the exceedance is not of significant concern to the site. Because of the exceedance, a review of Oregon Water Resource Departments (OWRDs) online well log database was conducted to identify nearby water wells. Based on the review, the following wells were identified:

- BENT 54885. The nearest domestic groundwater well is located approximately 650 feet to the east of the log chain area. The well is installed to a depth of 120 feet bgs, however the only log discovered BENT 54885 is for an alteration of the existing well (wellhead extension) and the specific construction of the well is not known. A search for the OWRD well label (L113640) and other identifications was unsuccessful.
- BENT 5763. This well is located approximately 1,000 feet to the northeast of the former log chain area. The well is used for irrigation and installed to a depth of 169 feet bgs, with screened interval from 84 to 150 feet bgs. Due to the distance from the log chain area, and well construction, it is not expected that the former log chain area will affect the well water.
- BENT 1416. This well is located at 2018 Chapel Drive, approximately 1,700 feet to the southeast of the log chain area. The well is constructed with a 10-inch diameter sealed surface casing from 0 to 43.5 feet bgs, and a 6-inch diameter inner casing with screened interval from 75 to 115 feet bgs. Based on the distance to the well, depth, and sealed surface casing, it is not expected that the former log chain area will affect the well water.

Well logs are attached.

Ditch sampling. Five ditch samples were analyzed for TPH-d/o and RCRA 8 metals. TPH-o was detected in four of the samples (Ditch-1 through Ditch-5), but at concentrations below relevant screening levels. Additionally, several analytes were detected, however non exceeded regional background metals with the exception of chromium in Ditch-4 (115 mg/kg) and in Ditch-5 (124 mg/kg). The exceedances were not significant (15% and 24%, respectively) and the results are considered to be generally consistent with regional background levels. Results are shown in Table 1, and laboratory reports are attached.

QUALITY ASSURANCE/QUALITY CONTROL

A laboratory-provided trip blank was analyzed for VOCs. No VOCs were detected in the trip blank provided by the lab during the soil and groundwater sampling event.

SUMMARY AND CONCLUSIONS

From October 2020 through March 2021, PBS completed several investigation and sampling efforts at the site. The suspect UST was determined not to be present. ISM sampling of three decision units showed no unacceptable soil concentrations near the former wood waste burners and log chain area. Additional soil sampling from ditches and soil borings in the former log chain and truck rack area showed no unacceptable concentrations.

No unacceptable concentrations were found in groundwater near the truck rack area. However, a groundwater sample near the log chain area showed a concentration of TPH-d above the residential ingestion/inhalation RBC. A review of OWRD's online database shows a water well (BENT 54885) located approximately 650 feet east of the

log chain area. The well is installed to 120 feet bgs. Based on topography and local surface hydrology, it is likely that groundwater in the region flows to the south-southeast (cross-gradient relative to BENT 54885). Therefore, given the distance and depth of the well, and likely groundwater flow direction, it is not likely that groundwater from the site affects the water well.

Please feel free to contact me at 503.417.7627 or chris.sheridan@pbsusa.com with any questions or comments.

Sincerely,

Chris Sheridan, RG
Senior Geologist



Attachments

Figures

Figure 1. Site Vicinity

Figure 2. Site Plan with Sample Locations

Tables

Table 1. Soil Analytical Results – TPH, SVOCs, and Metals

Table 2. Soil Analytical Results – Dioxins/Furans

Table 3. Groundwater Analytical Results

Attachments

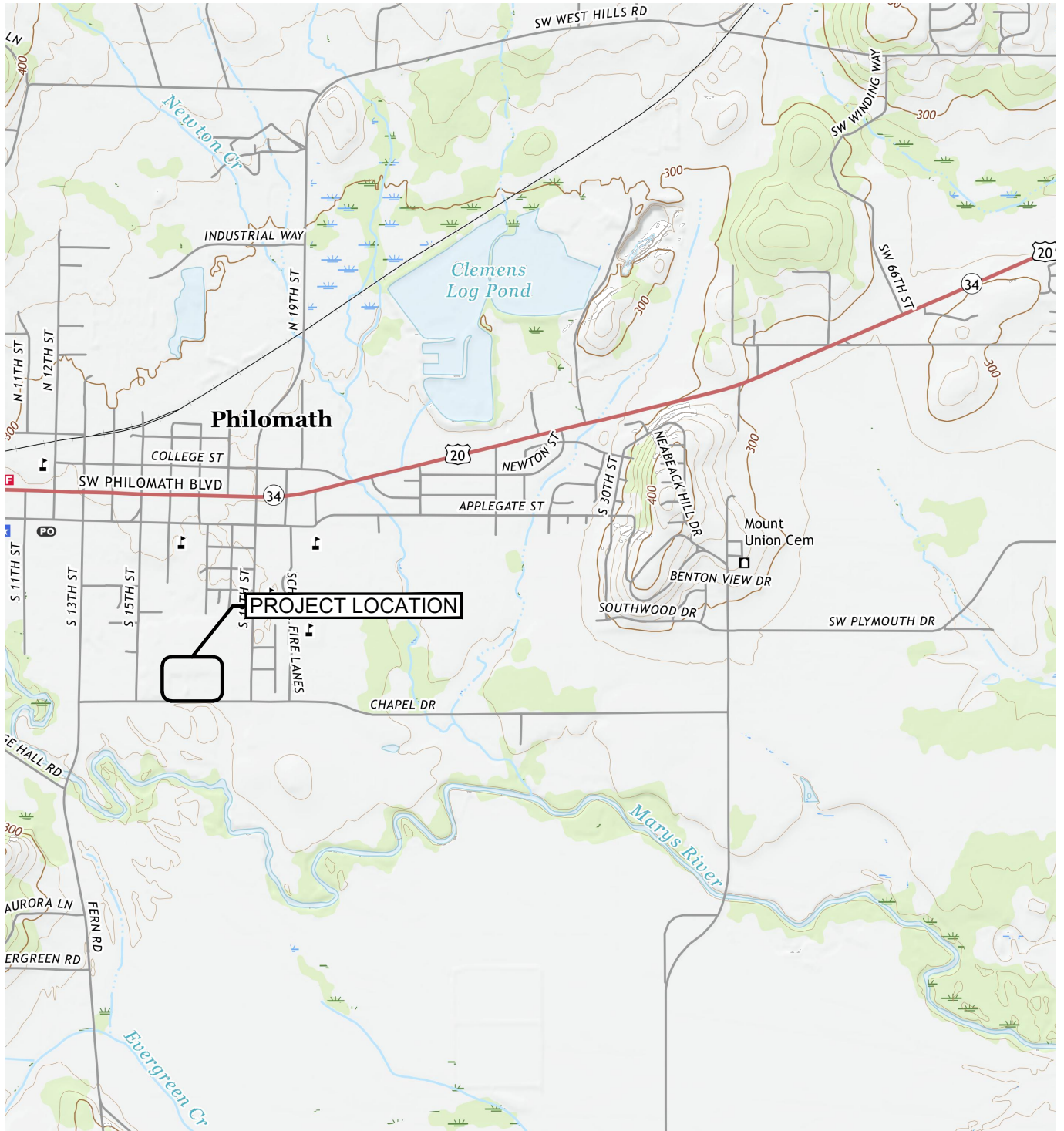
Attachment A: PBS Standard Operating Procedures

Attachment B: Boring logs

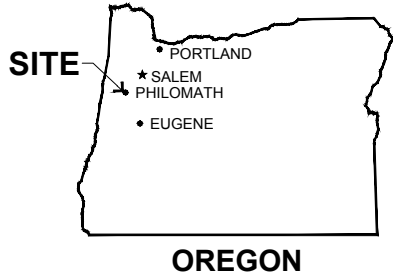
Attachment C: Laboratory Reports and Chain-of-Custody Documentation

Attachment D: OWRD Well Logs

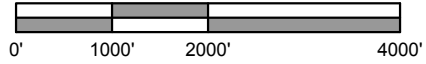
CS



SOURCE: USGS CORVALLIS, OR QUADRANGLE 2020.



Scale 1" = 2000'



PREPARED FOR: MILL POND CROSSING LLC






VICINITY MAP
 1701 CHAPEL DRIVE
 PHILOMATH, OREGON

APR 2021 24159.000
FIGURE
1



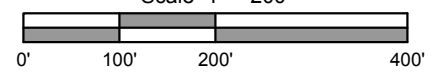
SOURCE: © 2019 GOOGLE EARTH PRO

LEGEND

-  SB1 SOIL BORING SAMPLES
-  ISM DECISION UNIT
-  DITCH-1 DISCRETE SAMPLES



Scale 1" = 200'



PREPARED FOR: MILL POND CROSSING LLC



SITE PLAN WITH SAMPLE LOCATIONS

1701 CHAPEL DRIVE
PHILOMATH, OREGON

APR 2021 24159.000
FIGURE
2

Table 1. Soil Analytical Results - TPH, SVOCs, and Metals

Mill Pond Crossing
1701 Chapel Drive
Philomath, Oregon

Sample ID	Sample Date	Depth Collected (feet bgs)	TPH	SVOCs		Metals					
			Heavy Oil	2-Methylnaphthalene	Naphthalene	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium
mg/kg											
Ditch-1	10/22/2020	1.5	61.8	--	--	3.03	290	<2.86	56.6	5.43	<1.43
Ditch-2	10/22/2020	1.5	375	--	--	4.49	83.2	0.369	38.3	26.7	<1.26
Ditch-3	10/22/2020	1.5	58.1	--	--	4.64	219	<3.09	45.1	14.3	<0.309
Ditch-4	10/22/2020	1.5	63.4	--	--	4.33	242	<0.296	115	8.52	<1.48
Ditch-5	10/22/2020	1.5	<54.1	--	--	3.24	262	<0.284	124	7.86	<1.42
DU-1--After Processing	10/23/2020	1 to 5	--	<0.543	<0.543	9.16	450	ND	90.2	16.3	ND
DU-2--After Processing	10/23/2020	1 to 5	--	0.0269	0.0269	4.06	318	ND	86.1	9.01	1.14
DU-3--After Processing	10/22/2020	1 to 5	343	--	--	--	--	--	--	--	--
SB3-2	3/25/2021	2	<53.3	--	--	--	--	--	--	--	--
SB3-27	3/25/2021	27	<55.6	--	--	--	--	--	--	--	--
SB4-2	3/25/2021	2	<53.1	--	--	--	--	--	--	--	--
SB4-27	3/25/2021	27	<50	--	--	--	--	--	--	--	--
SB5-2	3/25/2021	2	<54.4	--	--	--	--	--	--	--	--
SB5-27	3/25/2021	27	<50.8	--	--	--	--	--	--	--	--
Screening Levels											
Oregon DEQ RBC ¹ - Soil Ingestion, Dermal Contact, and Inhalation	Residential	1,200	NS	5.3	0.43	15,000	78	120,000	400	NS	
	Construction Worker	9,700	NS	580	15	69,000	350	530,000	800	NS	
Oregon DEQ RBC ¹ - Leaching to Groundwater	Residential	9,500	NS	0.077	*	*	*	*	30	NS	
Oregon DEQ RBC ¹ -Volatilization to Outdoor Air	Residential	>Max	NS	6.4	NV	NV	NV	NV	NV	NS	
Oregon DEQ RBC ¹ -Vapor Intrusion into Buildings	Residential	>Max	NS	6.4	NV	NV	NV	NV	NV	NS	
DEQ Regional Default Background Concentrations for Metals (South Willamette)		NS	NS	NS	18	730	1.6	100	28	0.68	

Notes:

See laboratory report for full list of analytes and method reporting limits.

Bold: Indicates an exceedance of the regional background concentrations and/or Method A Soil Cleanup Levels for Unrestricted Land Use.

Metal concentrations are initially screened against regional background levels, then RBCs.

--: analyte not tested

bgs: below ground surface

mg/kg: milligrams per kilogram

DEQ: Department of Environmental Quality

ND: compound not detectable above method reporting limits

NS: screening level not set for this compound.

NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations.

RBCs: risk-based concentration

TPH: total petroleum hydrocarbons

>Max: calculated value is greater than 1,000,000 mg/kg, substance does not pose a risk

¹Oregon Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ Sept. 2003, Revised RBCs May 2018

*Leaching-to-Groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site-specific leaching tests must be performed.

Table 2: Soil Analytical Results - Dioxins/Furans

Mill Pond Crossing
1701 Chapel Drive
Philomath, Oregon

COMPOUND	TEF	DU-1-After Processing	DU-2-After Processing	Calculation Sample 1	Calculation Sample 2
		pg/g			
Dioxins		Result	Result	Result	Result
2,3,7,8-TCDD	1	<0.166	<0.194	<0.166	<0.194
1,2,3,7,8-PeCDD	1	0.582	<0.168	0.582	<0.168
1,2,3,4,7,8-HxCDD	0.1	1.47	<0.211	0.147	<0.211
1,2,3,6,7,8-HxCDD	0.1	3.43	<0.201	0.343	<0.201
1,2,3,7,8,9-HxCDD	0.1	2.36	<0.209	0.236	<0.209
1,2,3,4,6,7,8-HpCDD	0.01	97.4	2.46	0.974	0.0246
1,2,3,4,6,7,8,9-OCDD	0.0003	1120	22.2	0.336	0.00666
Total PeCDD		3.76	0.171	3.76	0.171
Total HxCDD		23.9	0.711	0	0.711
Total HpCDD		176	4.4	176	4.40
Furans					
2,3,7,8-TCDF	0.1	0.347	<0.268	0.0347	<0.268
1,2,3,7,8-PeCDF	0.03	0.364	0.176	0.01092	0.00528
2,3,4,7,8-PeCDF	0.3	0.490	<0.163	0.147	<0.163
1,2,3,4,7,8-HxCDF	0.1	0.939	0.243	0.0939	0.0243
1,2,3,6,7,8-HxCDF	0.1	0.631	<0.179	0.0631	<0.179
2,3,4,6,7,8-HxCDF	0.1	0.809	<0.179	0.0809	<0.179
1,2,3,7,8,9-HxCDF	0.1	0.489	<0.279	0.0489	<0.279
1,2,3,4,6,7,8-HpCDF	0.01	14.8	0.880	0.148	0.0088
1,2,3,4,7,8,9-HpCDF	0.01	0.766	<0.389	0.00766	<0.389
1,2,3,4,6,7,8,9-OCDF	0.0003	25.6	<0.544	0.00768	<0.544
Total TCDF		1.78	<0.268	1.78	<0.268
Total PeCDF		8.23	0.909	8.23	0.909
Total HxCDF		21.8	1.49	21.8	1.49
Total HpCDF		42.2	1.89	42.2	1.89
TEQ WHO2005 ND=0 with EMPCs				3.26	0.0696
TEQ WHO2005 ND=0.5 with EMPCs				3.35	0.35
Oregon DEQ RBC ¹ - Soil Ingestions, Dermal Contact, and Inhalation	2,3,7,8-TCDD (dioxin) equivalents**	Residential	47		
		Occupational	16		
		Construction Worker	170		

Notes:

¹Calculation of the Total 2378-TCDD TEF was calculated by the laboratory using ITE Factors.

Italicized values represent results where individual compounds were not detected above detection limits.

Laboratory results using EPA Method 1613. Values in nanograms per liter (ng/L).

TEF - Toxic Equivalency Factor. One-half the detection limit used for non detected compounds in TEQ calculation (non-detects indicated by *italics*).

¹Oregon Risk-Based Concentrations for Individual Chemicals, Oregon DEQ Sept. 2003, Revised RBCs May 2018

**Compounds in this category are considered in aggregate as a chemical class and should be evaluated as single substances.

Dioxins

2378-TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin
12378-PeCDD - 1,2,3,7,8 -pentachlorodibenzo-p-dioxin
123789-HxCDD - 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin
123478-HxCDD - 1,2,3,4,7,8-hexachlorodibenzo-p-dioxin
123678-HxCDD - 1,2,3,6,7,8-hexachlorodibenzo-p-dioxin
1234678-HpCDD - 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin
OCDD - 1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin

Furans

2378-TCDF - 2,3,7,8-tetrachlorodibenzofuran
12378-PeCDF - 1,2,3,7,8-pentachlorodibenzofuran
23478-PeCDF - 2,3,4,7,8-pentachlorodibenzofuran
123678-HxCDF - 1,2,3,6,7,8-hexachlorodibenzofuran
123789-HxCDF - 1,2,3,7,8,9-hexachlorodibenzofuran
123478-HxCDF - 1,2,3,4,7,8-hexachlorodibenzofuran
234678-HxCDF - 2,3,4,6,7,8-hexachlorodibenzofuran
1234678-HpCDF - 1,2,3,4,6,7,8-heptachlorodibenzofuran
1234789-HpCDF - 1,2,3,4,7,8,9-heptachlorodibenzofuran
OCDF - 1,2,3,4,6,7,8,9-octachlorodibenzofuran

Table 3. Groundwater Analytical Results

Mill Pond Crossing
 1701 Chapel Drive
 Philomath, Oregon

Sample ID	Sample Date	TPH			PAHs
		TPH-g	TPH-d	TPH-o	
ug/l					
SB1-GW	3/25/2021	--	289	<440	ND
SB4-GW	3/25/2021	<100	<204	<408	--
SB5-GW	3/25/2021	<100	<202	<404	--
<i>Screening Levels</i>					
Oregon DEQ RBC ¹ - Ingestion and Inhalation from Tapwater	Residential	110	100	100	--
Oregon DEQ RBC ¹ - Groundwater in Excavations	Construction Worker	14,000	>S	>S	--
Oregon DEQ RBC ¹ -Volatilization to Outdoor Air	Residential	>S	>S	>S	--
Oregon DEQ RBC ¹ -Vapor Intrusion into Buildings	Residential	22,000	>S	>S	--

Notes:

See laboratory report for full list of analytes and method reporting limits.

Bold: Indicates an exceedance of the regional background concentrations and/or Method A Soil Cleanup Levels for Unrestricted Land Use.

Metal concentrations are initially screened against regional background levels, then RBCs.

--: not available

ug/l: micograms per liter.

DEQ: Department of Environmental Quality

ND: compounds not detectable above method reporting limits

RBCs: risk-based concentration

TPH: total petroleum hydrocarbons

>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present. See Section B.2.1.4 for additional information

¹Oregon Risk-Based Decision-Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ Sept. 2003, Revised RBCs May 2018

STANDARD OPERATING PROCEDURE

Drilling and Soil Sampling Procedures

1 PURPOSE

This Standard Operating Procedure (SOP) provides an overview of mobile drilling methods typically used during environmental investigations along with associated health and safety issues. This document outlines procedures to be followed by PBS personnel during drilling and soil sampling activities. Groundwater and soil gas sample collection through the use of drill rigs are covered under separate SOPs.

2 TYPES OF DRILL RIGS

There are three types of drilling methods that are typically used for environmental investigations: direct push, auger, and sonic. Each type of drilling method is described below. A fourth option, discussed in Section 2.4, is a hand auger tool.

2.1 Direct-Push Drilling

Direct-push drilling methods are a common drilling technology used in environmental investigations due to the small diameter borehole (two and one-quarter inch (2.25")) that generates significantly less investigation-derived waste (IDW). The rigs are hydraulically powered, and use static and percussion force to advance the drill rods. Limited access rigs are available for interior locations while track-mounted rigs allow for sampling in locations with unimproved roads.

The rods are equipped with disposable plastic liners that contain the soil retrieved for observation and sampling. The entire column of rods is removed from the ground each time to retrieve soil for sampling. The rod lengths can be 3, 4, or 5 feet. Because of this, if caving or excessive slough is a concern, the borehole may be temporarily cased to keep it clear and open during soil sample retrieval.

2.2 Hollow Stem Auger Drilling (HSA)

Hollow stem auger drilling methods use hollow corkscrew drilling flights to advance into the subsurface. The borehole is typically 11 inches in diameter, with the flights having a 6-inch inner diameter space in which to retrieve samples or construct wells. The hollow stem auger drill rigs have better capability to penetrate higher density deposits than the direct push probe method. Some direct-push rigs have the capacity to drill with hollow stem auger flights, but these rigs typically do not have the mechanical power to drill through challenging soil. The use of auger drill rigs for environmental investigations is typically for the installation and decommissioning of monitoring wells.

Soil sampling with an auger drill rig is conducted through the use of split spoon samplers or Shelby tubes deployed through the inner hollow space. Split spoon samplers are typically 2.5 feet in length and advanced by hammer weight blow into the undisturbed soil. Shelby tubes are typically used in soft deposits such as clays. Soil brought to the surface on the exterior of drilling flights is considered drill or soil cuttings. Soil samples should not be collected and analyzed from the cuttings because that soil may have come in contact with other soil or contamination from varying depths.

2.3 Rotosonic Drilling

Rotosonic drilling methods (hereafter referenced as sonic method) advance drill rod flights into the ground through the use of vibration, and full-size sonic rigs can advance rods through very challenging unconsolidated geologic formations including large cobbles. The borehole size varies but typically is 4 to 6 inches in diameter.

Due to the nature of the drilling technology, the soil can be disturbed by the vibrations, so consistency and compaction are unreliable. Soil is vibrated out of the lead flight into plastic bags for observation and sampling. The entire column of rods is removed from the ground each time to retrieve soil for sampling; if caving or excessive slough is a concern, the borehole may be temporarily cased to keep it clear during soil sample retrieval.

2.4 Hand Auger Tool

A fourth drilling option is the use of a hand auger tool, sometimes called a handheld auger. This tool, made of steel, is used to bore a hole in soil or sediments. It is intended for use only by hand and is powered by human force by twisting or screwing the tool into the soil. The soil is retrieved through a short barrel that attaches to the base of the auger rods. This tool is used for sites where the soil is relatively easy to penetrate, and when sampling is limited to the upper 5 to 10 feet of the shallow surface. Different barrels are available for coarse-grained or fine-grained material.

3 HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) must be developed prior to fieldwork commencing. Typically, a site-specific HASP is prepared from a PBS template for drilling investigations. In all cases, pertinent safety information must be relayed to field personnel, including subcontractors, to communicate mandatory elements from the federal code for hazardous waste operations and emergency response (29 CFR 1910.120(b)(4)).

4 UTILITY LOCATES

Utility locates will be completed on all drilling projects including hand-augered sampling. The property owner or site manager should be interviewed regarding the potential location of buried utilities or other subsurface obstructions on the property. The call-in numbers are provided below. Alternately, PBS personnel can obtain log-ins to file locate requests on-line (Internet Ticket Processing, <http://www.callbeforeyoudig.org/index.asp>).

Oregon Utility Notification Center: 1-800-332-2344
Washington Utility Notification Center: 1-800-424-5555

The Utility Notification Center needs to be contacted at least 48 hours (two business days) in advance to locate utility-owned lines up to the meter (e.g., water, gas, electric), and public utilities within the public right-of-way (e.g., sewer). In addition, a private utility locating company is typically contracted to survey for private utilities such as utility lines from meters to buildings, drain lines, buried electric cables, or irrigation and sprinkler lines.

When filing utility notification requests, PBS personnel should be as specific as possible about where to locate. Washington law requires that the proposed excavation/drilling work areas are field-marked with white paint prior to the locating event.

When beginning a project, PBS personnel must carefully think through where boreholes can be safely drilled, considering both subsurface and overhead obstructions. A site walk may be prudent once the utilities have been marked and prior to the drilling fieldwork. If safe drilling conditions cannot be confirmed, the PBS Project Manager should determine if engineering controls should be implemented, such as shielding or shutting down utility and/or power lines.

SAFETY NOTE: Drill rig masts must be a safe distance from overhead power lines to prevent mast lines and power lines being moved together by wind. Occupational Safety and Health Administration (OSHA) rules for drillers require a minimum distance of 10 feet, with additional spacing required depending on the voltage carried by the power line. The drill rig subcontractor is responsible for ensuring sufficient clearance. However, PBS personnel should verify that potentially unsafe conditions do not exist.

5 SAFETY EQUIPMENT REQUIREMENTS

The following safety equipment is required for all drilling investigations:

- Hard hat
- Hearing protection (ear muffs or plugs, must be worn when drill rig is in operation)
- Safety-toe work boots
- Safety vest
- Gloves (typically disposable)
- Safety goggles or glasses
- Life vests (only when working over water)

6 FIELD EQUIPMENT AND SUPPLIES REQUIREMENTS

The following equipment is typically required for drilling projects when soil sampling will occur. Groundwater or soil gas sampling is discussed in separate SOPs. PBS personnel should confirm that the drilling contractor will provide decontamination water, soap, brushes, and buckets.

General field supplies/equipment includes:

- 5-gallon buckets
- Bags (garbage)
- Bags (plastic zipper-type)
- Camera
- Cellular telephone and phone numbers of client, project laboratory, subcontractors, etc.
- Field notebook or daily log
- Measuring tape
- Paper towels
- Pens
- Spray paint (optional)

Soil sampling supplies/equipment includes:

- Project proposal/scope of work
- Alconox/Liquinox or similar decontamination detergent
- Distilled water (for decontamination)
- Environmental borehole log forms
- Hand auger (if required by scope)
- Ice chest with blue ice or party ice
- Nitrile or other chemically compatible gloves
- Photoionization detector (PID)
- Sample chain-of-custody forms
- Sample containers (ask lab about sample volume, preservatives, etc.)
- Sampling spade or spoons (if required by scope)

7 PRE-DRILLING ACTIVITIES

The following tasks must be performed before beginning work:

- Conduct tailgate safety meeting with all field personnel, including visitors such as the client or regulator; review Health and Safety Plan.
- Install traffic cones/barrier tape or other barrier to control pedestrian and vehicle access to work area as necessary.

The drilling subcontractor is responsible to ensure that the area on which the rig is to be positioned is cleared of removable obstacles and the rig should be leveled if parked on a sloped surface. The cleared/leveled area should be large enough to accommodate the rig and supplies. PBS personnel must confirm that the work area is cleared and safe for work prior to initiating drilling activities.

8 SOIL SAMPLING PROCEDURES

8.1 Logging and Field Screening Soil

Upon retrieval of the soil, describe as per the Geo-Environmental Field Classification chart for soil (included as an attachment). Record observations on an environmental borehole log.

If conducting head-space screening with a PID, remove one-quarter to one-half cup of soil and place in a sealable plastic bag. Seal the bag, break up the soil, and let sit for a minimum of five minutes (in colder weather, either wait for 15 to 30 minutes or put into a warm car or room). The purpose of the headspace screening is to measure what is off-gassing from the sample, and sufficient time must be allowed for that to occur. After the appropriate interval, place the end of the PID probe into the bag (through a small opening in the "zipper") and record the peak value.

If performing sheen testing, place a small sample volume (preferably darker or stained material) in a bowl partially filled with water and observe sheen indicative of petroleum contamination.

8.2 Collecting Soil Samples for Laboratory Analysis

Prior to collecting a sample for laboratory analysis, the sampler should don new gloves. If there are multiple samples to be collected from a single borehole, the gloves should be replaced to avoid cross-contamination.

Collect soil samples using a gloved hand or a clean sampling tool and place directly into the sample jar(s). For volatile organic compounds (VOCs), pack the soil to minimize jar headspace, or field preserve for VOCs using EPA Method 5035 (the field kit is obtained from the laboratory). Label samples as described under Section 8.3 Sample Numbering. Place labeled sample container(s) in the cooler with ice.

8.3 Sample Identification

Sample labels will be completed and attached to the jars in the field to prevent misidentification. All sample labels will include the following information:

- Project name or number
- Sample identification
- Sample collection date and time

The sample identification is unique to a particular sample and the format must be consistently used for all samples collected at the site. The sample identification typically includes the sample location and the collection depth. The sample location is the soil boring number or otherwise designated sample location. Standard abbreviations for sample location types are:

- DP = Direct push
- MW = Monitoring well
- SB = Soil boring
- SE = Sediment
- SO = Surface soil
- SS = Soil sample
- TP = Test pit
- WP = Well point

Examples of sample identifications are: DP-5 (4'), SS-22 (1'), and MW-3 (15')

Other naming conventions may be used, as long as the labeling is consistent and each location is clearly identifiable.

9 BOREHOLE ABANDONMENT

The licensed driller is responsible for abandoning boreholes in compliance with state regulations. PBS personnel should ensure that this occurs, and that the sealing material (typically bentonite chips) is sufficiently hydrated for a proper seal. State regulations governing this are:

- Oregon Administration Rule (OAR) 690-240
- Washington Administrative Code (WAC) 173-160

10 DECONTAMINATION PROCEDURES

Minimizing the possibility of cross-contamination between samples is a critical component of a successful soil sampling project. This is achieved by consistent and thorough decontamination of sampling equipment, such as drill rods, sampling devices (split spoons, trowels, etc.), and other tools that may come in contact with soil to be sampled.

For drilling equipment, the drilling contractor is responsible for the decontamination procedures. Typically, a pressure washer with hot water or water with added detergent is used to clean drill rods and other equipment. The use of a steam cleaner is not appropriate because of the risk of burns, and steam cleaners do a poor job of removing soil particles from equipment.

For equipment and supplies used by PBS personnel, water with added detergent is typically used for decontamination. Alternately, disposable supplies, such as gloves and sampling scoops, can be used to avoid having to decontaminate them.

PBS field personnel should work with the PBS Project Manager to confirm the appropriate decontamination procedure for each project. For example, it may be important to know the source of the driller's water used for decontamination, and distilled or deionized water may need to be used to clean hand tools.

All water and sludge generated during decontamination will be captured for later disposal. Release of water directly onto the ground or into drains or catch basins is not allowed.

11 INVESTIGATION-DERIVED WASTE

Investigation-derived waste consists of soil cuttings, decontamination water, purge water (if groundwater is encountered), and personal protective equipment (e.g., nitrile gloves, rags, paper towels, Tyvek suits, disposable bailers, and tubing). All disposable personal protective equipment may be disposed of as general refuse unless otherwise instructed by the PBS Project Manager.

Soil cuttings are typically placed in 5-gallon buckets or other appropriate containers during the execution of the fieldwork, and transferred to 55-gallon drums as the project progresses. If appropriate, the cuttings may remain in buckets as long as tight-fitting lids are placed on each bucket. For some projects, the PBS Project Manager may request that decontamination/purge water be placed into the same drums as the soil, instead of keeping the two media separate. Depending on the type of contamination, this may result in cost savings for the client during disposal. Field personnel should confirm how to contain soil and water prior to each field event.

11.1 Drum Labeling

The storage containers must be labeled as hazardous, non-hazardous, or unknown pending laboratory results. The labels must be completed using an indelible marker and include:

- Date that the contents were generated
- Nature of the contents - for example:
 - Drill cuttings
 - Purged groundwater
 - Decontamination water and/or sludge
- Contact phone number in the event emergency response personnel need to identify the contents of the container.

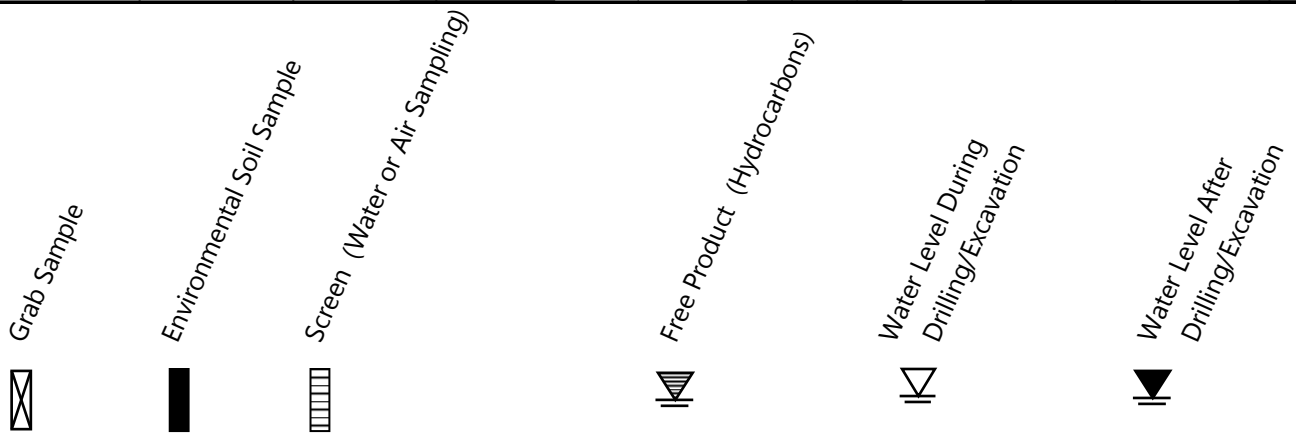
Drums or other storage containers should be placed in as secure a location as possible, which may be a building if the exterior area is not secure from vandalism.

12 POST-DRILLING ACTIVITIES

Upon return to the office, PBS personnel should:

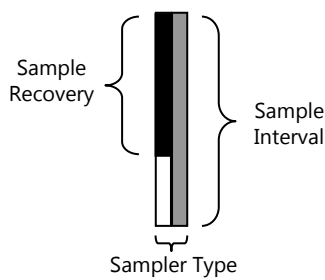
- Clean and calibrate equipment prior to placing back into storage. If there were any operational issues noted, they should be reported immediately to the equipment manager.
- Submit field borehole logs for electronic formatting for future reports.
- Submit the daily field notes to the PBS Project Manager for placement into the project file. If a field notebook was used, and that notebook is not dedicated to that project, a copy of those notebook pages should be submitted.

SAMPLING DESCRIPTIONS

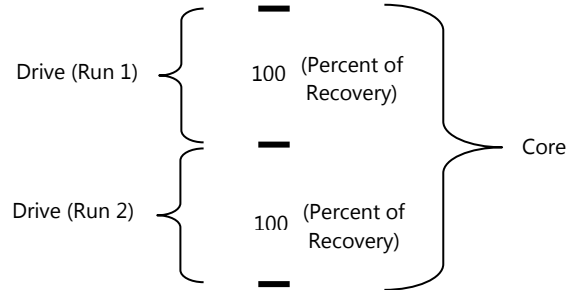


LOG GRAPHICS

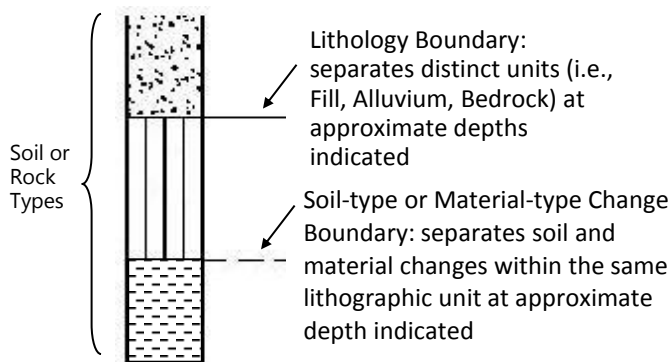
Sampling Symbols



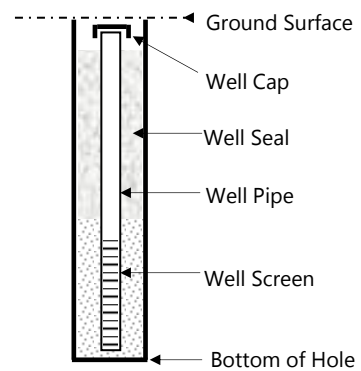
Direct Push, Sonic, Vibracore Drilling



Soil and Rock Divisions



Well Detail



ENVIRONMENTAL TESTING EXPLANATIONS

ATD	At Time of Drilling	PPM	Parts PerMillion
BGS	Below Ground Surface	ND	Not Detected
MSL	Mean Sea Level	NS	No Sheen
MW	Monitoring Well (Water Sampling)	SS	Slight Sheen
OD	Outside Diameter	MS	Moderate Sheen
PID	Photoionization Detector Headspace Analysis	HS	High Sheen

Observations presented on the logs are based on limited field data and are not intended to be used for site engineering or construction decision purposes.



MILL POND CROSSING
PHILOMATH, OREGON

BORING SB-1

PBS PROJECT NUMBER:
24159.000

BORING SB-1 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/ TEMPORARY WELL(S)	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Medium dense, dark brown SILT (ML) with gravel; non-plastic; fine, rounded gravel; moist					50	No odor or sheen throughout
		FILL		0.0				
5.0		Loose, poorly graded GRAVEL (GP) with sand; fine to coarse sand; fine, rounded gravel; wet						
		Stiff, light brown-gray lean CLAY (CL); high plasticity; damp		0.0			90	
10.0		becomes very stiff, brown						
		becomes tan with mottles		0.0			100	
15.0		becomes medium stiff; moist						
20.0		becomes greenish gray becomes hard; damp		0.0			100	
25.0		with mottles					100	
		gravel encountered					100	
30.0		Final depth 27.0 feet bgs due to refusal in gravel; boring backfilled with bentonite.						

BORING LOG-ENV CORE_24159.000_ME1-9_20210303.GPJ DATATMPL.GDT PRINT DATE: 4/2/21.RPG

BORING METHOD: Push Probe
DRILLED BY: Pacific Soil & Water, LLC
BORING BIT DIAMETER: 2 1/4-inch

LOGGED BY: S. Eckes
COMPLETED: 3/25/21



MILL POND CROSSING
PHILOMATH, OREGON

BORING SB-2

PBS PROJECT NUMBER:
24159.000

BORING SB-2 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/TEMPORARY WELL(S)	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Loose, brown, poorly graded GRAVEL (GP) with sand; fine to coarse sand; fine to coarse, rounded to angular gravel; damp						No odor or sheen throughout
		FILL Stiff, gray, lean CLAY (CL); high plasticity; damp becomes brown becomes reddish brown; moist		0.0			100	
5.0				0.0			100	
10.0		becomes medium stiff becomes hard, dark brown		0.0			100	
15.0		becomes stiff, with mottles becomes tan with mottles		0.0			100	
20.0		becomes hard, greenish gray; damp		0.0			100	
25.0				0.0			100	
30.0		Dark greenish gray, lean CLAY (CL) with gravel; high plasticity; coarse gravel; damp Brown with mottles CLAYSTONE		0.0			50	
35.0		Final depth 30.0 feet bgs due to refusal in claystone; boring backfilled with bentonite. Groundwater not encountered at time of exploration.						

BORING LOG-ENV CORE_24159.000_ME1-9_20210303.GPJ DATATMPL.GDT PRINT DATE: 4/2/21-RPG

BORING METHOD: Push Probe
DRILLED BY: Pacific Soil & Water, LLC
BORING BIT DIAMETER: 2 1/4-inch

LOGGED BY: S. Eckes
COMPLETED: 3/25/21



MILL POND CROSSING
PHILOMATH, OREGON

BORING SB-3

PBS PROJECT NUMBER:
24159.000

BORING SB-3 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/TEMPORARY WELL(S)	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Loose, poorly graded GRAVEL (GP) with sand; fine to coarse sand; fine to coarse, rounded to angular gravel; dry FILL						No odor or sheen throughout
		Stiff, brown, lean CLAY (CL); high plasticity; damp becomes very stiff		0.0	SB3-2		85	
5.0				0.0			100	
10.0		becomes stiff to very stiff					100	
		becomes light brown with mottles		0.0			100	
15.0		becomes tan		0.0			100	
20.0		becomes stiff to very stiff, greenish gray		0.0			100	
25.0				0.0			100	
30.0		Dark greenish gray, lean CLAY (CL) with gravel; high plasticity; fine, rounded to subrounded gravel; damp		0.0	SB3-27		100	
		Tan to brown CLAYSTONE						
		Final depth 30.0 feet bgs; boring backfilled with bentonite. Groundwater not encountered at time of exploration.						

BORING LOG-ENV CORE_24159.000_ME1-9_20210303.GPJ DATATMPL.GDT PRINT DATE: 4/22/21.RPG

BORING METHOD: Push Probe
DRILLED BY: Pacific Soil & Water, LLC
BORING BIT DIAMETER: 2 1/4-inch

LOGGED BY: S. Eckes
COMPLETED: 3/25/21



MILL POND CROSSING
PHILOMATH, OREGON

BORING SB-4

PBS PROJECT NUMBER:
24159.000

BORING SB-4 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/TEMPORARY WELL(S)	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Loose, poorly graded GRAVEL (GP) with sand; fine to coarse sand; fine to coarse, rounded to angular gravel; dry FILL						No odor or sheen throughout
		Very stiff, gray, lean CLAY (CL); high plasticity; damp		0.0	SB4-2		100	
5.0		becomes brownish gray					100	
		becomes light brown		0.0			100	
10.0		becomes stiff, brown with mottles			SB4-10		100	
				0.0			100	
15.0		becomes light brown to tan					100	
				0.0			100	
20.0		Stiff, greenish gray, lean CLAY (CL) with sand; high plasticity; fine sand; damp					100	
		becomes dark greenish gray		0.0			100	
25.0		Greenish brown, poorly graded SAND (SP) with gravel; fine to coarse sand; fine, subrounded to subangular gravel; moist					100	
		becomes wet		0.0	SB4-27		100	
		becomes moist to damp						
30.0		Final depth 30.0 feet bgs; boring backfilled with bentonite.						
35.0								

BORING LOG-ENV CORE_24159.000_ME1-9_20210303.GPJ DATATMPL.GDT PRINT DATE: 4/2/21-RPG

BORING METHOD: Push Probe
DRILLED BY: Pacific Soil & Water, LLC
BORING BIT DIAMETER: 2 1/4-inch

LOGGED BY: S. Eckes
COMPLETED: 3/25/21



MILL POND CROSSING
PHILOMATH, OREGON

BORING SB-5

PBS PROJECT NUMBER:
24159.000

BORING SB-5 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	GROUND-WATER	PID (PPM)	SAMPLE NUMBER	SAMPLE/ TEMPORARY WELL(S)	RECOVERY (%)	COMMENTS/ WELL INSTALLATION
0.0		Loose, poorly graded GRAVEL (GP) with sand; fine to coarse sand; fine to coarse, rounded to angular gravel; dry FILL						No odor or sheen throughout
0.0 - 30.0		Stiff, dark gray, lean CLAY (CL); high plasticity; damp becomes gray becomes gray-brown becomes tan to brown becomes tan with mottles becomes greenish gray		0.0	SB5-2		50	
0.0				0.0			100	
0.0				0.0			100	
0.0				0.0			100	
0.0				0.0			70	
0.0				0.0	SB5-27		90	
30.0		Soft, greenish gray, lean CLAY (CL) with gravel; high plasticity; coarse, rounded to subrounded gravel; wet						
30.0 - 35.0		Final depth 30.0 feet bgs; boring backfilled with bentonite.						

BORING LOG-ENV CORE_24159.000_ME1-9_20210303.GPJ DATATMPL.GDT PRINT DATE: 4/2/21.RPG

BORING METHOD: Push Probe
DRILLED BY: Pacific Soil & Water, LLC
BORING BIT DIAMETER: 2 1/4-inch

LOGGED BY: S. Eckes
COMPLETED: 3/25/21



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Thursday, November 5, 2020

Chris Sheridan
PBS Engineering and Environmental
4412 SW Corbett Ave
Portland, OR 97239

RE: A0J0826 - Millpond Crossing-RSM - 24159.000

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 A0J0826, which was received by the laboratory on 10/23/2020 at 5:06:00PM.

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 sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	1.9 degC	Cooler #2	4.0 degC
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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

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DU-3--As Received	A0J0826-01	Soil	10/22/20 11:50	10/23/20 17:06
DU-3--After Processing	A0J0826-02	Soil	10/22/20 11:50	10/23/20 17:06
Ditch-1	A0J0826-03	Soil	10/22/20 15:30	10/23/20 17:06
Ditch-2	A0J0826-04	Soil	10/22/20 15:40	10/23/20 17:06
Ditch-3	A0J0826-05	Soil	10/22/20 15:50	10/23/20 17:06
Ditch-4	A0J0826-06	Soil	10/22/20 16:00	10/23/20 17:06
Ditch-5	A0J0826-07	Soil	10/22/20 16:10	10/23/20 17:06
DU-1--As Received	A0J0826-08	Soil	10/23/20 11:00	10/23/20 17:06
DU-1--After Processing	A0J0826-09	Soil	10/23/20 11:00	10/23/20 17:06
DU-2--As Received	A0J0826-10	Soil	10/23/20 13:15	10/23/20 17:06
DU-2--After Processing	A0J0826-11	Soil	10/23/20 13:15	10/23/20 17:06

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Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental

4412 SW Corbett Ave
Portland, OR 97239

Project: Millpond Crossing-RSM

Project Number: 24159.000

Project Manager: Chris Sheridan

Report ID:

A0J0826 - 11 05 20 1258

ANALYTICAL CASE NARRATIVE

Work Order: A0J0826

Subcontract

This report is not complete without the attached subcontract laboratory report for Dioxin/Furans from Cape Fear.

Apex Laboratories

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-3--After Processing (A0J0826-02)				Matrix: Soil		Batch: 0101024		
Diesel	ND	---	25.0	mg/kg dry	1	10/29/20 22:29	NWTPH-Dx	
Oil	343	---	50.0	mg/kg dry	1	10/29/20 22:29	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/29/20 22:29</i>	<i>NWTPH-Dx</i>
Ditch-1 (A0J0826-03)				Matrix: Soil		Batch: 0100935		
Diesel	ND	---	27.0	mg/kg dry	1	10/28/20 00:32	NWTPH-Dx	
Oil	61.8	---	54.0	mg/kg dry	1	10/28/20 00:32	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/28/20 00:32</i>	<i>NWTPH-Dx</i>
Ditch-2 (A0J0826-04)				Matrix: Soil		Batch: 0100935		
Diesel	ND	---	125	mg/kg dry	5	10/28/20 00:54	NWTPH-Dx	
Oil	375	---	250	mg/kg dry	5	10/28/20 00:54	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		<i>5</i>	<i>10/28/20 00:54</i>	<i>NWTPH-Dx S-05</i>
Ditch-3 (A0J0826-05)				Matrix: Soil		Batch: 0100935		
Diesel	ND	---	29.0	mg/kg dry	1	10/28/20 01:39	NWTPH-Dx	
Oil	ND	---	58.1	mg/kg dry	1	10/28/20 01:39	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 82 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/28/20 01:39</i>	<i>NWTPH-Dx</i>
Ditch-4 (A0J0826-06)				Matrix: Soil		Batch: 0100935		
Diesel	ND	---	27.7	mg/kg dry	1	10/28/20 02:02	NWTPH-Dx	
Oil	63.4	---	55.4	mg/kg dry	1	10/28/20 02:02	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/28/20 02:02</i>	<i>NWTPH-Dx</i>
Ditch-5 (A0J0826-07)				Matrix: Soil		Batch: 0100935		
Diesel	ND	---	27.1	mg/kg dry	1	10/28/20 02:25	NWTPH-Dx	
Oil	ND	---	54.1	mg/kg dry	1	10/28/20 02:25	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 66 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>10/28/20 02:25</i>	<i>NWTPH-Dx</i>

Apex Laboratories

Lisa Domenighini, Client Services Manager

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PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-1--After Processing (A0J0826-09)				Matrix: Soil		Batch: 0100929		R-04
Acenaphthene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Acenaphthylene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Anthracene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benz(a)anthracene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzo(a)pyrene	ND	---	0.408	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.408	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.408	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Chrysene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Fluoranthene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Fluorene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1-Methylnaphthalene	ND	---	0.543	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Methylnaphthalene	ND	---	0.543	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Naphthalene	ND	---	0.543	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Phenanthrene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Pyrene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Carbazole	ND	---	0.408	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Dibenzofuran	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Chlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Chloro-3-methylphenol	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4-Dichlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4-Dimethylphenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4-Dinitrophenol	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Methylphenol	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
3+4-Methylphenol(s)	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Nitrophenol	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Nitrophenol	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Pentachlorophenol (PCP)	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Phenol	ND	---	0.543	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4,5-Trichlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Nitrobenzene	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4,6-Trichlorophenol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	---	4.08	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Butyl benzyl phthalate	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-1--After Processing (A0J0826-09)				Matrix: Soil		Batch: 0100929		R-04
Diethylphthalate	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Dimethylphthalate	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Di-n-butylphthalate	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Di-n-octyl phthalate	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
N-Nitrosodimethylamine	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
N-Nitrosodiphenylamine	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Hexachlorobenzene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Hexachlorobutadiene	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Hexachlorocyclopentadiene	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Hexachloroethane	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Chloronaphthalene	ND	---	0.272	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,2,4-Trichlorobenzene	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Bromophenyl phenyl ether	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Aniline	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Chloroaniline	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2-Nitroaniline	ND	---	5.43	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
3-Nitroaniline	ND	---	5.43	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
4-Nitroaniline	ND	---	5.43	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,4-Dinitrotoluene	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
2,6-Dinitrotoluene	ND	---	2.72	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzoic acid	ND	---	33.9	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Benzyl alcohol	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Isophorone	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Azobenzene (1,2-DPH)	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
3,3'-Dichlorobenzidine	ND	---	5.43	mg/kg dry	40	10/27/20 18:14	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,3-Dinitrobenzene	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,4-Dinitrobenzene	ND	---	6.80	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
Pyridine	ND	---	1.36	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,2-Dichlorobenzene	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,3-Dichlorobenzene	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	
1,4-Dichlorobenzene	ND	---	0.680	mg/kg dry	40	10/27/20 18:14	EPA 8270E	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Millpond Crossing-RSM Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-1--After Processing (A0J0826-09)			Matrix: Soil			Batch: 0100929		R-04
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 32 %</i>	<i>Limits: 37-122 %</i>	40		10/27/20 18:14	EPA 8270E	S-05
<i>2-Fluorobiphenyl (Surr)</i>		49 %	44-120 %	40		10/27/20 18:14	EPA 8270E	S-05
<i>Phenol-d6 (Surr)</i>		21 %	33-122 %	40		10/27/20 18:14	EPA 8270E	S-05
<i>p-Terphenyl-d14 (Surr)</i>		55 %	54-127 %	40		10/27/20 18:14	EPA 8270E	S-05
<i>2-Fluorophenol (Surr)</i>		18 %	35-120 %	40		10/27/20 18:14	EPA 8270E	S-05
<i>2,4,6-Tribromophenol (Surr)</i>		153 %	39-132 %	40		10/27/20 18:14	EPA 8270E	S-05
DU-2--After Processing (A0J0826-11RE2)			Matrix: Soil			Batch: 0100994		
Acenaphthene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Acenaphthylene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Anthracene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benz(a)anthracene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0163	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0163	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0163	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Chrysene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Fluoranthene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Fluorene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2-Methylnaphthalene	0.0269	---	0.0217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Naphthalene	0.0269	---	0.0217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Phenanthrene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Pyrene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Carbazole	ND	---	0.0163	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Dibenzofuran	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2-Chlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
4-Chloro-3-methylphenol	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,4-Dichlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,4-Dimethylphenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,4-Dinitrophenol	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
4,6-Dinitro-2-methylphenol	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
2-Methylphenol	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
3+4-Methylphenol(s)	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2-Nitrophenol	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
4-Nitrophenol	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-2--After Processing (A0J0826-11RE2)				Matrix: Soil		Batch: 0100994		
Pentachlorophenol (PCP)	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
Phenol	ND	---	0.0217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
2,3,5,6-Tetrachlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
2,4,5-Trichlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
Nitrobenzene	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,4,6-Trichlorophenol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	---	0.163	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Butyl benzyl phthalate	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Diethylphthalate	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Dimethylphthalate	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Di-n-butylphthalate	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Di-n-octyl phthalate	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
N-Nitrosodimethylamine	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
N-Nitroso-di-n-propylamine	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
N-Nitrosodiphenylamine	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Hexachlorobenzene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Hexachlorobutadiene	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Hexachlorocyclopentadiene	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Hexachloroethane	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2-Chloronaphthalene	ND	---	0.0109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1,2,4-Trichlorobenzene	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
4-Bromophenyl phenyl ether	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Aniline	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
4-Chloroaniline	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
2-Nitroaniline	ND	---	0.217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
3-Nitroaniline	ND	---	0.217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
4-Nitroaniline	ND	---	0.217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
2,4-Dinitrotoluene	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
2,6-Dinitrotoluene	ND	---	0.109	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Benzoic acid	ND	---	1.36	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
Benzyl alcohol	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Isophorone	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Azobenzene (1,2-DPH)	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-2--After Processing (A0J0826-11RE2)				Matrix: Soil		Batch: 0100994		
3,3'-Dichlorobenzidine	ND	---	0.217	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42, Q-52
1,2-Dinitrobenzene	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1,3-Dinitrobenzene	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1,4-Dinitrobenzene	ND	---	0.272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
Pyridine	ND	---	0.0542	mg/kg dry	4	10/29/20 14:21	EPA 8270E	Q-42
1,2-Dichlorobenzene	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1,3-Dichlorobenzene	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
1,4-Dichlorobenzene	ND	---	0.0272	mg/kg dry	4	10/29/20 14:21	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 64 %</i>	<i>Limits: 37-122 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>82 %</i>	<i>44-120 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>45 %</i>	<i>33-122 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>88 %</i>	<i>54-127 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>36 %</i>	<i>35-120 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>38 %</i>	<i>39-132 %</i>	<i>4</i>	<i>10/29/20 14:21</i>	<i>EPA 8270E</i>	<i>Q-41, S-03</i>



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Ditch-1 (A0J0826-03) Matrix: Soil								
Batch: 0100878								
Arsenic	3.03	---	1.43	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Barium	290	---	1.43	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Cadmium	ND	---	0.286	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Chromium	56.6	---	1.43	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Lead	5.43	---	0.286	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Mercury	ND	---	0.114	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Selenium	ND	---	1.43	mg/kg dry	10	10/27/20 17:30	EPA 6020A	
Silver	ND	---	0.286	mg/kg dry	10	10/27/20 17:30	EPA 6020A	

Ditch-2 (A0J0826-04) Matrix: Soil								
Batch: 0100878								
Arsenic	4.49	---	1.26	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Barium	83.2	---	1.26	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Cadmium	0.369	---	0.253	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Chromium	38.3	---	1.26	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Lead	26.7	---	0.253	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Mercury	ND	---	0.101	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Selenium	ND	---	1.26	mg/kg dry	10	10/27/20 17:33	EPA 6020A	
Silver	ND	---	0.253	mg/kg dry	10	10/27/20 17:33	EPA 6020A	

Ditch-3 (A0J0826-05) Matrix: Soil								
Batch: 0100878								
Arsenic	4.64	---	1.55	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Barium	219	---	1.55	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Cadmium	ND	---	0.309	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Chromium	45.1	---	1.55	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Lead	14.3	---	0.309	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Mercury	ND	---	0.124	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Selenium	ND	---	1.55	mg/kg dry	10	10/27/20 17:45	EPA 6020A	
Silver	ND	---	0.309	mg/kg dry	10	10/27/20 17:45	EPA 6020A	

Ditch-4 (A0J0826-06) Matrix: Soil								
Batch: 0100878								
Arsenic	4.33	---	1.48	mg/kg dry	10	10/27/20 17:49	EPA 6020A	
Barium	242	---	1.48	mg/kg dry	10	10/27/20 17:49	EPA 6020A	
Cadmium	ND	---	0.296	mg/kg dry	10	10/27/20 17:49	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
Ditch-4 (A0J0826-06)		Matrix: Soil							
Chromium	115	---	1.48	mg/kg dry	10	10/27/20 17:49	EPA 6020A		
Lead	8.52	---	0.296	mg/kg dry	10	10/27/20 17:49	EPA 6020A		
Mercury	ND	---	0.118	mg/kg dry	10	10/27/20 17:49	EPA 6020A		
Selenium	ND	---	1.48	mg/kg dry	10	10/27/20 17:49	EPA 6020A		
Silver	ND	---	0.296	mg/kg dry	10	10/27/20 17:49	EPA 6020A		

Ditch-5 (A0J0826-07)		Matrix: Soil							
Batch: 0100878									
Arsenic	3.24	---	1.42	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Barium	262	---	1.42	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Cadmium	ND	---	0.284	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Chromium	124	---	1.42	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Lead	7.86	---	0.284	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Mercury	ND	---	0.113	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Selenium	ND	---	1.42	mg/kg dry	10	10/27/20 17:56	EPA 6020A		
Silver	ND	---	0.284	mg/kg dry	10	10/27/20 17:56	EPA 6020A		

DU-1--After Processing (A0J0826-09)		Matrix: Soil							
Batch: 0101027									
Arsenic	9.16	---	1.07	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Barium	450	---	1.07	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Cadmium	ND	---	0.214	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Chromium	90.2	---	1.07	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Lead	16.3	---	0.214	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Mercury	ND	---	0.0855	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Selenium	ND	---	1.07	mg/kg dry	10	10/29/20 18:33	EPA 6020A		
Silver	ND	---	0.214	mg/kg dry	10	10/29/20 18:33	EPA 6020A		

DU-2--After Processing (A0J0826-11)		Matrix: Soil							
Batch: 0101027									
Arsenic	4.06	---	1.05	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Barium	318	---	1.05	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Cadmium	ND	---	0.211	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Chromium	86.1	---	1.05	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Lead	9.01	---	0.211	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Mercury	ND	---	0.0843	mg/kg dry	10	10/29/20 18:37	EPA 6020A		
Selenium	1.14	---	1.05	mg/kg dry	10	10/29/20 18:37	EPA 6020A		

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-2--After Processing (A0J0826-11)				Matrix: Soil				
Silver	ND	---	0.211	mg/kg dry	10	10/29/20 18:37	EPA 6020A	

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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU-3--After Processing (A0J0826-02)				Matrix: Soil		Batch: 0100953		
% Solids	96.4	---	1.00	%	1	10/29/20 08:26	EPA 8000D	
Ditch-1 (A0J0826-03)				Matrix: Soil		Batch: 0100916		
% Solids	71.1	---	1.00	%	1	10/28/20 08:26	EPA 8000D	
Ditch-2 (A0J0826-04)				Matrix: Soil		Batch: 0100916		
% Solids	79.9	---	1.00	%	1	10/28/20 08:26	EPA 8000D	
Ditch-3 (A0J0826-05)				Matrix: Soil		Batch: 0100916		
% Solids	67.7	---	1.00	%	1	10/28/20 08:26	EPA 8000D	
Ditch-4 (A0J0826-06)				Matrix: Soil		Batch: 0100916		
% Solids	67.0	---	1.00	%	1	10/28/20 08:26	EPA 8000D	
Ditch-5 (A0J0826-07)				Matrix: Soil		Batch: 0100916		
% Solids	71.6	---	1.00	%	1	10/28/20 08:26	EPA 8000D	
DU-1--After Processing (A0J0826-09)				Matrix: Soil		Batch: 0100953		
% Solids	97.8	---	1.00	%	1	10/29/20 08:26	EPA 8000D	
DU-2--After Processing (A0J0826-11)				Matrix: Soil		Batch: 0100953		
% Solids	96.9	---	1.00	%	1	10/29/20 08:26	EPA 8000D	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100935 - EPA 3546 (Fuels)						Soil						
Blank (0100935-BLK1)			Prepared: 10/27/20 12:40 Analyzed: 10/27/20 23:46									
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
Mineral Oil	ND	---	36.4	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (0100935-BS1)			Prepared: 10/27/20 12:40 Analyzed: 10/28/20 00:09									
NWTPH-Dx												
Diesel	111	---	20.0	mg/kg wet	1	125	---	89	73 - 115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Batch 0101024 - EPA 3546 (Fuels)						Soil						
Blank (0101024-BLK1)			Prepared: 10/29/20 12:42 Analyzed: 10/29/20 21:45									
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (0101024-BS1)			Prepared: 10/29/20 12:42 Analyzed: 10/29/20 22:07									
NWTPH-Dx												
Diesel	118	---	25.0	mg/kg wet	1	125	---	95	73 - 115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (0101024-DUP1)			Prepared: 10/29/20 12:42 Analyzed: 10/29/20 22:51									
QC Source Sample: DU-3--After Processing (A0J0826-02)												
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	333	---	50.0	mg/kg dry	1	---	343	---	---	3	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 76 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546						Soil						
Blank (0100929-BLK1)		Prepared: 10/27/20 11:37 Analyzed: 10/27/20 15:51										
EPA 8270E												
Acenaphthene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	B-02
Acenaphthylene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	B-02
Benzo(b)fluoranthene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	B-02
Naphthalene	0.0143	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	B
Phenanthrene	0.00291	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	B
Pyrene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Phenol	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546						Soil						
Blank (0100929-BLK1)	Prepared: 10/27/20 11:37 Analyzed: 10/27/20 15:51											
2,3,5,6-Tetrachlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
Nitrobenzene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	ND	---	0.0375	mg/kg wet	1	---	---	---	---	---	---	---
Butyl benzyl phthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Diethylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Dimethylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Di-n-butylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Di-n-octyl phthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
N-Nitrosodimethylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
N-Nitroso-di-n-propylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
Bis(2-Chloroethoxy) methane	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
Bis(2-Chloroethyl) ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
2,2'-Oxybis(1-Chloropropane)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
Hexachlorobenzene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Hexachlorobutadiene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
Hexachloroethane	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
2-Chloronaphthalene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
Aniline	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
4-Chloroaniline	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
2-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	---
3-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	---
4-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	---
2,4-Dinitrotoluene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
2,6-Dinitrotoluene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Benzoic acid	ND	---	0.312	mg/kg wet	1	---	---	---	---	---	---	---
Benzyl alcohol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
Isophorone	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---

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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546						Soil						
Blank (0100929-BLK1)			Prepared: 10/27/20 11:37 Analyzed: 10/27/20 15:51									
Azobenzene (1,2-DPH)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>79 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>73 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>91 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>70 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>79 %</i>		<i>39-132 %</i>		<i>"</i>						

LCS (0100929-BS1)						Prepared: 10/27/20 11:37 Analyzed: 10/27/20 16:26						Q-18
EPA 8270E												
Acenaphthene	0.444	---	0.00534	mg/kg wet	2	0.533	---	83	40 - 123%	---	---	B-02
Acenaphthylene	0.482	---	0.00534	mg/kg wet	2	0.533	---	90	32 - 132%	---	---	
Anthracene	0.464	---	0.00534	mg/kg wet	2	0.533	---	87	47 - 123%	---	---	
Benz(a)anthracene	0.472	---	0.00534	mg/kg wet	2	0.533	---	88	49 - 126%	---	---	
Benzo(a)pyrene	0.488	---	0.00800	mg/kg wet	2	0.533	---	92	45 - 129%	---	---	B-02
Benzo(b)fluoranthene	0.487	---	0.00800	mg/kg wet	2	0.533	---	91	45 - 132%	---	---	
Benzo(k)fluoranthene	0.456	---	0.00800	mg/kg wet	2	0.533	---	86	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.505	---	0.00534	mg/kg wet	2	0.533	---	95	43 - 134%	---	---	
Chrysene	0.468	---	0.00534	mg/kg wet	2	0.533	---	88	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.491	---	0.00534	mg/kg wet	2	0.533	---	92	45 - 134%	---	---	
Fluoranthene	0.505	---	0.00534	mg/kg wet	2	0.533	---	95	50 - 127%	---	---	
Fluorene	0.458	---	0.00534	mg/kg wet	2	0.533	---	86	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.458	---	0.00534	mg/kg wet	2	0.533	---	86	45 - 133%	---	---	
1-Methylnaphthalene	0.469	---	0.0107	mg/kg wet	2	0.533	---	88	40 - 120%	---	---	
2-Methylnaphthalene	0.479	---	0.0107	mg/kg wet	2	0.533	---	90	38 - 122%	---	---	B-02

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546						Soil						
LCS (0100929-BS1)	Prepared: 10/27/20 11:37					Analyzed: 10/27/20 16:26					Q-18	
Naphthalene	0.435	---	0.0107	mg/kg wet	2	0.533	---	81	35 - 123%	---	---	B
Phenanthrene	0.440	---	0.00534	mg/kg wet	2	0.533	---	83	50 - 121%	---	---	B
Pyrene	0.488	---	0.00534	mg/kg wet	2	0.533	---	92	47 - 127%	---	---	
Carbazole	0.479	---	0.00800	mg/kg wet	2	0.533	---	90	50 - 123%	---	---	
Dibenzofuran	0.450	---	0.00534	mg/kg wet	2	0.533	---	84	44 - 120%	---	---	
2-Chlorophenol	0.453	---	0.0266	mg/kg wet	2	0.533	---	85	34 - 121%	---	---	
4-Chloro-3-methylphenol	0.482	---	0.0534	mg/kg wet	2	0.533	---	90	45 - 122%	---	---	
2,4-Dichlorophenol	0.539	---	0.0266	mg/kg wet	2	0.533	---	101	40 - 122%	---	---	
2,4-Dimethylphenol	0.490	---	0.0266	mg/kg wet	2	0.533	---	92	30 - 127%	---	---	
2,4-Dinitrophenol	0.676	---	0.133	mg/kg wet	2	0.533	---	127	10 - 137%	---	---	
4,6-Dinitro-2-methylphenol	0.684	---	0.133	mg/kg wet	2	0.533	---	128	29 - 132%	---	---	Q-41
2-Methylphenol	0.458	---	0.0133	mg/kg wet	2	0.533	---	86	32 - 122%	---	---	
3+4-Methylphenol(s)	0.477	---	0.0133	mg/kg wet	2	0.533	---	89	34 - 120%	---	---	
2-Nitrophenol	0.493	---	0.0534	mg/kg wet	2	0.533	---	93	36 - 123%	---	---	
4-Nitrophenol	0.513	---	0.0534	mg/kg wet	2	0.533	---	96	30 - 132%	---	---	
Pentachlorophenol (PCP)	0.555	---	0.0534	mg/kg wet	2	0.533	---	104	25 - 133%	---	---	
Phenol	0.440	---	0.0107	mg/kg wet	2	0.533	---	83	34 - 121%	---	---	
2,3,4,6-Tetrachlorophenol	0.572	---	0.0266	mg/kg wet	2	0.533	---	107	44 - 125%	---	---	
2,3,5,6-Tetrachlorophenol	0.606	---	0.0266	mg/kg wet	2	0.533	---	114	40 - 120%	---	---	Q-41
2,4,5-Trichlorophenol	0.550	---	0.0266	mg/kg wet	2	0.533	---	103	41 - 124%	---	---	
Nitrobenzene	0.400	---	0.0534	mg/kg wet	2	0.533	---	75	34 - 122%	---	---	
2,4,6-Trichlorophenol	0.511	---	0.0266	mg/kg wet	2	0.533	---	96	39 - 126%	---	---	
Bis(2-ethylhexyl)phthalate	0.441	---	0.0800	mg/kg wet	2	0.533	---	83	51 - 133%	---	---	
Butyl benzyl phthalate	0.450	---	0.0534	mg/kg wet	2	0.533	---	84	48 - 132%	---	---	
Diethylphthalate	0.470	---	0.0534	mg/kg wet	2	0.533	---	88	50 - 124%	---	---	
Dimethylphthalate	0.489	---	0.0534	mg/kg wet	2	0.533	---	92	48 - 124%	---	---	
Di-n-butylphthalate	0.468	---	0.0534	mg/kg wet	2	0.533	---	88	51 - 128%	---	---	
Di-n-octyl phthalate	0.444	---	0.0534	mg/kg wet	2	0.533	---	83	45 - 140%	---	---	
N-Nitrosodimethylamine	0.278	---	0.0133	mg/kg wet	2	0.533	---	52	23 - 120%	---	---	Q-31
N-Nitroso-di-n-propylamine	0.391	---	0.0133	mg/kg wet	2	0.533	---	73	36 - 120%	---	---	Q-31
N-Nitrosodiphenylamine	0.454	---	0.0133	mg/kg wet	2	0.533	---	85	38 - 127%	---	---	
Bis(2-Chloroethoxy) methane	0.372	---	0.0133	mg/kg wet	2	0.533	---	70	36 - 121%	---	---	
Bis(2-Chloroethyl) ether	0.361	---	0.0133	mg/kg wet	2	0.533	---	68	31 - 120%	---	---	
2,2'-Oxybis(1-Chloropropane)	0.288	---	0.0133	mg/kg wet	2	0.533	---	54	33 - 131%	---	---	Q-31

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546						Soil						
LCS (0100929-BS1)	Prepared: 10/27/20 11:37 Analyzed: 10/27/20 16:26					Q-18						
Hexachlorobenzene	0.510	---	0.00534	mg/kg wet	2	0.533	---	96	45 - 122%	---	---	
Hexachlorobutadiene	0.514	---	0.0133	mg/kg wet	2	0.533	---	96	32 - 123%	---	---	
Hexachlorocyclopentadiene	0.585	---	0.0266	mg/kg wet	2	0.533	---	110	10 - 140%	---	---	Q-41
Hexachloroethane	0.395	---	0.0133	mg/kg wet	2	0.533	---	74	28 - 120%	---	---	
2-Chloronaphthalene	0.433	---	0.00534	mg/kg wet	2	0.533	---	81	41 - 120%	---	---	
1,2,4-Trichlorobenzene	0.468	---	0.0133	mg/kg wet	2	0.533	---	88	34 - 120%	---	---	
4-Bromophenyl phenyl ether	0.498	---	0.0133	mg/kg wet	2	0.533	---	93	46 - 124%	---	---	
4-Chlorophenyl phenyl ether	0.485	---	0.0133	mg/kg wet	2	0.533	---	91	45 - 121%	---	---	
Aniline	0.335	---	0.0266	mg/kg wet	2	0.533	---	63	10 - 120%	---	---	
4-Chloroaniline	0.383	---	0.0133	mg/kg wet	2	0.533	---	72	17 - 120%	---	---	
2-Nitroaniline	0.477	---	0.107	mg/kg wet	2	0.533	---	89	44 - 127%	---	---	
3-Nitroaniline	0.450	---	0.107	mg/kg wet	2	0.533	---	84	33 - 120%	---	---	
4-Nitroaniline	0.460	---	0.107	mg/kg wet	2	0.533	---	86	70 - 138%	---	---	
2,4-Dinitrotoluene	0.515	---	0.0534	mg/kg wet	2	0.533	---	97	48 - 126%	---	---	
2,6-Dinitrotoluene	0.490	---	0.0534	mg/kg wet	2	0.533	---	92	46 - 124%	---	---	
Benzoic acid	0.699	---	0.666	mg/kg wet	2	1.07	---	65	10 - 140%	---	---	Q-31
Benzyl alcohol	0.490	---	0.0266	mg/kg wet	2	0.533	---	92	29 - 122%	---	---	
Isophorone	0.399	---	0.0133	mg/kg wet	2	0.533	---	75	30 - 122%	---	---	
Azobenzene (1,2-DPH)	0.341	---	0.0133	mg/kg wet	2	0.533	---	64	39 - 125%	---	---	Q-31
Bis(2-Ethylhexyl) adipate	0.417	---	0.133	mg/kg wet	2	0.533	---	78	61 - 121%	---	---	Q-31
3,3'-Dichlorobenzidine	1.30	---	0.107	mg/kg wet	2	1.07	---	121	22 - 121%	---	---	
1,2-Dinitrobenzene	0.519	---	0.133	mg/kg wet	2	0.533	---	97	44 - 120%	---	---	
1,3-Dinitrobenzene	0.527	---	0.133	mg/kg wet	2	0.533	---	99	43 - 127%	---	---	
1,4-Dinitrobenzene	0.550	---	0.133	mg/kg wet	2	0.533	---	103	37 - 132%	---	---	
Pyridine	0.168	---	0.0266	mg/kg wet	2	0.533	---	32	10 - 120%	---	---	Q-31
1,2-Dichlorobenzene	0.419	---	0.0133	mg/kg wet	2	0.533	---	79	33 - 120%	---	---	
1,3-Dichlorobenzene	0.404	---	0.0133	mg/kg wet	2	0.533	---	76	30 - 120%	---	---	
1,4-Dichlorobenzene	0.408	---	0.0133	mg/kg wet	2	0.533	---	76	31 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 76 %</i>			<i>Limits: 37-122 %</i>		<i>Dilution: 2x</i>				
<i>2-Fluorobiphenyl (Surr)</i>			<i>79 %</i>			<i>44-120 %</i>		<i>"</i>				
<i>Phenol-d6 (Surr)</i>			<i>75 %</i>			<i>33-122 %</i>		<i>"</i>				
<i>p-Terphenyl-d14 (Surr)</i>			<i>90 %</i>			<i>54-127 %</i>		<i>"</i>				
<i>2-Fluorophenol (Surr)</i>			<i>71 %</i>			<i>35-120 %</i>		<i>"</i>				
<i>2,4,6-Tribromophenol (Surr)</i>			<i>107 %</i>			<i>39-132 %</i>		<i>"</i>				Q-41

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Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
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ORELAP ID: OR100062

<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Millpond Crossing-RSM</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100929 - EPA 3546							Soil					

Apex Laboratories

Lisa Domenighini, Client Services Manager

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PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
Blank (0100994-BLK1)		Prepared: 10/29/20 06:55 Analyzed: 10/29/20 13:09										
EPA 8270E												
Acenaphthene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Chrysene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Fluoranthene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Fluorene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	---
Naphthalene	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	---
Phenanthrene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Pyrene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
Carbazole	ND	---	0.00375	mg/kg wet	1	---	---	---	---	---	---	---
Dibenzofuran	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	---
2-Chlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
2,4-Dichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
2,4-Dimethylphenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---
2,4-Dinitrophenol	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	---
2-Methylphenol	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
3+4-Methylphenol(s)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	---
2-Nitrophenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
4-Nitrophenol	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Pentachlorophenol (PCP)	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	---
Phenol	ND	---	0.00500	mg/kg wet	1	---	---	---	---	---	---	---
2,3,4,6-Tetrachlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	---

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
Blank (0100994-BLK1)	Prepared: 10/29/20 06:55					Analyzed: 10/29/20 13:09						
2,3,5,6-Tetrachlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	---	0.0375	mg/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	---	0.00250	mg/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Aniline	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	---	0.0250	mg/kg wet	1	---	---	---	---	---	---	
Benzoic acid	ND	---	0.312	mg/kg wet	1	---	---	---	---	---	---	
Benzyl alcohol	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
Blank (0100994-BLK1)			Prepared: 10/29/20 06:55		Analyzed: 10/29/20 13:09							
Azobenzene (1,2-DPH)	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	0.0625	mg/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	---	0.0125	mg/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.00625	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 83 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>					
<i>2-Fluorobiphenyl (Surr)</i>			<i>83 %</i>		<i>44-120 %</i>		<i>"</i>					
<i>Phenol-d6 (Surr)</i>			<i>84 %</i>		<i>33-122 %</i>		<i>"</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>104 %</i>		<i>54-127 %</i>		<i>"</i>					
<i>2-Fluorophenol (Surr)</i>			<i>77 %</i>		<i>35-120 %</i>		<i>"</i>					
<i>2,4,6-Tribromophenol (Surr)</i>			<i>96 %</i>		<i>39-132 %</i>		<i>"</i>					

LCS (0100994-BS1)			Prepared: 10/29/20 06:55		Analyzed: 10/29/20 13:45							
EPA 8270E												
Acenaphthene	0.473	---	0.00534	mg/kg wet	2	0.533	---	89	40 - 123%	---	---	
Acenaphthylene	0.511	---	0.00534	mg/kg wet	2	0.533	---	96	32 - 132%	---	---	
Anthracene	0.482	---	0.00534	mg/kg wet	2	0.533	---	90	47 - 123%	---	---	
Benz(a)anthracene	0.486	---	0.00534	mg/kg wet	2	0.533	---	91	49 - 126%	---	---	
Benzo(a)pyrene	0.499	---	0.00800	mg/kg wet	2	0.533	---	94	45 - 129%	---	---	
Benzo(b)fluoranthene	0.502	---	0.00800	mg/kg wet	2	0.533	---	94	45 - 132%	---	---	
Benzo(k)fluoranthene	0.476	---	0.00800	mg/kg wet	2	0.533	---	89	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.532	---	0.00534	mg/kg wet	2	0.533	---	100	43 - 134%	---	---	
Chrysene	0.481	---	0.00534	mg/kg wet	2	0.533	---	90	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.508	---	0.00534	mg/kg wet	2	0.533	---	95	45 - 134%	---	---	
Fluoranthene	0.526	---	0.00534	mg/kg wet	2	0.533	---	99	50 - 127%	---	---	
Fluorene	0.491	---	0.00534	mg/kg wet	2	0.533	---	92	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.476	---	0.00534	mg/kg wet	2	0.533	---	89	45 - 133%	---	---	
1-Methylnaphthalene	0.518	---	0.0107	mg/kg wet	2	0.533	---	97	40 - 120%	---	---	
2-Methylnaphthalene	0.522	---	0.0107	mg/kg wet	2	0.533	---	98	38 - 122%	---	---	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
LCS (0100994-BS1)	Prepared: 10/29/20 06:55					Analyzed: 10/29/20 13:45						
Naphthalene	0.450	---	0.0107	mg/kg wet	2	0.533	---	84	35 - 123%	---	---	
Phenanthrene	0.461	---	0.00534	mg/kg wet	2	0.533	---	86	50 - 121%	---	---	
Pyrene	0.512	---	0.00534	mg/kg wet	2	0.533	---	96	47 - 127%	---	---	
Carbazole	0.468	---	0.00800	mg/kg wet	2	0.533	---	88	50 - 123%	---	---	
Dibenzofuran	0.477	---	0.00534	mg/kg wet	2	0.533	---	89	44 - 120%	---	---	
2-Chlorophenol	0.485	---	0.0266	mg/kg wet	2	0.533	---	91	34 - 121%	---	---	
4-Chloro-3-methylphenol	0.548	---	0.0534	mg/kg wet	2	0.533	---	103	45 - 122%	---	---	
2,4-Dichlorophenol	0.593	---	0.0266	mg/kg wet	2	0.533	---	111	40 - 122%	---	---	Q-41
2,4-Dimethylphenol	0.537	---	0.0266	mg/kg wet	2	0.533	---	101	30 - 127%	---	---	
2,4-Dinitrophenol	0.738	---	0.133	mg/kg wet	2	0.533	---	138	10 - 137%	---	---	Q-29, Q-41
4,6-Dinitro-2-methylphenol	0.716	---	0.133	mg/kg wet	2	0.533	---	134	29 - 132%	---	---	Q-29, Q-41
2-Methylphenol	0.507	---	0.0133	mg/kg wet	2	0.533	---	95	32 - 122%	---	---	
3+4-Methylphenol(s)	0.539	---	0.0133	mg/kg wet	2	0.533	---	101	34 - 120%	---	---	
2-Nitrophenol	0.515	---	0.0534	mg/kg wet	2	0.533	---	97	36 - 123%	---	---	
4-Nitrophenol	0.543	---	0.0534	mg/kg wet	2	0.533	---	102	30 - 132%	---	---	
Pentachlorophenol (PCP)	0.583	---	0.0534	mg/kg wet	2	0.533	---	109	25 - 133%	---	---	
Phenol	0.482	---	0.0107	mg/kg wet	2	0.533	---	90	34 - 121%	---	---	
2,3,4,6-Tetrachlorophenol	0.606	---	0.0266	mg/kg wet	2	0.533	---	114	44 - 125%	---	---	
2,3,5,6-Tetrachlorophenol	0.642	---	0.0266	mg/kg wet	2	0.533	---	120	40 - 120%	---	---	Q-41
2,4,5-Trichlorophenol	0.594	---	0.0266	mg/kg wet	2	0.533	---	111	41 - 124%	---	---	
Nitrobenzene	0.445	---	0.0534	mg/kg wet	2	0.533	---	83	34 - 122%	---	---	
2,4,6-Trichlorophenol	0.556	---	0.0266	mg/kg wet	2	0.533	---	104	39 - 126%	---	---	
Bis(2-ethylhexyl)phthalate	0.459	---	0.0800	mg/kg wet	2	0.533	---	86	51 - 133%	---	---	
Butyl benzyl phthalate	0.469	---	0.0534	mg/kg wet	2	0.533	---	88	48 - 132%	---	---	
Diethylphthalate	0.498	---	0.0534	mg/kg wet	2	0.533	---	93	50 - 124%	---	---	
Dimethylphthalate	0.524	---	0.0534	mg/kg wet	2	0.533	---	98	48 - 124%	---	---	
Di-n-butylphthalate	0.488	---	0.0534	mg/kg wet	2	0.533	---	92	51 - 128%	---	---	
Di-n-octyl phthalate	0.450	---	0.0534	mg/kg wet	2	0.533	---	84	45 - 140%	---	---	
N-Nitrosodimethylamine	0.298	---	0.0133	mg/kg wet	2	0.533	---	56	23 - 120%	---	---	Q-31
N-Nitroso-di-n-propylamine	0.436	---	0.0133	mg/kg wet	2	0.533	---	82	36 - 120%	---	---	Q-31
N-Nitrosodiphenylamine	0.473	---	0.0133	mg/kg wet	2	0.533	---	89	38 - 127%	---	---	
Bis(2-Chloroethoxy) methane	0.413	---	0.0133	mg/kg wet	2	0.533	---	77	36 - 121%	---	---	
Bis(2-Chloroethyl) ether	0.389	---	0.0133	mg/kg wet	2	0.533	---	73	31 - 120%	---	---	
2,2'-Oxybis(1-Chloropropane)	0.311	---	0.0133	mg/kg wet	2	0.533	---	58	33 - 131%	---	---	Q-31

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
LCS (0100994-BS1)	Prepared: 10/29/20 06:55					Analyzed: 10/29/20 13:45						
Hexachlorobenzene	0.539	---	0.00534	mg/kg wet	2	0.533	---	101	45 - 122%	---	---	
Hexachlorobutadiene	0.535	---	0.0133	mg/kg wet	2	0.533	---	100	32 - 123%	---	---	
Hexachlorocyclopentadiene	0.621	---	0.0266	mg/kg wet	2	0.533	---	116	10 - 140%	---	---	Q-41
Hexachloroethane	0.423	---	0.0133	mg/kg wet	2	0.533	---	79	28 - 120%	---	---	
2-Chloronaphthalene	0.456	---	0.00534	mg/kg wet	2	0.533	---	85	41 - 120%	---	---	
1,2,4-Trichlorobenzene	0.495	---	0.0133	mg/kg wet	2	0.533	---	93	34 - 120%	---	---	
4-Bromophenyl phenyl ether	0.528	---	0.0133	mg/kg wet	2	0.533	---	99	46 - 124%	---	---	
4-Chlorophenyl phenyl ether	0.523	---	0.0133	mg/kg wet	2	0.533	---	98	45 - 121%	---	---	
Aniline	0.367	---	0.0266	mg/kg wet	2	0.533	---	69	10 - 120%	---	---	
4-Chloroaniline	0.410	---	0.0133	mg/kg wet	2	0.533	---	77	17 - 120%	---	---	
2-Nitroaniline	0.490	---	0.107	mg/kg wet	2	0.533	---	92	44 - 127%	---	---	
3-Nitroaniline	0.438	---	0.107	mg/kg wet	2	0.533	---	82	33 - 120%	---	---	
4-Nitroaniline	0.411	---	0.107	mg/kg wet	2	0.533	---	77	70 - 138%	---	---	
2,4-Dinitrotoluene	0.537	---	0.0534	mg/kg wet	2	0.533	---	101	48 - 126%	---	---	
2,6-Dinitrotoluene	0.510	---	0.0534	mg/kg wet	2	0.533	---	96	46 - 124%	---	---	
Benzoic acid	0.793	---	0.666	mg/kg wet	2	1.07	---	74	10 - 140%	---	---	Q-31
Benzyl alcohol	0.550	---	0.0266	mg/kg wet	2	0.533	---	103	29 - 122%	---	---	
Isophorone	0.445	---	0.0133	mg/kg wet	2	0.533	---	83	30 - 122%	---	---	
Azobenzene (1,2-DPH)	0.356	---	0.0133	mg/kg wet	2	0.533	---	67	39 - 125%	---	---	Q-31
Bis(2-Ethylhexyl) adipate	0.429	---	0.133	mg/kg wet	2	0.533	---	80	61 - 121%	---	---	
3,3'-Dichlorobenzidine	1.24	---	0.107	mg/kg wet	2	1.07	---	117	22 - 121%	---	---	
1,2-Dinitrobenzene	0.536	---	0.133	mg/kg wet	2	0.533	---	101	44 - 120%	---	---	
1,3-Dinitrobenzene	0.543	---	0.133	mg/kg wet	2	0.533	---	102	43 - 127%	---	---	
1,4-Dinitrobenzene	0.584	---	0.133	mg/kg wet	2	0.533	---	109	37 - 132%	---	---	Q-41
Pyridine	0.195	---	0.0266	mg/kg wet	2	0.533	---	37	10 - 120%	---	---	Q-31
1,2-Dichlorobenzene	0.445	---	0.0133	mg/kg wet	2	0.533	---	84	33 - 120%	---	---	
1,3-Dichlorobenzene	0.434	---	0.0133	mg/kg wet	2	0.533	---	81	30 - 120%	---	---	
1,4-Dichlorobenzene	0.438	---	0.0133	mg/kg wet	2	0.533	---	82	31 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 89 %</i>			<i>Limits: 37-122 %</i>		<i>Dilution: 2x</i>				
<i>2-Fluorobiphenyl (Surr)</i>			<i>93 %</i>			<i>44-120 %</i>		<i>"</i>				
<i>Phenol-d6 (Surr)</i>			<i>88 %</i>			<i>33-122 %</i>		<i>"</i>				
<i>p-Terphenyl-d14 (Surr)</i>			<i>105 %</i>			<i>54-127 %</i>		<i>"</i>				
<i>2-Fluorophenol (Surr)</i>			<i>80 %</i>			<i>35-120 %</i>		<i>"</i>				
<i>2,4,6-Tribromophenol (Surr)</i>			<i>122 %</i>			<i>39-132 %</i>		<i>"</i>				Q-41

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD	Notes
Batch 0100994 - EPA 3546						Soil				
Duplicate (0100994-DUP1)						Prepared: 10/29/20 06:55 Analyzed: 10/29/20 14:57				
QC Source Sample: DU-2--After Processing (A0J0826-11RE2)										
EPA 8270E										
Acenaphthene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Acenaphthylene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Anthracene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Benz(a)anthracene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Benzo(a)pyrene	ND	---	0.0162	mg/kg dry	4	---	0.00987	---	***	30% Q-05
Benzo(b)fluoranthene	ND	---	0.0162	mg/kg dry	4	---	0.00869	---	***	30% Q-05
Benzo(k)fluoranthene	ND	---	0.0162	mg/kg dry	4	---	ND	---	---	30%
Benzo(g,h,i)perylene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Chrysene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Dibenz(a,h)anthracene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Fluoranthene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Fluorene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
Indeno(1,2,3-cd)pyrene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
1-Methylnaphthalene	ND	---	0.0215	mg/kg dry	4	---	0.0197	---	---	30%
2-Methylnaphthalene	0.0253	---	0.0215	mg/kg dry	4	---	0.0269	---	6	30%
Naphthalene	0.0257	---	0.0215	mg/kg dry	4	---	0.0269	---	5	30%
Phenanthrene	ND	---	0.0108	mg/kg dry	4	---	0.00927	---	---	30%
Pyrene	ND	---	0.0108	mg/kg dry	4	---	0.00581	---	---	30% Q-05
Carbazole	ND	---	0.0162	mg/kg dry	4	---	ND	---	---	30%
Dibenzofuran	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	30%
2-Chlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	30%
4-Chloro-3-methylphenol	ND	---	0.108	mg/kg dry	4	---	ND	---	---	30%
2,4-Dichlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	30%
2,4-Dimethylphenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	30%
2,4-Dinitrophenol	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
4,6-Dinitro-2-methylphenol	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
2-Methylphenol	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
3+4-Methylphenol(s)	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
2-Nitrophenol	ND	---	0.108	mg/kg dry	4	---	ND	---	---	30%
4-Nitrophenol	ND	---	0.108	mg/kg dry	4	---	ND	---	---	30%
Pentachlorophenol (PCP)	ND	---	0.108	mg/kg dry	4	---	ND	---	---	30%

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PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546												
Soil												
Duplicate (0100994-DUP1)			Prepared: 10/29/20 06:55 Analyzed: 10/29/20 14:57									
QC Source Sample: DU-2--After Processing (A0J0826-11RE2)												
Phenol	ND	---	0.0215	mg/kg dry	4	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
Nitrobenzene	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	---	0.162	mg/kg dry	4	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
Diethylphthalate	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
Dimethylphthalate	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
Hexachloroethane	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	---	0.0108	mg/kg dry	4	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
Aniline	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	---	30%	
4-Chloroaniline	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	---	30%	
2-Nitroaniline	ND	---	0.215	mg/kg dry	4	---	ND	---	---	---	30%	
3-Nitroaniline	ND	---	0.215	mg/kg dry	4	---	ND	---	---	---	30%	
4-Nitroaniline	ND	---	0.215	mg/kg dry	4	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	---	0.108	mg/kg dry	4	---	ND	---	---	---	30%	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD	Notes
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Batch 0100994 - EPA 3546

Soil

Duplicate (0100994-DUP1) Prepared: 10/29/20 06:55 Analyzed: 10/29/20 14:57

QC Source Sample: DU-2--After Processing (A0J0826-11RE2)

Benzoic acid	ND	---	1.35	mg/kg dry	4	---	ND	---	---	30%
Benzyl alcohol	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	30%
Isophorone	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
Azobenzene (1,2-DPH)	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
Bis(2-Ethylhexyl) adipate	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
3,3'-Dichlorobenzidine	ND	---	0.215	mg/kg dry	4	---	ND	---	---	30% Q-52
1,2-Dinitrobenzene	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
1,3-Dinitrobenzene	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
1,4-Dinitrobenzene	ND	---	0.269	mg/kg dry	4	---	ND	---	---	30%
Pyridine	ND	---	0.0537	mg/kg dry	4	---	ND	---	---	30%
1,2-Dichlorobenzene	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
1,3-Dichlorobenzene	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%
1,4-Dichlorobenzene	ND	---	0.0269	mg/kg dry	4	---	ND	---	---	30%

Surr: Nitrobenzene-d5 (Surr)	Recovery: 59 %	Limits: 37-122 %	Dilution: 4x
2-Fluorobiphenyl (Surr)	75 %	44-120 %	"
Phenol-d6 (Surr)	45 %	33-122 %	"
p-Terphenyl-d14 (Surr)	82 %	54-127 %	"
2-Fluorophenol (Surr)	36 %	35-120 %	"
2,4,6-Tribromophenol (Surr)	42 %	39-132 %	"

Q-41

Matrix Spike (0100994-MS1)

Prepared: 10/29/20 06:55 Analyzed: 10/29/20 15:33

QC Source Sample: DU-2--After Processing (A0J0826-11RE2)

EPA 8270E											
Acenaphthene	0.378	---	0.0108	mg/kg dry	4	0.539	ND	70	40 - 123%	---	---
Acenaphthylene	0.402	---	0.0108	mg/kg dry	4	0.539	ND	75	32 - 132%	---	---
Anthracene	0.386	---	0.0108	mg/kg dry	4	0.539	ND	72	47 - 123%	---	---
Benz(a)anthracene	0.374	---	0.0108	mg/kg dry	4	0.539	ND	69	49 - 126%	---	---
Benzo(a)pyrene	0.383	---	0.0162	mg/kg dry	4	0.539	0.00987	69	45 - 129%	---	---
Benzo(b)fluoranthene	0.402	---	0.0162	mg/kg dry	4	0.539	0.00869	73	45 - 132%	---	---
Benzo(k)fluoranthene	0.352	---	0.0162	mg/kg dry	4	0.539	ND	65	47 - 132%	---	---
Benzo(g,h,i)perylene	0.354	---	0.0108	mg/kg dry	4	0.539	ND	66	43 - 134%	---	---
Chrysene	0.375	---	0.0108	mg/kg dry	4	0.539	ND	70	50 - 124%	---	---
Dibenz(a,h)anthracene	0.329	---	0.0108	mg/kg dry	4	0.539	ND	61	45 - 134%	---	---

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546												
Soil												
Matrix Spike (0100994-MS1)			Prepared: 10/29/20 06:55 Analyzed: 10/29/20 15:33									
QC Source Sample: DU-2--After Processing (A0J0826-11RE2)												
Fluoranthene	0.424	---	0.0108	mg/kg dry	4	0.539	ND	79	50 - 127%	---	---	
Fluorene	0.383	---	0.0108	mg/kg dry	4	0.539	ND	71	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.314	---	0.0108	mg/kg dry	4	0.539	ND	58	45 - 133%	---	---	
1-Methylnaphthalene	0.403	---	0.0215	mg/kg dry	4	0.539	0.0197	71	40 - 120%	---	---	
2-Methylnaphthalene	0.418	---	0.0215	mg/kg dry	4	0.539	0.0269	73	38 - 122%	---	---	
Naphthalene	0.376	---	0.0215	mg/kg dry	4	0.539	0.0269	65	35 - 123%	---	---	
Phenanthrene	0.380	---	0.0108	mg/kg dry	4	0.539	0.00927	69	50 - 121%	---	---	
Pyrene	0.402	---	0.0108	mg/kg dry	4	0.539	0.00581	74	47 - 127%	---	---	
Carbazole	0.385	---	0.0162	mg/kg dry	4	0.539	ND	71	50 - 123%	---	---	
Dibenzofuran	0.372	---	0.0108	mg/kg dry	4	0.539	ND	69	44 - 120%	---	---	
2-Chlorophenol	0.277	---	0.0537	mg/kg dry	4	0.539	ND	51	34 - 121%	---	---	
4-Chloro-3-methylphenol	0.316	---	0.108	mg/kg dry	4	0.539	ND	59	45 - 122%	---	---	
2,4-Dichlorophenol	0.306	---	0.0537	mg/kg dry	4	0.539	ND	57	40 - 122%	---	---	Q-41
2,4-Dimethylphenol	0.357	---	0.0537	mg/kg dry	4	0.539	ND	66	30 - 127%	---	---	
2,4-Dinitrophenol	ND	---	0.269	mg/kg dry	4	0.539	ND		10 - 137%	---	---	Q-01, Q-41
4,6-Dinitro-2-methylphenol	ND	---	0.269	mg/kg dry	4	0.539	ND		29 - 132%	---	---	Q-01, Q-41
2-Methylphenol	0.312	---	0.0269	mg/kg dry	4	0.539	ND	58	32 - 122%	---	---	
3+4-Methylphenol(s)	0.282	---	0.0269	mg/kg dry	4	0.539	ND	52	34 - 120%	---	---	
2-Nitrophenol	0.154	---	0.108	mg/kg dry	4	0.539	ND	29	36 - 123%	---	---	Q-01
4-Nitrophenol	ND	---	0.108	mg/kg dry	4	0.539	ND	18	30 - 132%	---	---	Q-01
Pentachlorophenol (PCP)	ND	---	0.108	mg/kg dry	4	0.539	ND	13	25 - 133%	---	---	Q-01
Phenol	0.224	---	0.0215	mg/kg dry	4	0.539	ND	42	34 - 121%	---	---	
2,3,4,6-Tetrachlorophenol	0.123	---	0.0537	mg/kg dry	4	0.539	ND	23	44 - 125%	---	---	Q-01
2,3,5,6-Tetrachlorophenol	0.0985	---	0.0537	mg/kg dry	4	0.539	ND	18	40 - 120%	---	---	Q-01, Q-41
2,4,5-Trichlorophenol	0.188	---	0.0537	mg/kg dry	4	0.539	ND	35	41 - 124%	---	---	Q-01
Nitrobenzene	0.306	---	0.108	mg/kg dry	4	0.539	ND	57	34 - 122%	---	---	
2,4,6-Trichlorophenol	0.214	---	0.0537	mg/kg dry	4	0.539	ND	40	39 - 126%	---	---	
Bis(2-ethylhexyl)phthalate	0.408	---	0.162	mg/kg dry	4	0.539	ND	76	51 - 133%	---	---	
Butyl benzyl phthalate	0.396	---	0.108	mg/kg dry	4	0.539	ND	74	48 - 132%	---	---	
Diethylphthalate	0.312	---	0.108	mg/kg dry	4	0.539	ND	58	50 - 124%	---	---	
Dimethylphthalate	0.311	---	0.108	mg/kg dry	4	0.539	ND	58	48 - 124%	---	---	
Di-n-butylphthalate	0.378	---	0.108	mg/kg dry	4	0.539	ND	70	51 - 128%	---	---	
Di-n-octyl phthalate	0.434	---	0.108	mg/kg dry	4	0.539	ND	81	45 - 140%	---	---	

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546												
Soil												
Matrix Spike (0100994-MS1)			Prepared: 10/29/20 06:55 Analyzed: 10/29/20 15:33									
QC Source Sample: DU-2--After Processing (A0J0826-11RE2)												
N-Nitrosodimethylamine	0.0941	---	0.0269	mg/kg dry	4	0.539	ND	17	23 - 120%	---	---	Q-01, Q-31
N-Nitroso-di-n-propylamine	0.218	---	0.0269	mg/kg dry	4	0.539	ND	40	36 - 120%	---	---	Q-31
N-Nitrosodiphenylamine	0.374	---	0.0269	mg/kg dry	4	0.539	ND	69	38 - 127%	---	---	
Bis(2-Chloroethoxy) methane	0.300	---	0.0269	mg/kg dry	4	0.539	ND	56	36 - 121%	---	---	
Bis(2-Chloroethyl) ether	0.281	---	0.0269	mg/kg dry	4	0.539	ND	52	31 - 120%	---	---	
2,2'-Oxybis(1-Chloropropane)	0.227	---	0.0269	mg/kg dry	4	0.539	ND	42	33 - 131%	---	---	Q-31
Hexachlorobenzene	0.429	---	0.0108	mg/kg dry	4	0.539	ND	80	45 - 122%	---	---	
Hexachlorobutadiene	0.435	---	0.0269	mg/kg dry	4	0.539	ND	81	32 - 123%	---	---	
Hexachlorocyclopentadiene	0.491	---	0.0537	mg/kg dry	4	0.539	ND	91	10 - 140%	---	---	Q-41
Hexachloroethane	0.360	---	0.0269	mg/kg dry	4	0.539	ND	67	28 - 120%	---	---	
2-Chloronaphthalene	0.362	---	0.0108	mg/kg dry	4	0.539	ND	67	41 - 120%	---	---	
1,2,4-Trichlorobenzene	0.399	---	0.0269	mg/kg dry	4	0.539	ND	74	34 - 120%	---	---	
4-Bromophenyl phenyl ether	0.428	---	0.0269	mg/kg dry	4	0.539	ND	79	46 - 124%	---	---	
4-Chlorophenyl phenyl ether	0.403	---	0.0269	mg/kg dry	4	0.539	ND	75	45 - 121%	---	---	
Aniline	ND	---	0.0537	mg/kg dry	4	0.539	ND		10 - 120%	---	---	Q-01
4-Chloroaniline	0.0289	---	0.0269	mg/kg dry	4	0.539	ND	5	17 - 120%	---	---	Q-01
2-Nitroaniline	0.339	---	0.215	mg/kg dry	4	0.539	ND	63	44 - 127%	---	---	
3-Nitroaniline	ND	---	0.215	mg/kg dry	4	0.539	ND	35	33 - 120%	---	---	
4-Nitroaniline	ND	---	0.215	mg/kg dry	4	0.539	ND	31	70 - 138%	---	---	Q-01
2,4-Dinitrotoluene	0.334	---	0.108	mg/kg dry	4	0.539	ND	62	48 - 126%	---	---	
2,6-Dinitrotoluene	0.386	---	0.108	mg/kg dry	4	0.539	ND	72	46 - 124%	---	---	
Benzoic acid	ND	---	1.35	mg/kg dry	4	1.08	ND		10 - 140%	---	---	Q-01, Q-31
Benzyl alcohol	0.280	---	0.0537	mg/kg dry	4	0.539	ND	52	29 - 122%	---	---	
Isophorone	0.224	---	0.0269	mg/kg dry	4	0.539	ND	42	30 - 122%	---	---	
Azobenzene (1,2-DPH)	0.281	---	0.0269	mg/kg dry	4	0.539	ND	52	39 - 125%	---	---	Q-31
Bis(2-Ethylhexyl) adipate	0.367	---	0.269	mg/kg dry	4	0.539	ND	68	61 - 121%	---	---	
3,3'-Dichlorobenzidine	0.223	---	0.215	mg/kg dry	4	1.08	ND	21	22 - 121%	---	---	Q-01
1,2-Dinitrobenzene	0.390	---	0.269	mg/kg dry	4	0.539	ND	72	44 - 120%	---	---	
1,3-Dinitrobenzene	0.350	---	0.269	mg/kg dry	4	0.539	ND	65	43 - 127%	---	---	
1,4-Dinitrobenzene	0.376	---	0.269	mg/kg dry	4	0.539	ND	70	37 - 132%	---	---	Q-41
Pyridine	ND	---	0.0537	mg/kg dry	4	0.539	ND		10 - 120%	---	---	Q-01, Q-31
1,2-Dichlorobenzene	0.342	---	0.0269	mg/kg dry	4	0.539	ND	63	33 - 120%	---	---	
1,3-Dichlorobenzene	0.336	---	0.0269	mg/kg dry	4	0.539	ND	62	30 - 120%	---	---	

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PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100994 - EPA 3546						Soil						
Matrix Spike (0100994-MS1)			Prepared: 10/29/20 06:55 Analyzed: 10/29/20 15:33									
QC Source Sample: DU-2--After Processing (A0J0826-11RE2)												
1,4-Dichlorobenzene	0.339	---	0.0269	mg/kg dry	4	0.539	ND	63	31 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 60 %</i>				<i>Dilution: 4x</i>					
<i>2-Fluorobiphenyl (Surr)</i>			<i>73 %</i>				<i>"</i>					
<i>Phenol-d6 (Surr)</i>			<i>42 %</i>				<i>"</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>81 %</i>				<i>"</i>					
<i>2-Fluorophenol (Surr)</i>			<i>35 %</i>				<i>"</i>					
<i>2,4,6-Tribromophenol (Surr)</i>			<i>52 %</i>				<i>"</i>					Q-41



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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100878 - EPA 3051A						Soil						
Blank (0100878-BLK1)			Prepared: 10/26/20 11:03 Analyzed: 10/27/20 16:39									
<u>EPA 6020A</u>												
Arsenic	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Barium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Cadmium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
Chromium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Lead	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
Mercury	ND	---	0.0769	mg/kg wet	10	---	---	---	---	---	---	---
Selenium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Silver	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
<hr/>												
LCS (0100878-BS1)			Prepared: 10/26/20 11:03 Analyzed: 10/27/20 16:43									
<u>EPA 6020A</u>												
Arsenic	51.4	---	1.00	mg/kg wet	10	50.0	---	103	80 - 120%	---	---	---
Barium	53.4	---	1.00	mg/kg wet	10	50.0	---	107	80 - 120%	---	---	---
Cadmium	50.4	---	0.200	mg/kg wet	10	50.0	---	101	80 - 120%	---	---	---
Chromium	49.4	---	1.00	mg/kg wet	10	50.0	---	99	80 - 120%	---	---	---
Lead	53.1	---	0.200	mg/kg wet	10	50.0	---	106	80 - 120%	---	---	---
Mercury	1.00	---	0.0800	mg/kg wet	10	1.00	---	100	80 - 120%	---	---	---
Selenium	24.7	---	1.00	mg/kg wet	10	25.0	---	99	80 - 120%	---	---	---
Silver	24.0	---	0.200	mg/kg wet	10	25.0	---	96	80 - 120%	---	---	---



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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0101027 - EPA 3051A						Soil						
Blank (0101027-BLK1)			Prepared: 10/29/20 12:44 Analyzed: 10/29/20 18:12									
<u>EPA 6020A</u>												
Arsenic	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Barium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Cadmium	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
Chromium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Lead	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
Mercury	ND	---	0.0769	mg/kg wet	10	---	---	---	---	---	---	---
Selenium	ND	---	0.962	mg/kg wet	10	---	---	---	---	---	---	---
Silver	ND	---	0.192	mg/kg wet	10	---	---	---	---	---	---	---
LCS (0101027-BS1)			Prepared: 10/29/20 12:44 Analyzed: 10/29/20 18:21									
<u>EPA 6020A</u>												
Arsenic	50.6	---	1.00	mg/kg wet	10	50.0	---	101	80 - 120%	---	---	---
Barium	50.8	---	1.00	mg/kg wet	10	50.0	---	102	80 - 120%	---	---	---
Cadmium	50.3	---	0.200	mg/kg wet	10	50.0	---	101	80 - 120%	---	---	---
Chromium	49.1	---	1.00	mg/kg wet	10	50.0	---	98	80 - 120%	---	---	---
Lead	48.9	---	0.200	mg/kg wet	10	50.0	---	98	80 - 120%	---	---	---
Mercury	0.949	---	0.0800	mg/kg wet	10	1.00	---	95	80 - 120%	---	---	---
Selenium	24.2	---	1.00	mg/kg wet	10	25.0	---	97	80 - 120%	---	---	---
Silver	23.2	---	0.200	mg/kg wet	10	25.0	---	93	80 - 120%	---	---	---
Duplicate (0101027-DUP1)			Prepared: 10/29/20 12:44 Analyzed: 10/29/20 18:41									
<u>QC Source Sample: DU-2--After Processing (A0J0826-11)</u>												
<u>EPA 6020A</u>												
Arsenic	4.76	---	1.10	mg/kg dry	10	---	4.06	---	---	16	20%	---
Barium	317	---	1.10	mg/kg dry	10	---	318	---	---	0.4	20%	---
Cadmium	ND	---	0.219	mg/kg dry	10	---	0.183	---	---	***	20%	---
Chromium	84.6	---	1.10	mg/kg dry	10	---	86.1	---	---	2	20%	---
Lead	8.14	---	0.219	mg/kg dry	10	---	9.01	---	---	10	20%	---
Mercury	ND	---	0.0877	mg/kg dry	10	---	ND	---	---	---	20%	---
Selenium	1.12	---	1.10	mg/kg dry	10	---	1.14	---	---	2	20%	---
Silver	ND	---	0.219	mg/kg dry	10	---	ND	---	---	---	20%	---
Matrix Spike (0101027-MS1)			Prepared: 10/29/20 12:44 Analyzed: 10/29/20 18:53									

Apex Laboratories

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0101027 - EPA 3051A						Soil						
Matrix Spike (0101027-MS1)			Prepared: 10/29/20 12:44 Analyzed: 10/29/20 18:53									
QC Source Sample: DU-2--After Processing (A0J0826-11)												
EPA 6020A												
Arsenic	56.9	---	1.10	mg/kg dry	10	55.0	4.06	96	75 - 125%	---	---	
Barium	375	---	1.10	mg/kg dry	10	55.0	318	103	75 - 125%	---	---	
Cadmium	56.4	---	0.220	mg/kg dry	10	55.0	0.183	102	75 - 125%	---	---	
Chromium	143	---	1.10	mg/kg dry	10	55.0	86.1	104	75 - 125%	---	---	
Lead	59.1	---	0.220	mg/kg dry	10	55.0	9.01	91	75 - 125%	---	---	
Mercury	1.01	---	0.0880	mg/kg dry	10	1.10	ND	92	75 - 125%	---	---	
Selenium	26.9	---	1.10	mg/kg dry	10	27.5	1.14	94	75 - 125%	---	---	
Silver	25.3	---	0.220	mg/kg dry	10	27.5	ND	92	75 - 125%	---	---	

Apex Laboratories

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Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
 Tigard, OR 97223
 503-718-2323
 ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100916 - Total Solids (Dry Weight)						Soil						
Duplicate (0100916-DUP4)		Prepared: 10/27/20 09:03 Analyzed: 10/28/20 08:26										
QC Source Sample: Ditch-1 (A0J0826-03)												
EPA 8000D												
% Solids	74.4	---	1.00	%	1	---	71.1	---	---	5	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

Apex Laboratories

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Lisa Domenighini, Client Services Manager



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6700 S.W. Sandburg Street
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PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 0100953 - Total Solids (Dry Weight)						Soil						
Duplicate (0100953-DUP1)		Prepared: 10/28/20 08:30 Analyzed: 10/29/20 08:26										
QC Source Sample: DU-3--After Processing (A0J0826-02)												
EPA 8000D												
% Solids	96.4	---	1.00	%	1	---	96.4	---	---	0.03	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

Apex Laboratories

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Millpond Crossing-RSM	Report ID: A0J0826 - 11 05 20 1258
	Project Number: 24159.000	
	Project Manager: Chris Sheridan	

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0100935</u>							
A0J0826-03	Soil	NWTPH-Dx	10/22/20 15:30	10/27/20 12:40	10.42g/5mL	10g/5mL	0.96
A0J0826-04	Soil	NWTPH-Dx	10/22/20 15:40	10/27/20 12:40	10.03g/5mL	10g/5mL	1.00
A0J0826-05	Soil	NWTPH-Dx	10/22/20 15:50	10/27/20 12:40	10.18g/5mL	10g/5mL	0.98
A0J0826-06	Soil	NWTPH-Dx	10/22/20 16:00	10/27/20 12:40	10.77g/5mL	10g/5mL	0.93
A0J0826-07	Soil	NWTPH-Dx	10/22/20 16:10	10/27/20 12:40	10.32g/5mL	10g/5mL	0.97
<u>Batch: 0101024</u>							
A0J0826-02	Soil	NWTPH-Dx	10/22/20 11:50	10/29/20 12:42	10.47g/5mL	10g/5mL	0.96

Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0100929</u>							
A0J0826-09	Soil	EPA 8270E	10/23/20 11:00	10/27/20 11:58	15.05g/5mL	15g/2mL	2.49
<u>Batch: 0100994</u>							
A0J0826-11RE2	Soil	EPA 8270E	10/23/20 13:15	10/29/20 06:55	15.2g/2mL	15g/2mL	0.99

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 0100878</u>							
A0J0826-03	Soil	EPA 6020A	10/22/20 15:30	10/26/20 11:03	0.492g/50mL	0.5g/50mL	1.02
A0J0826-04	Soil	EPA 6020A	10/22/20 15:40	10/26/20 11:03	0.495g/50mL	0.5g/50mL	1.01
A0J0826-05	Soil	EPA 6020A	10/22/20 15:50	10/26/20 11:03	0.478g/50mL	0.5g/50mL	1.05
A0J0826-06	Soil	EPA 6020A	10/22/20 16:00	10/26/20 11:03	0.504g/50mL	0.5g/50mL	0.99
A0J0826-07	Soil	EPA 6020A	10/22/20 16:10	10/26/20 11:03	0.492g/50mL	0.5g/50mL	1.02
<u>Batch: 0101027</u>							
A0J0826-09	Soil	EPA 6020A	10/23/20 11:00	10/29/20 12:44	0.478g/50mL	0.5g/50mL	1.05
A0J0826-11	Soil	EPA 6020A	10/23/20 13:15	10/29/20 12:44	0.49g/50mL	0.5g/50mL	1.02

Percent Dry Weight

Prep: Total Solids (Dry Weight)

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

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Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
 Tigard, OR 97223
 503-718-2323
 ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 0100916							
A0J0826-03	Soil	EPA 8000D	10/22/20 15:30	10/27/20 09:03			NA
A0J0826-04	Soil	EPA 8000D	10/22/20 15:40	10/27/20 09:03			NA
A0J0826-05	Soil	EPA 8000D	10/22/20 15:50	10/27/20 09:03			NA
A0J0826-06	Soil	EPA 8000D	10/22/20 16:00	10/27/20 09:03			NA
A0J0826-07	Soil	EPA 8000D	10/22/20 16:10	10/27/20 09:03			NA
Batch: 0100953							
A0J0826-02	Soil	EPA 8000D	10/22/20 11:50	10/28/20 08:30			NA
A0J0826-09	Soil	EPA 8000D	10/23/20 11:00	10/28/20 08:30			NA
A0J0826-11	Soil	EPA 8000D	10/23/20 13:15	10/28/20 08:30			NA

Apex Laboratories

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Lisa Domenighini, Client Services Manager



<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Millpond Crossing-RSM</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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QUALIFIER DEFINITIONS

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

Apex Laboratories

- B** Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-18** Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
- Q-29** Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-31** Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- Q-52** Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-03** Reextraction and analysis, or analysis of laboratory duplicate, confirms surrogate failure due to sample matrix effect.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.



PBS Engineering and Environmental	Project: Millpond Crossing-RSM	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A0J0826 - 11 05 20 1258

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.



<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Millpond Crossing-RSM</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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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

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Lisa Domenighini, Client Services Manager



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Millpond Crossing-RSM</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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LABORATORY ACCREDITATION INFORMATION

ORELAP 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.

Apex Laboratories

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Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental Project: **Millpond Crossing-RSM**
 4412 SW Corbett Ave Project Number: **24159.000**
 Portland, OR 97239 Project Manager: **Chris Sheridan** Report ID: **A0J0826 - 11 05 20 1258**

APEX LABS 6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323
CHAIN OF CUSTODY Lab # ADD 0826 coc 1 of 1
 Company: **PBS** Project Mgr: **Chris Sheridan** Project Name: **Mill Pond Crossing** Project #: **24159.000**
 Address: _____ Phone: _____ Email: _____ PO # _____
 Sampled by: **S. Eckes**
 Site Location: **OR WA CA**
 AK ID _____

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST		Archive
						Priority Metals (13)	Dioxins	
DU-3		10/22	1500	soil	1	X		
Ditch-1		1530			3			
Ditch-2		1540						
Ditch-3		1550						
Ditch-4		1600						
Ditch-5		1610						
DU-1		10/23	1100		1		X	X
DU-2		10/23	1315		1		X	X

SPECIAL INSTRUCTIONS:
 # may analyze "ditch" samples for VOCs/SVOCs

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

RELINQUISHED BY: Signature: <i>[Signature]</i> Date: 10/23/2016 Printed Name: S. Eckes Company: PBS	RECEIVED BY: Signature: <i>[Signature]</i> Date: 10/23/2016 Printed Name: Tanna Gaddy Company: PBS
---	--

Apex Laboratories

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Lisa Domenighini

Lisa Domenighini, Client Services Manager



PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Millpond Crossing-RSM Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A0J0826 - 11 05 20 1258
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APEX LABS COOLER RECEIPT FORM

Client: PBS Element WO#: A0 J0826

Project/Project #: mill pond crossing / 24159.000

Delivery Info:
Date/time received: 10-23-20 @ 17:00 By: TRH
Delivered by: Apex Client ESS FedEx UPS Swift Senvoy SDS Other

Cooler Inspection Date/time inspected: 10-23-20 @ 17:00 By: TRH
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>	<u>4.0</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>					
Temp. blanks? (Y/N)	<u>N</u>	<u>N</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>pool</u>					
Condition:	<u>good</u>	<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: 10/23/20 @ 1729 By: AKK
All samples intact? Yes No Comments: _____
Bottle labels/COCs agree? Yes No Comments: fall 10/23/20
Ditch-5 T on 1/2 VOAs
reads 1600.
COC/container discrepancies form initiated? Yes No
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: AKK Witness: WPLP Cooler Inspected by: AKK See Project Contact Form: Y

November 12, 2020

Ms. Lisa Domenighini
Apex Laboratories
6700 SW Sandburg Street
Portland, Oregon 97223

Re: 2018 DXN & PCB IDIQ
Work Order: 17316
SDG: A0J0826

Dear Ms. Domenighini:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 30, 2020. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,



Cynde Larkins
Project Manager

Enclosures

EJ

SUBCONTRACT ORDER

Apex Laboratories

A0J0826

CFA WO#17316

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Lisa Domenighini

RECEIVING LABORATORY:

Cape Fear Analytical, LLC
3306 Kitty Hawk Rd Suite 120
Wilmington, NC 28405
Phone : (910) 795-0421
Fax: -

Sample Name: DU-1--After Processing Soil Sampled: 10/23/20 11:00 (A0J0826-09)


Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) <i>Containers Supplied:</i> (B)4 oz Glass Jar	11/12/20 17:00	04/21/21 11:00	

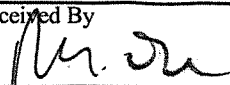
Sample Name: DU-2--After Processing Soil Sampled: 10/23/20 13:15 (A0J0826-11)

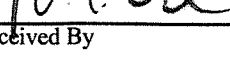
Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) <i>Containers Supplied:</i> (B)4 oz Glass Jar	11/12/20 17:00	04/21/21 13:15	

10 day TAT

temp. = 1.3°C

Released By:  Date: 10-28-20 Fed Ex (Shipper)

Received By:  Date: 11/30/20 10:00

Released By: Fed Ex (Shipper) Received By:  Date: 11/30/20 10:00

SAMPLE RECEIPT CHECKLIST
Cape Fear Analytical

Client: Apex	Work Order: 17316
Shipping Company: FedEx	Date/Time Received: 10/30/20 11:00

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			/
Samples identified as Foreign Soil?			/

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?			/
Samples < 2x background?			/

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			/

Air Witness: _____

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other(describe)
2 Custody seal/s present on cooler?			/	Seal intact? Yes No
3 Chain of Custody documents included with shipment?	/			
4 Samples requiring cold preservation within 0-6°C?	/			Preservation Method: ice bags loose ice blue ice dry ice none other (describe) 1.4-0.1 = 1.3° Temperature Blank present: Yes No
5 Aqueous samples found to have visible solids?			/	Sample IDs, containers affected:
5 Samples requiring chemical preservation at proper pH?			/	Sample IDs, containers affected and pH observed: If preservative added, Lot#:
7 Samples requiring preservation have no residual chlorine?			/	Sample IDs, containers affected: If preservative added, Lot#:
8 Samples received within holding time?	/			Sample IDs, tests affected:
9 Sample IDs on COC match IDs on containers?	/			Sample IDs, containers affected:
10 Date & time of COC match date & time on containers?	/			Sample IDs, containers affected:
11 Number of containers received match number indicated on COC?	/			List type and number of containers / Sample IDs, containers affected: Received 2-40+ clear
12 COC form is properly signed in relinquished/received sections?	/			

Comments:

High Resolution Dioxins and Furans Analysis

Case Narrative

**HDOX Case Narrative
Apex Laboratories (APEX)
SDG A0J0826
Work Order 17316**

Method/Analysis Information

Product: Dioxins/Furans by EPA Method 1613B in Solids
Analytical Method: EPA Method 1613B
Extraction Method: SW846 3540C
Analytical Batch Number: 45199
Clean Up Batch Number: 45198
Extraction Batch Number: 45197

Sample Analysis

Samples were received at 1.3°C. (17316001,17316002). The following samples were analyzed using the analytical protocol as established in EPA Method 1613B:

Sample ID	Client ID
12027838	Method Blank (MB)
12027839	Laboratory Control Sample (LCS)
12027840	Laboratory Control Sample Duplicate (LCSD)
17316001	DU-1--After Processing
17316002	DU-2--After Processing

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 18.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement

The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation

A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Receipt Temperature

Samples were received within temperature requirements.

Holding Time Specifications

CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation

A NCR was not required for this SDG.

Manual Integrations

Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

Sample Preparation

No difficulties were encountered during sample preparation.

System Configuration

This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP750_2	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Qualifier Definition Report for

APEX001 Apex Laboratories

Client SDG: A0J0826 CFA Work Order: 17316

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- B The target analyte was detected in the associated blank.
- J Value is estimated
- K Estimated Maximum Possible Concentration
- U Analyte was analyzed for, but not detected above the specified detection limit.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: 

Name: Erin Suhrie

Date: 12 NOV 2020

Title: Data Validator

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 17316001	Date Collected: 10/23/2020 11:00	Matrix: SOIL
Client Sample: 1613B Soil	Date Received: 10/30/2020 10:00	%Moisture: 3.5
Client ID: DU-1--After Processing		Prep Basis: Dry Weight
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/07/2020 02:42	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A_2-8		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 11.04 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.166	pg/g	0.166	0.939
40321-76-4	1,2,3,7,8-PeCDD	JK	0.582	pg/g	0.381	4.69
39227-28-6	1,2,3,4,7,8-HxCDD	J	1.47	pg/g	0.437	4.69
57653-85-7	1,2,3,6,7,8-HxCDD	J	3.43	pg/g	0.411	4.69
19408-74-3	1,2,3,7,8,9-HxCDD	J	2.36	pg/g	0.430	4.69
35822-46-9	1,2,3,4,6,7,8-HpCDD		97.4	pg/g	1.09	4.69
3268-87-9	1,2,3,4,6,7,8,9-OCDD		1120	pg/g	1.50	9.39
51207-31-9	2,3,7,8-TCDF	JK	0.347	pg/g	0.304	0.939
57117-41-6	1,2,3,7,8-PeCDF	J	0.364	pg/g	0.208	4.69
57117-31-4	2,3,4,7,8-PeCDF	J	0.490	pg/g	0.199	4.69
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.939	pg/g	0.317	4.69
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.631	pg/g	0.317	4.69
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.809	pg/g	0.332	4.69
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.486	pg/g	0.471	4.69
67562-39-4	1,2,3,4,6,7,8-HpCDF		14.8	pg/g	0.334	4.69
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK	0.766	pg/g	0.578	4.69
39001-02-0	1,2,3,4,6,7,8,9-OCDF		25.6	pg/g	0.770	9.39
41903-57-5	Total TeCDD	JK	1.27	pg/g	0.166	0.939
36088-22-9	Total PeCDD	JK	3.76	pg/g	0.381	4.69
34465-46-8	Total HxCDD	JK	23.9	pg/g	0.411	4.69
37871-00-4	Total HpCDD		176	pg/g	1.09	4.69
30402-14-3	Total TeCDF	JK	1.78	pg/g	0.304	0.939
30402-15-4	Total PeCDF	JK	8.23	pg/g	0.0781	4.69
55684-94-1	Total HxCDF	J	21.8	pg/g	0.317	4.69
38998-75-3	Total HpCDF	JK	42.2	pg/g	0.334	4.69
3333-30-2	TEQ WHO2005 ND=0 with EMPCs		3.26	pg/g		
3333-30-3	TEQ WHO2005 ND=0.5 with EMPCs		3.35	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		122	188	pg/g	65.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		118	188	pg/g	62.9	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		113	188	pg/g	60.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		120	188	pg/g	63.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		122	188	pg/g	65.0	(23%-140%)
13C-OCDD		222	375	pg/g	59.2	(17%-157%)
13C-2,3,7,8-TCDF		125	188	pg/g	66.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		113	188	pg/g	60.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		114	188	pg/g	60.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		112	188	pg/g	59.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		113	188	pg/g	60.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		114	188	pg/g	60.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		112	188	pg/g	59.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 17316001	Date Collected: 10/23/2020 11:00	Matrix: SOIL
Client Sample: 1613B Soil	Date Received: 10/30/2020 10:00	%Moisture: 3.5
Client ID: DU-1--After Processing		Prep Basis: Dry Weight
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/07/2020 02:42	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A_2-8		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 11.04 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			116	188	pg/g	61.8 (28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			114	188	pg/g	60.5 (26%-138%)
37Cl-2,3,7,8-TCDD			16.6	18.8	pg/g	88.2 (35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 17316002	Date Collected: 10/23/2020 13:15	Matrix: SOIL
Client Sample: 1613B Soil	Date Received: 10/30/2020 10:00	%Moisture: 32.3
Client ID: DU-2--After Processing		Prep Basis: Dry Weight
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/07/2020 03:30	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A_2-9		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 15.42 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.194	pg/g	0.194	0.958
40321-76-4	1,2,3,7,8-PeCDD	U	0.168	pg/g	0.168	4.79
39227-28-6	1,2,3,4,7,8-HxCDD	U	0.211	pg/g	0.211	4.79
57653-85-7	1,2,3,6,7,8-HxCDD	U	0.201	pg/g	0.201	4.79
19408-74-3	1,2,3,7,8,9-HxCDD	U	0.209	pg/g	0.209	4.79
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	2.46	pg/g	0.506	4.79
3268-87-9	1,2,3,4,6,7,8,9-OCDD		22.2	pg/g	0.788	9.58
51207-31-9	2,3,7,8-TCDF	U	0.268	pg/g	0.268	0.958
57117-41-6	1,2,3,7,8-PeCDF	J	0.176	pg/g	0.169	4.79
57117-31-4	2,3,4,7,8-PeCDF	U	0.163	pg/g	0.163	4.79
70648-26-9	1,2,3,4,7,8-HxCDF	JK	0.243	pg/g	0.186	4.79
57117-44-9	1,2,3,6,7,8-HxCDF	U	0.179	pg/g	0.179	4.79
60851-34-5	2,3,4,6,7,8-HxCDF	U	0.179	pg/g	0.179	4.79
72918-21-9	1,2,3,7,8,9-HxCDF	U	0.276	pg/g	0.276	4.79
67562-39-4	1,2,3,4,6,7,8-HpCDF	BJ	0.880	pg/g	0.224	4.79
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	0.389	pg/g	0.389	4.79
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	0.544	pg/g	0.544	9.58
41903-57-5	Total TeCDD	U	0.194	pg/g	0.194	0.958
36088-22-9	Total PeCDD	JK	0.171	pg/g	0.168	4.79
34465-46-8	Total HxCDD	JK	0.711	pg/g	0.201	4.79
37871-00-4	Total HpCDD	J	4.40	pg/g	0.506	4.79
30402-14-3	Total TeCDF	U	0.268	pg/g	0.268	0.958
30402-15-4	Total PeCDF	BJK	0.909	pg/g	0.0941	4.79
55684-94-1	Total HxCDF	JK	1.49	pg/g	0.179	4.79
38998-75-3	Total HpCDF	BJ	1.89	pg/g	0.224	4.79
3333-30-2	TEQ WHO2005 ND=0 with EMPCs		0.0697	pg/g		
3333-30-3	TEQ WHO2005 ND=0.5 with EMPCs		0.353	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		108	192	pg/g	56.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		134	192	pg/g	69.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		97.3	192	pg/g	50.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		108	192	pg/g	56.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		115	192	pg/g	60.0	(23%-140%)
13C-OCDD		184	383	pg/g	47.9	(17%-157%)
13C-2,3,7,8-TCDF		103	192	pg/g	53.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		132	192	pg/g	68.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		131	192	pg/g	68.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		98.2	192	pg/g	51.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		100	192	pg/g	52.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		104	192	pg/g	54.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		102	192	pg/g	53.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 17316002	Date Collected: 10/23/2020 13:15	Matrix: SOIL
Client Sample: 1613B Soil	Date Received: 10/30/2020 10:00	%Moisture: 32.3
Client ID: DU-2--After Processing		Prep Basis: Dry Weight
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/07/2020 03:30	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A_2-9		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 15.42 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			112	192	pg/g	58.6 (28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			108	192	pg/g	56.4 (26%-138%)
37Cl-2,3,7,8-TCDD			16.5	19.2	pg/g	86.1 (35%-197%)

- Comments:**
- B** The target analyte was detected in the associated blank.
 - J** Value is estimated
 - K** Estimated Maximum Possible Concentration
 - U** Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: A0J0826

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12027839	LCS for batch 45197	13C-2,3,7,8-TCDD		77.8	(20%-175%)
		13C-1,2,3,7,8-PeCDD		86.6	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		73.2	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		83.6	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		87.1	(22%-166%)
		13C-OCDD		78.5	(13%-199%)
		13C-2,3,7,8-TCDF		81.0	(22%-152%)
		13C-1,2,3,7,8-PeCDF		87.9	(21%-192%)
		13C-2,3,4,7,8-PeCDF		86.5	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		77.4	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		78.7	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		79.5	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		80.4	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		84.4	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		83.7	(20%-186%)
		37Cl-2,3,7,8-TCDD		91.0	(31%-191%)
12027840	LCSD for batch 45197	13C-2,3,7,8-TCDD		74.4	(20%-175%)
		13C-1,2,3,7,8-PeCDD		82.3	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		66.5	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		73.5	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		79.9	(22%-166%)
		13C-OCDD		72.3	(13%-199%)
		13C-2,3,7,8-TCDF		77.2	(22%-152%)
		13C-1,2,3,7,8-PeCDF		85.4	(21%-192%)
		13C-2,3,4,7,8-PeCDF		83.8	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		68.0	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		71.7	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		71.3	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		71.4	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		74.5	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		79.1	(20%-186%)
		37Cl-2,3,7,8-TCDD		93.9	(31%-191%)
12027838	MB for batch 45197	13C-2,3,7,8-TCDD		59.4	(25%-164%)
		13C-1,2,3,7,8-PeCDD		61.3	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		56.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		61.8	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		66.3	(23%-140%)
		13C-OCDD		57.4	(17%-157%)
		13C-2,3,7,8-TCDF		60.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		63.0	(24%-185%)
		13C-2,3,4,7,8-PeCDF		62.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		56.5	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		60.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		61.8	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		59.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		65.4	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		64.7	(26%-138%)
		37Cl-2,3,7,8-TCDD		86.9	(35%-197%)
17316001	DU-1--After Processing	13C-2,3,7,8-TCDD		65.1	(25%-164%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: A0J0826

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
17316001	DU-1--After Processing	13C-1,2,3,7,8-PeCDD		62.9	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		60.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		63.7	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		65.0	(23%-140%)
		13C-OCDD		59.2	(17%-157%)
		13C-2,3,7,8-TCDF		66.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		60.4	(24%-185%)
		13C-2,3,4,7,8-PeCDF		60.9	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		59.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		60.0	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		60.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		59.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		61.8	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		60.5	(26%-138%)
		37Cl-2,3,7,8-TCDD		88.2	(35%-197%)
17316002	DU-2--After Processing	13C-2,3,7,8-TCDD		56.2	(25%-164%)
		13C-1,2,3,7,8-PeCDD		69.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		50.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		56.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		60.0	(23%-140%)
		13C-OCDD		47.9	(17%-157%)
		13C-2,3,7,8-TCDF		53.9	(24%-169%)
		13C-1,2,3,7,8-PeCDF		68.7	(24%-185%)
		13C-2,3,4,7,8-PeCDF		68.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		51.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		52.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		54.3	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		53.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		58.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		56.4	(26%-138%)
37Cl-2,3,7,8-TCDD		86.1	(35%-197%)		

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: A0J0826

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 45197

Matrix: SOIL

Lab Sample ID: 12027839

Instrument: HRP750

Analysis Date: 11/06/2020 09:30

Dilution: 1

Analyst: MLL

Prep Batch ID: 45197

Batch ID: 45199

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	20.0	20.9	104	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	100	103	103	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	100	105	105	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	100	101	101	76-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	100	106	106	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	100	97.8	97.8	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	200	200	100	78-144
51207-31-9	LCS 2,3,7,8-TCDF	20.0	19.3	96.6	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	100	102	102	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	100	108	108	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	100	99.5	99.5	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	100	101	101	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	100	99.1	99.1	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	100	101	101	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	100	101	101	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	100	101	101	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	200	203	101	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: A0J0826

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 45197

Matrix: SOIL

Lab Sample ID: 12027840

Instrument: HRP750

Analysis Date: 11/06/2020 10:18

Dilution: 1

Analyst: MLL

Prep Batch ID: 45197

Batch ID: 45199

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	20.0	21.3	106	67-158	1.93	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	100	107	107	70-142	3.84	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	100	102	102	70-164	2.44	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	100	103	103	76-134	2.50	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	100	107	107	64-162	0.779	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	100	97.4	97.4	70-140	0.375	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	200	202	101	78-144	0.888	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	20.0	20.0	100	75-158	3.46	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	100	101	101	80-134	0.872	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	100	108	108	68-160	0.348	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	100	102	102	72-134	2.38	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	100	99.9	99.9	84-130	1.12	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	100	100	100	70-156	0.924	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	100	104	104	78-130	3.38	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	100	102	102	82-122	1.63	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	100	97.5	97.5	78-138	3.83	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	200	196	98	63-170	3.35	0-20

Method Blank Summary

Page 1 of 1

SDG Number: A0J0826
Client ID: MB for batch 45197
Lab Sample ID: 12027838
Column:

Client: APEX001
Instrument ID: HRP750
Prep Date: 02-NOV-20

Matrix: SOIL
Data File: A06NOV20A-4
Analyzed: 11/06/20 11:07

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 45197	12027839	A06NOV20A-2	11/06/20	0930
02 LCSD for batch 45197	12027840	A06NOV20A-3	11/06/20	1018
03 DU-1--After Processing	17316001	A06NOV20A_2-8	11/07/20	0242
04 DU-2--After Processing	17316002	A06NOV20A_2-9	11/07/20	0330

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: A0J0826
Lab Sample ID: 12027838
Client Sample: QC for batch 45197
Client ID: MB for batch 45197
Batch ID: 45199
Run Date: 11/06/2020 11:07
Data File: A06NOV20A-4
Prep Batch: 45197
Prep Date: 02-NOV-20

Client: APEX001
Method: EPA Method 1613B
Analyst: MLL
Prep Method: SW846 3540C
Prep Aliquot: 10 g

Project: APEX00217
Matrix: SOIL
Prep Basis: As Received
Instrument: HRP750
Dilution: 1

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.254	pg/g	0.254	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	0.186	pg/g	0.186	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	0.246	pg/g	0.246	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	0.224	pg/g	0.224	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	0.236	pg/g	0.236	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	0.348	pg/g	0.348	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.864	pg/g	0.686	10.0
51207-31-9	2,3,7,8-TCDF	U	0.248	pg/g	0.248	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	0.152	pg/g	0.152	5.00
57117-31-4	2,3,4,7,8-PeCDF	U	0.148	pg/g	0.148	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	0.184	pg/g	0.184	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	0.190	pg/g	0.190	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	0.196	pg/g	0.196	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	0.300	pg/g	0.300	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.416	pg/g	0.196	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	0.310	pg/g	0.310	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	0.608	pg/g	0.608	10.0
41903-57-5	Total TeCDD	U	0.254	pg/g	0.254	1.00
36088-22-9	Total PeCDD	U	0.186	pg/g	0.186	5.00
34465-46-8	Total HxCDD	U	0.224	pg/g	0.224	5.00
37871-00-4	Total HpCDD	U	0.348	pg/g	0.348	5.00
30402-14-3	Total TeCDF	U	0.248	pg/g	0.248	1.00
30402-15-4	Total PeCDF	J	0.190	pg/g	0.120	5.00
55684-94-1	Total HxCDF	U	0.184	pg/g	0.184	5.00
38998-75-3	Total HpCDF	JK	0.416	pg/g	0.196	5.00
3333-30-2	TEQ WHO2005 ND=0 with EMPCs		0.00442	pg/g		
3333-30-3	TEQ WHO2005 ND=0.5 with EMPCs		0.343	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		119	200	pg/g	59.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		123	200	pg/g	61.3	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		112	200	pg/g	56.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		124	200	pg/g	61.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		133	200	pg/g	66.3	(23%-140%)
13C-OCDD		230	400	pg/g	57.4	(17%-157%)
13C-2,3,7,8-TCDF		121	200	pg/g	60.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		126	200	pg/g	63.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		124	200	pg/g	62.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		113	200	pg/g	56.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		120	200	pg/g	60.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		124	200	pg/g	61.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		118	200	pg/g	59.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 12027838		Matrix: SOIL
Client Sample: QC for batch 45197		
Client ID: MB for batch 45197		Prep Basis: As Received
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/06/2020 11:07	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A-4		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			131	200	pg/g	65.4 (28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			129	200	pg/g	64.7 (26%-138%)
37Cl-2,3,7,8-TCDD			17.4	20.0	pg/g	86.9 (35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 12027839		Matrix: SOIL
Client Sample: QC for batch 45197		
Client ID: LCS for batch 45197		Prep Basis: As Received
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/06/2020 09:30	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A-2		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.9	pg/g	0.234	1.00
40321-76-4	1,2,3,7,8-PeCDD		103	pg/g	0.380	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		105	pg/g	0.604	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		101	pg/g	0.602	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		106	pg/g	0.612	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		97.8	pg/g	0.628	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		200	pg/g	1.56	10.0
51207-31-9	2,3,7,8-TCDF		19.3	pg/g	0.322	1.00
57117-41-6	1,2,3,7,8-PeCDF		102	pg/g	0.420	5.00
57117-31-4	2,3,4,7,8-PeCDF		108	pg/g	0.400	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		99.5	pg/g	0.768	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		101	pg/g	0.764	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		99.1	pg/g	0.846	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		101	pg/g	1.26	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		101	pg/g	0.664	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		101	pg/g	1.10	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		203	pg/g	1.55	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		156	200	pg/g	77.8	(20%-175%)
13C-1,2,3,7,8-PeCDD		173	200	pg/g	86.6	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		146	200	pg/g	73.2	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		167	200	pg/g	83.6	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		174	200	pg/g	87.1	(22%-166%)
13C-OCDD		314	400	pg/g	78.5	(13%-199%)
13C-2,3,7,8-TCDF		162	200	pg/g	81.0	(22%-152%)
13C-1,2,3,7,8-PeCDF		176	200	pg/g	87.9	(21%-192%)
13C-2,3,4,7,8-PeCDF		173	200	pg/g	86.5	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		155	200	pg/g	77.4	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		157	200	pg/g	78.7	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		159	200	pg/g	79.5	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		161	200	pg/g	80.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		169	200	pg/g	84.4	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		167	200	pg/g	83.7	(20%-186%)
37Cl-2,3,7,8-TCDD		18.2	20.0	pg/g	91.0	(31%-191%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: A0J0826	Client: APEX001	Project: APEX00217
Lab Sample ID: 12027840		Matrix: SOIL
Client Sample: QC for batch 45197		
Client ID: LCSD for batch 45197		Prep Basis: As Received
Batch ID: 45199	Method: EPA Method 1613B	
Run Date: 11/06/2020 10:18	Analyst: MLL	Instrument: HRP750
Data File: A06NOV20A-3		Dilution: 1
Prep Batch: 45197	Prep Method: SW846 3540C	
Prep Date: 02-NOV-20	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.3	pg/g	0.224	1.00
40321-76-4	1,2,3,7,8-PeCDD		107	pg/g	0.378	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		102	pg/g	0.492	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		103	pg/g	0.476	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		107	pg/g	0.490	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		97.4	pg/g	0.652	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		202	pg/g	1.20	10.0
51207-31-9	2,3,7,8-TCDF		20.0	pg/g	0.260	1.00
57117-41-6	1,2,3,7,8-PeCDF		101	pg/g	0.438	5.00
57117-31-4	2,3,4,7,8-PeCDF		108	pg/g	0.408	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		102	pg/g	0.774	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		99.9	pg/g	0.728	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		100	pg/g	0.776	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		104	pg/g	1.20	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		102	pg/g	0.618	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		97.5	pg/g	1.00	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		196	pg/g	1.36	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		149	200	pg/g	74.4	(20%-175%)
13C-1,2,3,7,8-PeCDD		165	200	pg/g	82.3	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		133	200	pg/g	66.5	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		147	200	pg/g	73.5	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		160	200	pg/g	79.9	(22%-166%)
13C-OCDD		289	400	pg/g	72.3	(13%-199%)
13C-2,3,7,8-TCDF		154	200	pg/g	77.2	(22%-152%)
13C-1,2,3,7,8-PeCDF		171	200	pg/g	85.4	(21%-192%)
13C-2,3,4,7,8-PeCDF		168	200	pg/g	83.8	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		136	200	pg/g	68.0	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		143	200	pg/g	71.7	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		143	200	pg/g	71.3	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		143	200	pg/g	71.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		149	200	pg/g	74.5	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		158	200	pg/g	79.1	(20%-186%)
37Cl-2,3,7,8-TCDD		18.8	20.0	pg/g	93.9	(31%-191%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.



ANALYTICAL REPORT

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Tuesday, April 6, 2021
Chris Sheridan
PBS Engineering and Environmental
4412 SW Corbett Ave
Portland, OR 97239

RE: A1C1055 - Mill Pond - 24159.000

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 A1C1055, which was received by the laboratory on 3/26/2021 at 10:20:00AM.

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 sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Table with 4 columns: Cooler#1, 2.3 degC, Cooler#2, 2.6 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

Handwritten signature of Lisa Domenighini

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

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<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Mill Pond</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB1-GW	A1C1055-01	Water	03/25/21 11:45	03/26/21 10:20
SB3-2	A1C1055-02	Soil	03/25/21 12:45	03/26/21 10:20
SB3-27	A1C1055-03	Soil	03/25/21 13:45	03/26/21 10:20
SB4-2	A1C1055-04	Soil	03/25/21 14:15	03/26/21 10:20
SB4-27	A1C1055-05	Soil	03/25/21 15:15	03/26/21 10:20
SB4-GW	A1C1055-06	Water	03/25/21 15:45	03/26/21 10:20
SB5-2	A1C1055-07	Soil	03/25/21 16:15	03/26/21 10:20
SB5-27	A1C1055-08	Soil	03/25/21 16:55	03/26/21 10:20
SB5-GW	A1C1055-09	Water	03/25/21 17:15	03/26/21 10:20
Trip Blank-032521	A1C1055-10	Water	03/25/21 16:00	03/26/21 10:20

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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SB1-GW (A1C1055-01)				Matrix: Water		Batch: 1031156		PRES
Diesel	289	---	220	ug/L	1	03/31/21 00:21	NWTPH-Dx	F-13
Oil	ND	---	440	ug/L	1	03/31/21 00:21	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/31/21 00:21</i>	<i>NWTPH-Dx</i>
SB3-2 (A1C1055-02)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	26.6	mg/kg dry	1	03/31/21 02:14	NWTPH-Dx	
Oil	ND	---	53.3	mg/kg dry	1	03/31/21 02:14	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/31/21 02:14</i>	<i>NWTPH-Dx</i>
SB3-27 (A1C1055-03)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	27.8	mg/kg dry	1	03/31/21 02:34	NWTPH-Dx	
Oil	ND	---	55.6	mg/kg dry	1	03/31/21 02:34	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 64 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/31/21 02:34</i>	<i>NWTPH-Dx</i>
SB4-2 (A1C1055-04)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	26.6	mg/kg dry	1	03/31/21 02:55	NWTPH-Dx	
Oil	ND	---	53.1	mg/kg dry	1	03/31/21 02:55	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/31/21 02:55</i>	<i>NWTPH-Dx</i>
SB4-27 (A1C1055-05)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	25.0	mg/kg dry	1	03/30/21 21:07	NWTPH-Dx	
Oil	ND	---	50.0	mg/kg dry	1	03/30/21 21:07	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/30/21 21:07</i>	<i>NWTPH-Dx</i>
SB4-GW (A1C1055-06)				Matrix: Water		Batch: 1031156		PRES
Diesel	ND	---	204	ug/L	1	03/31/21 00:43	NWTPH-Dx	
Oil	ND	---	408	ug/L	1	03/31/21 00:43	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/31/21 00:43</i>	<i>NWTPH-Dx</i>
SB5-2 (A1C1055-07)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	27.2	mg/kg dry	1	03/30/21 21:27	NWTPH-Dx	
Oil	ND	---	54.4	mg/kg dry	1	03/30/21 21:27	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>03/30/21 21:27</i>	<i>NWTPH-Dx</i>
SB5-27 (A1C1055-08)				Matrix: Soil		Batch: 1031166		
Diesel	ND	---	25.4	mg/kg dry	1	03/30/21 21:48	NWTPH-Dx	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

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PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SB5-27 (A1C1055-08)				Matrix: Soil		Batch: 1031166		
Oil	ND	---	50.8	mg/kg dry	1	03/30/21 21:48	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/30/21 21:48</i>	<i>NWTPH-Dx</i>	
SB5-GW (A1C1055-09)				Matrix: Water		Batch: 1031156		
Diesel	ND	---	202	ug/L	1	03/31/21 01:04	NWTPH-Dx	
Oil	ND	---	404	ug/L	1	03/31/21 01:04	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/31/21 01:04</i>	<i>NWTPH-Dx</i>	

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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	7.92	mg/kg dry	50	03/29/21 18:35	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 18:35</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>105 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 18:35</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	8.29	mg/kg dry	50	03/29/21 19:29	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 19:29</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>106 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 19:29</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	8.37	mg/kg dry	50	03/29/21 19:56	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 19:56</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>106 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 19:56</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	5.74	mg/kg dry	50	03/29/21 20:23	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 20:23</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>106 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 20:23</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Water		Batch: 1031184			
Gasoline Range Organics	ND	---	100	ug/L	1	03/31/21 09:00	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/31/21 09:00</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>102 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/31/21 09:00</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	8.55	mg/kg dry	50	03/29/21 20:50	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 20:50</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>107 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 20:50</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Soil		Batch: 1031108			
Gasoline Range Organics	ND	---	5.76	mg/kg dry	50	03/29/21 21:17	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/29/21 21:17</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>105 %</i>	<i>50-150 %</i>	<i>1</i>	<i>03/29/21 21:17</i>	<i>NWTPH-Gx (MS)</i>	
			Matrix: Water		Batch: 1031184			
Gasoline Range Organics	ND	---	100	ug/L	1	03/31/21 09:27	NWTPH-Gx (MS)	

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<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Mill Pond</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SB5-GW (A1C1055-09)				Matrix: Water		Batch: 1031184		
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>03/31/21 09:27</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>100 %</i>		<i>50-150 %</i>	<i>1</i>	<i>03/31/21 09:27</i>	<i>NWTPH-Gx (MS)</i>	

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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Trip Blank-032521 (A1C1055-10)			Matrix: Water			Batch: 1031184		
Acetone	ND	---	20.0	ug/L	1	03/31/21 00:50	EPA 8260D	
Acrylonitrile	ND	---	2.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Benzene	ND	---	0.200	ug/L	1	03/31/21 00:50	EPA 8260D	
Bromobenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Bromochloromethane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Bromodichloromethane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Bromoform	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Bromomethane	ND	---	5.00	ug/L	1	03/31/21 00:50	EPA 8260D	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	03/31/21 00:50	EPA 8260D	
n-Butylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
sec-Butylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
tert-Butylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Carbon disulfide	ND	---	10.0	ug/L	1	03/31/21 00:50	EPA 8260D	
Carbon tetrachloride	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Chlorobenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Chloroethane	ND	---	5.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Chloroform	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Chloromethane	ND	---	5.00	ug/L	1	03/31/21 00:50	EPA 8260D	
2-Chlorotoluene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
4-Chlorotoluene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Dibromochloromethane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Dibromomethane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Trip Blank-032521 (A1C1055-10)			Matrix: Water			Batch: 1031184		
Ethylbenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	03/31/21 00:50	EPA 8260D	
2-Hexanone	ND	---	10.0	ug/L	1	03/31/21 00:50	EPA 8260D	
Isopropylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Methylene chloride	ND	---	10.0	ug/L	1	03/31/21 00:50	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	03/31/21 00:50	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Naphthalene	ND	---	4.00	ug/L	1	03/31/21 00:50	EPA 8260D	
n-Propylbenzene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Styrene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
Vinyl chloride	ND	---	0.400	ug/L	1	03/31/21 00:50	EPA 8260D	
m,p-Xylene	ND	---	1.00	ug/L	1	03/31/21 00:50	EPA 8260D	
o-Xylene	ND	---	0.500	ug/L	1	03/31/21 00:50	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 80-120 %</i>	<i>1</i>	<i>03/31/21 00:50</i>	<i>EPA 8260D</i>	
<i>Toluene-d8 (Surr)</i>			<i>97 %</i>	<i>80-120 %</i>	<i>1</i>	<i>03/31/21 00:50</i>	<i>EPA 8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>			<i>103 %</i>	<i>80-120 %</i>	<i>1</i>	<i>03/31/21 00:50</i>	<i>EPA 8260D</i>	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SB1-GW (A1C1055-01RE1)			Matrix: Water		Batch: 1040016			
Acenaphthene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Acenaphthylene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Anthracene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Benz(a)anthracene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Benzo(a)pyrene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Benzo(b)fluoranthene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Benzo(k)fluoranthene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Benzo(g,h,i)perylene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Chrysene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Dibenz(a,h)anthracene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Fluoranthene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Fluorene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Indeno(1,2,3-cd)pyrene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
1-Methylnaphthalene	ND	---	0.0777	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
2-Methylnaphthalene	ND	---	0.0777	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Naphthalene	ND	---	0.0777	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Phenanthrene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Pyrene	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
Dibenzofuran	ND	---	0.0388	ug/L	1	04/01/21 16:57	EPA 8270E SIM	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 44-120 %</i>	<i>1</i>	<i>04/01/21 16:57</i>	<i>EPA 8270E SIM</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>39 %</i>	<i>50-134 %</i>	<i>1</i>	<i>04/01/21 16:57</i>	<i>EPA 8270E SIM</i>	<i>S-06</i>

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SB3-2 (A1C1055-02)				Matrix: Soil		Batch: 1031151		
% Solids	72.9	---	1.00	%	1	03/31/21 07:38	EPA 8000D	
SB3-27 (A1C1055-03)				Matrix: Soil		Batch: 1031151		
% Solids	68.5	---	1.00	%	1	03/31/21 07:38	EPA 8000D	
SB4-2 (A1C1055-04)				Matrix: Soil		Batch: 1031151		
% Solids	72.0	---	1.00	%	1	03/31/21 07:38	EPA 8000D	
SB4-27 (A1C1055-05)				Matrix: Soil		Batch: 1031151		
% Solids	83.7	---	1.00	%	1	03/31/21 07:38	EPA 8000D	
SB5-2 (A1C1055-07)				Matrix: Soil		Batch: 1031151		
% Solids	72.4	---	1.00	%	1	03/31/21 07:38	EPA 8000D	
SB5-27 (A1C1055-08)				Matrix: Soil		Batch: 1031151		
% Solids	78.2	---	1.00	%	1	03/31/21 07:38	EPA 8000D	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031156 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (1031156-BLK1)			Prepared: 03/30/21 09:52 Analyzed: 03/30/21 21:06									
NWTPH-Dx												
Diesel	ND	---	182	ug/L	1	---	---	---	---	---	---	---
Oil	ND	---	364	ug/L	1	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 95 % Limits: 50-150 %</i>				<i>Dilution: 1x</i>					
LCS (1031156-BS1)			Prepared: 03/30/21 09:52 Analyzed: 03/30/21 21:28									
NWTPH-Dx												
Diesel	1190	---	200	ug/L	1	1250	---	95	59 - 115%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 99 % Limits: 50-150 %</i>				<i>Dilution: 1x</i>					
Batch 1031166 - EPA 3546 (Fuels)						Soil						
Blank (1031166-BLK1)			Prepared: 03/30/21 13:10 Analyzed: 03/30/21 21:07									
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	---	50.0	mg/kg wet	1	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 87 % Limits: 50-150 %</i>				<i>Dilution: 1x</i>					
LCS (1031166-BS1)			Prepared: 03/30/21 13:10 Analyzed: 03/30/21 21:27									
NWTPH-Dx												
Diesel	123	---	20.0	mg/kg wet	1	125	---	99	73 - 115%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 95 % Limits: 50-150 %</i>				<i>Dilution: 1x</i>					
Duplicate (1031166-DUP2)			Prepared: 03/30/21 13:15 Analyzed: 03/30/21 22:08									
QC Source Sample: SB5-27 (A1C1055-08)												
NWTPH-Dx												
Diesel	ND	---	25.4	mg/kg dry	1	---	ND	---	---	---	30%	---
Oil	ND	---	50.9	mg/kg dry	1	---	ND	---	---	---	30%	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 73 % Limits: 50-150 %</i>				<i>Dilution: 1x</i>					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031108 - EPA 5035A						Soil						
Blank (1031108-BLK1)		Prepared: 03/29/21 09:00 Analyzed: 03/29/21 11:52										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>108 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (1031108-BS2)		Prepared: 03/29/21 09:00 Analyzed: 03/29/21 10:58										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	23.7	---	5.00	mg/kg wet	50	25.0	---	95	80 - 120%	---	---	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (1031108-DUP2)		Prepared: 03/25/21 12:45 Analyzed: 03/29/21 19:02										
<u>QC Source Sample: SB3-2 (A1C1055-02)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	7.49	mg/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>105 %</i>		<i>50-150 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
Blank (1031184-BLK1)		Prepared: 03/30/21 18:38 Analyzed: 03/31/21 00:23										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (1031184-BS2)		Prepared: 03/30/21 18:38 Analyzed: 03/30/21 23:56										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	407	---	100	ug/L	1	500	---	81	80 - 120%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>97 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (1031184-DUP1)		Prepared: 03/30/21 18:38 Analyzed: 03/31/21 09:55										
<u>QC Source Sample: SB4-GW (A1C1055-06)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	100	ug/L	1	---	ND	---	---	---	30%	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>"</i>						

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PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
Blank (1031184-BLK1)		Prepared: 03/30/21 18:38		Analyzed: 03/31/21 00:23								
EPA 8260D												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromoform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	---

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4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
Blank (1031184-BLK1)	Prepared: 03/30/21 18:38					Analyzed: 03/31/21 00:23						
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	4.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 101 % Limits: 80-120 % Dilution: 1x

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
Blank (1031184-BLK1)		Prepared: 03/30/21 18:38		Analyzed: 03/31/21 00:23								
<i>Surr: Toluene-d8 (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>104 %</i>		<i>80-120 %</i>		<i>"</i>						
LCS (1031184-BS1)		Prepared: 03/30/21 18:38		Analyzed: 03/30/21 23:28								
EPA 8260D												
Acetone	32.8	---	20.0	ug/L	1	40.0	---	82	80 - 120%	---	---	
Acrylonitrile	17.4	---	2.00	ug/L	1	20.0	---	87	80 - 120%	---	---	
Benzene	18.1	---	0.200	ug/L	1	20.0	---	91	80 - 120%	---	---	
Bromobenzene	19.6	---	0.500	ug/L	1	20.0	---	98	80 - 120%	---	---	
Bromochloromethane	22.2	---	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
Bromodichloromethane	21.9	---	1.00	ug/L	1	20.0	---	110	80 - 120%	---	---	
Bromoform	28.1	---	1.00	ug/L	1	20.0	---	140	80 - 120%	---	---	Q-56
Bromomethane	23.8	---	5.00	ug/L	1	20.0	---	119	80 - 120%	---	---	
2-Butanone (MEK)	33.0	---	10.0	ug/L	1	40.0	---	82	80 - 120%	---	---	
n-Butylbenzene	18.5	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
sec-Butylbenzene	19.0	---	1.00	ug/L	1	20.0	---	95	80 - 120%	---	---	
tert-Butylbenzene	17.6	---	1.00	ug/L	1	20.0	---	88	80 - 120%	---	---	
Carbon disulfide	17.6	---	10.0	ug/L	1	20.0	---	88	80 - 120%	---	---	
Carbon tetrachloride	24.1	---	1.00	ug/L	1	20.0	---	120	80 - 120%	---	---	
Chlorobenzene	19.7	---	0.500	ug/L	1	20.0	---	99	80 - 120%	---	---	
Chloroethane	20.6	---	5.00	ug/L	1	20.0	---	103	80 - 120%	---	---	
Chloroform	20.2	---	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
Chloromethane	17.2	---	5.00	ug/L	1	20.0	---	86	80 - 120%	---	---	
2-Chlorotoluene	18.9	---	1.00	ug/L	1	20.0	---	95	80 - 120%	---	---	
4-Chlorotoluene	18.2	---	1.00	ug/L	1	20.0	---	91	80 - 120%	---	---	
Dibromochloromethane	23.3	---	1.00	ug/L	1	20.0	---	117	80 - 120%	---	---	
1,2-Dibromo-3-chloropropane	18.2	---	5.00	ug/L	1	20.0	---	91	80 - 120%	---	---	
1,2-Dibromoethane (EDB)	19.5	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Dibromomethane	20.8	---	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
1,2-Dichlorobenzene	19.2	---	0.500	ug/L	1	20.0	---	96	80 - 120%	---	---	
1,3-Dichlorobenzene	19.9	---	0.500	ug/L	1	20.0	---	100	80 - 120%	---	---	
1,4-Dichlorobenzene	19.2	---	0.500	ug/L	1	20.0	---	96	80 - 120%	---	---	
Dichlorodifluoromethane	25.0	---	1.00	ug/L	1	20.0	---	125	80 - 120%	---	---	Q-56
1,1-Dichloroethane	17.6	---	0.400	ug/L	1	20.0	---	88	80 - 120%	---	---	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
LCS (1031184-BS1)		Prepared: 03/30/21 18:38		Analyzed: 03/30/21 23:28								
1,2-Dichloroethane (EDC)	20.2	---	0.400	ug/L	1	20.0	---	101	80 - 120%	---	---	
1,1-Dichloroethene	18.1	---	0.400	ug/L	1	20.0	---	90	80 - 120%	---	---	
cis-1,2-Dichloroethene	18.6	---	0.400	ug/L	1	20.0	---	93	80 - 120%	---	---	
trans-1,2-Dichloroethene	18.3	---	0.400	ug/L	1	20.0	---	92	80 - 120%	---	---	
1,2-Dichloropropane	17.3	---	0.500	ug/L	1	20.0	---	87	80 - 120%	---	---	
1,3-Dichloropropane	18.7	---	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
2,2-Dichloropropane	17.1	---	1.00	ug/L	1	20.0	---	86	80 - 120%	---	---	
1,1-Dichloropropene	19.2	---	1.00	ug/L	1	20.0	---	96	80 - 120%	---	---	
cis-1,3-Dichloropropene	18.4	---	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
trans-1,3-Dichloropropene	18.6	---	1.00	ug/L	1	20.0	---	93	80 - 120%	---	---	
Ethylbenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Hexachlorobutadiene	19.4	---	5.00	ug/L	1	20.0	---	97	80 - 120%	---	---	
2-Hexanone	32.5	---	10.0	ug/L	1	40.0	---	81	80 - 120%	---	---	
Isopropylbenzene	20.9	---	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
4-Isopropyltoluene	19.4	---	1.00	ug/L	1	20.0	---	97	80 - 120%	---	---	
Methylene chloride	19.8	---	10.0	ug/L	1	20.0	---	99	80 - 120%	---	---	
4-Methyl-2-pentanone (MiBK)	32.9	---	10.0	ug/L	1	40.0	---	82	80 - 120%	---	---	
Methyl tert-butyl ether (MTBE)	16.5	---	1.00	ug/L	1	20.0	---	82	80 - 120%	---	---	
Naphthalene	16.6	---	4.00	ug/L	1	20.0	---	83	80 - 120%	---	---	
n-Propylbenzene	18.3	---	0.500	ug/L	1	20.0	---	91	80 - 120%	---	---	
Styrene	21.1	---	1.00	ug/L	1	20.0	---	105	80 - 120%	---	---	
1,1,1,2-Tetrachloroethane	23.0	---	0.400	ug/L	1	20.0	---	115	80 - 120%	---	---	
1,1,2,2-Tetrachloroethane	17.8	---	0.500	ug/L	1	20.0	---	89	80 - 120%	---	---	
Tetrachloroethene (PCE)	21.2	---	0.400	ug/L	1	20.0	---	106	80 - 120%	---	---	
Toluene	18.2	---	1.00	ug/L	1	20.0	---	91	80 - 120%	---	---	
1,2,3-Trichlorobenzene	21.9	---	2.00	ug/L	1	20.0	---	110	80 - 120%	---	---	
1,2,4-Trichlorobenzene	21.7	---	2.00	ug/L	1	20.0	---	108	80 - 120%	---	---	
1,1,1-Trichloroethane	20.5	---	0.400	ug/L	1	20.0	---	103	80 - 120%	---	---	
1,1,2-Trichloroethane	20.5	---	0.500	ug/L	1	20.0	---	102	80 - 120%	---	---	
Trichloroethene (TCE)	20.7	---	0.400	ug/L	1	20.0	---	104	80 - 120%	---	---	
Trichlorofluoromethane	23.6	---	2.00	ug/L	1	20.0	---	118	80 - 120%	---	---	
1,2,3-Trichloropropane	19.0	---	1.00	ug/L	1	20.0	---	95	80 - 120%	---	---	
1,2,4-Trimethylbenzene	19.9	---	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,3,5-Trimethylbenzene	20.9	---	1.00	ug/L	1	20.0	---	105	80 - 120%	---	---	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
LCS (1031184-BS1)		Prepared: 03/30/21 18:38		Analyzed: 03/30/21 23:28								
Vinyl chloride	19.6	---	0.400	ug/L	1	20.0	---	98	80 - 120%	---	---	
m,p-Xylene	40.2	---	1.00	ug/L	1	40.0	---	101	80 - 120%	---	---	
o-Xylene	19.0	---	0.500	ug/L	1	20.0	---	95	80 - 120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>94 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>94 %</i>		<i>80-120 %</i>		<i>"</i>						

Duplicate (1031184-DUP1) Prepared: 03/30/21 18:38 Analyzed: 03/31/21 09:55

QC Source Sample: SB4-GW (A1C1055-06)

EPA 8260D

Acetone	ND	---	20.0	ug/L	1	---	ND	---	---	---	30%
Acrylonitrile	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%
Benzene	ND	---	0.200	ug/L	1	---	ND	---	---	---	30%
Bromobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%
Bromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Bromodichloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Bromoform	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Bromomethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%
n-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Carbon disulfide	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Chlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%
Chloroethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%
Chloroform	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Chloromethane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
Dibromochloromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%
Dibromomethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B												
Water												
Duplicate (1031184-DUP1)			Prepared: 03/30/21 18:38 Analyzed: 03/31/21 09:55									
QC Source Sample: SB4-GW (A1C1055-06)												
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Hexanone	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Methylene chloride	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Naphthalene	ND	---	4.00	ug/L	1	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Styrene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Toluene	1.41	---	1.00	ug/L	1	---	ND	---	---	30%		Q-05
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

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PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031184 - EPA 5030B						Water						
Duplicate (1031184-DUP1)		Prepared: 03/30/21 18:38		Analyzed: 03/31/21 09:55								
QC Source Sample: SB4-GW (A1C1055-06)												
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
o-Xylene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						

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ANALYTICAL REPORT

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PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031212 - EPA 3510C (Acid Extraction)						Water						
Blank (1031212-BLK1)		Prepared: 03/31/21 10:35		Analyzed: 03/31/21 13:47								
EPA 8270E SIM												
Acenaphthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	Q-30
2-Methylnaphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	Q-30
Naphthalene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.0182	ug/L	1	---	---	---	---	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>68 %</i>		<i>50-134 %</i>		<i>"</i>						

LCS (1031212-BS1)						Prepared: 03/31/21 10:35 Analyzed: 03/31/21 14:12						
EPA 8270E SIM												
Acenaphthene	2.24	---	0.0200	ug/L	1	4.00	---	56	47 - 122%	---	---	
Acenaphthylene	2.52	---	0.0200	ug/L	1	4.00	---	63	41 - 130%	---	---	
Anthracene	2.98	---	0.0200	ug/L	1	4.00	---	74	57 - 123%	---	---	
Benz(a)anthracene	3.36	---	0.0200	ug/L	1	4.00	---	84	58 - 125%	---	---	
Benzo(a)pyrene	3.28	---	0.0200	ug/L	1	4.00	---	82	54 - 128%	---	---	
Benzo(b)fluoranthene	2.96	---	0.0200	ug/L	1	4.00	---	74	53 - 131%	---	---	
Benzo(k)fluoranthene	2.77	---	0.0200	ug/L	1	4.00	---	69	57 - 129%	---	---	
Benzo(g,h,i)perylene	3.37	---	0.0200	ug/L	1	4.00	---	84	50 - 134%	---	---	
Chrysene	3.46	---	0.0200	ug/L	1	4.00	---	87	59 - 123%	---	---	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031212 - EPA 3510C (Acid Extraction)						Water						
LCS (1031212-BS1)			Prepared: 03/31/21 10:35		Analyzed: 03/31/21 14:12							
Dibenz(a,h)anthracene	3.69	---	0.0200	ug/L	1	4.00	---	92	51 - 134%	---	---	
Fluoranthene	2.82	---	0.0200	ug/L	1	4.00	---	70	57 - 128%	---	---	
Fluorene	2.33	---	0.0200	ug/L	1	4.00	---	58	52 - 124%	---	---	
Indeno(1,2,3-cd)pyrene	3.31	---	0.0200	ug/L	1	4.00	---	83	52 - 134%	---	---	
1-Methylnaphthalene	1.51	---	0.0400	ug/L	1	4.00	---	38	41 - 120%	---	---	Q-30
2-Methylnaphthalene	1.47	---	0.0400	ug/L	1	4.00	---	37	40 - 121%	---	---	Q-30
Naphthalene	1.61	---	0.0400	ug/L	1	4.00	---	40	40 - 121%	---	---	
Phenanthrene	2.91	---	0.0200	ug/L	1	4.00	---	73	59 - 120%	---	---	
Pyrene	2.86	---	0.0200	ug/L	1	4.00	---	71	57 - 126%	---	---	
Dibenzofuran	2.30	---	0.0200	ug/L	1	4.00	---	58	53 - 120%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>63 %</i>		<i>50-134 %</i>		<i>"</i>						

LCS Dup (1031212-BSD1)			Prepared: 03/31/21 10:35		Analyzed: 03/31/21 14:37		Q-19					
EPA 8270E SIM												
Acenaphthene	2.80	---	0.0200	ug/L	1	4.00	---	70	47 - 122%	22	30%	
Acenaphthylene	3.02	---	0.0200	ug/L	1	4.00	---	75	41 - 130%	18	30%	
Anthracene	2.95	---	0.0200	ug/L	1	4.00	---	74	57 - 123%	0.9	30%	
Benz(a)anthracene	3.27	---	0.0200	ug/L	1	4.00	---	82	58 - 125%	3	30%	
Benzo(a)pyrene	3.20	---	0.0200	ug/L	1	4.00	---	80	54 - 128%	2	30%	
Benzo(b)fluoranthene	2.78	---	0.0200	ug/L	1	4.00	---	70	53 - 131%	6	30%	
Benzo(k)fluoranthene	2.77	---	0.0200	ug/L	1	4.00	---	69	57 - 129%	0.1	30%	
Benzo(g,h,i)perylene	3.24	---	0.0200	ug/L	1	4.00	---	81	50 - 134%	4	30%	
Chrysene	3.35	---	0.0200	ug/L	1	4.00	---	84	59 - 123%	3	30%	
Dibenz(a,h)anthracene	3.55	---	0.0200	ug/L	1	4.00	---	89	51 - 134%	4	30%	
Fluoranthene	2.73	---	0.0200	ug/L	1	4.00	---	68	57 - 128%	3	30%	
Fluorene	2.53	---	0.0200	ug/L	1	4.00	---	63	52 - 124%	9	30%	
Indeno(1,2,3-cd)pyrene	3.24	---	0.0200	ug/L	1	4.00	---	81	52 - 134%	2	30%	
1-Methylnaphthalene	2.20	---	0.0400	ug/L	1	4.00	---	55	41 - 120%	37	30%	Q-01
2-Methylnaphthalene	2.24	---	0.0400	ug/L	1	4.00	---	56	40 - 121%	41	30%	Q-01
Naphthalene	2.35	---	0.0400	ug/L	1	4.00	---	59	40 - 121%	37	30%	Q-24
Phenanthrene	2.91	---	0.0200	ug/L	1	4.00	---	73	59 - 120%	0.2	30%	
Pyrene	2.72	---	0.0200	ug/L	1	4.00	---	68	57 - 126%	5	30%	
Dibenzofuran	2.63	---	0.0200	ug/L	1	4.00	---	66	53 - 120%	13	30%	

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

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<u>PBS Engineering and Environmental</u>	Project: <u>Mill Pond</u>	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031212 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (1031212-BSD1)		Prepared: 03/31/21 10:35 Analyzed: 03/31/21 14:37										Q-19
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>64 %</i>		<i>50-134 %</i>		<i>"</i>						

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PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	A1C1055 - 04 06 21 1017

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1040016 - EPA 3510C (Acid Extraction)						Water						
Blank (1040016-BLK1)		Prepared: 04/01/21 10:53			Analyzed: 04/01/21 15:41							
EPA 8270E SIM												
Acenaphthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Anthracene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Chrysene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Fluorene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.0727	ug/L	1	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.0727	ug/L	1	---	---	---	---	---	---	---
Naphthalene	ND	---	0.0727	ug/L	1	---	---	---	---	---	---	---
Phenanthrene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Pyrene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Dibenzofuran	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>75 %</i>		<i>50-134 %</i>		<i>"</i>						

LCS (1040016-BS1)		Prepared: 04/01/21 10:53			Analyzed: 04/01/21 16:07							
EPA 8270E SIM												
Acenaphthene	7.13	---	0.0400	ug/L	1	8.00	---	89	47 - 122%	---	---	---
Acenaphthylene	7.49	---	0.0400	ug/L	1	8.00	---	94	41 - 130%	---	---	---
Anthracene	7.20	---	0.0400	ug/L	1	8.00	---	90	57 - 123%	---	---	---
Benz(a)anthracene	7.63	---	0.0400	ug/L	1	8.00	---	95	58 - 125%	---	---	---
Benzo(a)pyrene	7.60	---	0.0400	ug/L	1	8.00	---	95	54 - 128%	---	---	---
Benzo(b)fluoranthene	6.60	---	0.0400	ug/L	1	8.00	---	82	53 - 131%	---	---	---
Benzo(k)fluoranthene	6.83	---	0.0400	ug/L	1	8.00	---	85	57 - 129%	---	---	---
Benzo(g,h,i)perylene	7.52	---	0.0400	ug/L	1	8.00	---	94	50 - 134%	---	---	---
Chrysene	8.04	---	0.0400	ug/L	1	8.00	---	100	59 - 123%	---	---	---

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1040016 - EPA 3510C (Acid Extraction)												
Water												
LCS (1040016-BS1)												
Prepared: 04/01/21 10:53 Analyzed: 04/01/21 16:07												
Dibenz(a,h)anthracene	8.38	---	0.0400	ug/L	1	8.00	---	105	51 - 134%	---	---	
Fluoranthene	6.25	---	0.0400	ug/L	1	8.00	---	78	57 - 128%	---	---	
Fluorene	6.62	---	0.0400	ug/L	1	8.00	---	83	52 - 124%	---	---	
Indeno(1,2,3-cd)pyrene	7.26	---	0.0400	ug/L	1	8.00	---	91	52 - 134%	---	---	
1-Methylnaphthalene	5.52	---	0.0800	ug/L	1	8.00	---	69	41 - 120%	---	---	
2-Methylnaphthalene	5.48	---	0.0800	ug/L	1	8.00	---	69	40 - 121%	---	---	
Naphthalene	5.63	---	0.0800	ug/L	1	8.00	---	70	40 - 121%	---	---	
Phenanthrene	7.13	---	0.0400	ug/L	1	8.00	---	89	59 - 120%	---	---	
Pyrene	6.11	---	0.0400	ug/L	1	8.00	---	76	57 - 126%	---	---	
Dibenzofuran	6.70	---	0.0400	ug/L	1	8.00	---	84	53 - 120%	---	---	
Surr: 2-Fluorobiphenyl (Surr) Recovery: 94 % Limits: 44-120 % Dilution: 1x												
p-Terphenyl-d14 (Surr) 89 % 50-134 % "												

LCS Dup (1040016-BSD1)												Q-19
Prepared: 04/01/21 10:53 Analyzed: 04/01/21 16:32												
EPA 8270E SIM												
Acenaphthene	7.14	---	0.0400	ug/L	1	8.00	---	89	47 - 122%	0.2	30%	
Acenaphthylene	7.39	---	0.0400	ug/L	1	8.00	---	92	41 - 130%	1	30%	
Anthracene	7.17	---	0.0400	ug/L	1	8.00	---	90	57 - 123%	0.5	30%	
Benz(a)anthracene	7.66	---	0.0400	ug/L	1	8.00	---	96	58 - 125%	0.3	30%	
Benzo(a)pyrene	7.61	---	0.0400	ug/L	1	8.00	---	95	54 - 128%	0.1	30%	
Benzo(b)fluoranthene	6.66	---	0.0400	ug/L	1	8.00	---	83	53 - 131%	0.9	30%	
Benzo(k)fluoranthene	6.86	---	0.0400	ug/L	1	8.00	---	86	57 - 129%	0.4	30%	
Benzo(g,h,i)perylene	7.39	---	0.0400	ug/L	1	8.00	---	92	50 - 134%	2	30%	
Chrysene	7.97	---	0.0400	ug/L	1	8.00	---	100	59 - 123%	0.9	30%	
Dibenz(a,h)anthracene	8.38	---	0.0400	ug/L	1	8.00	---	105	51 - 134%	0.05	30%	
Fluoranthene	6.45	---	0.0400	ug/L	1	8.00	---	81	57 - 128%	3	30%	
Fluorene	6.45	---	0.0400	ug/L	1	8.00	---	81	52 - 124%	3	30%	
Indeno(1,2,3-cd)pyrene	7.34	---	0.0400	ug/L	1	8.00	---	92	52 - 134%	1	30%	
1-Methylnaphthalene	5.38	---	0.0800	ug/L	1	8.00	---	67	41 - 120%	3	30%	
2-Methylnaphthalene	5.37	---	0.0800	ug/L	1	8.00	---	67	40 - 121%	2	30%	
Naphthalene	5.63	---	0.0800	ug/L	1	8.00	---	70	40 - 121%	0.08	30%	
Phenanthrene	7.15	---	0.0400	ug/L	1	8.00	---	89	59 - 120%	0.3	30%	
Pyrene	6.43	---	0.0400	ug/L	1	8.00	---	80	57 - 126%	5	30%	
Dibenzofuran	6.64	---	0.0400	ug/L	1	8.00	---	83	53 - 120%	0.9	30%	

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ANALYTICAL REPORT

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<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Mill Pond</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
--	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 1040016 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (1040016-BSD1)	Prepared: 04/01/21 10:53					Analyzed: 04/01/21 16:32					Q-19	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>Recovery: 95 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>							
<i>p-Terphenyl-d14 (Surr)</i>	<i>73 %</i>		<i>50-134 %</i>		<i>"</i>							

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---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1031151 - Total Solids (Dry Weight)						Soil						
Duplicate (1031151-DUP3)		Prepared: 03/30/21 08:13 Analyzed: 03/31/21 07:38										
QC Source Sample: SB5-27 (A1C1055-08)												
EPA 8000D												
% Solids	78.8	---	1.00	%	1	---	78.2	---	---	0.7	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 1031156</u>							
A1C1055-01	Water	NWTPH-Dx	03/25/21 11:45	03/30/21 12:55	910mL/5mL	1000mL/5mL	1.10
A1C1055-06	Water	NWTPH-Dx	03/25/21 15:45	03/30/21 12:55	980mL/5mL	1000mL/5mL	1.02
A1C1055-09	Water	NWTPH-Dx	03/25/21 17:15	03/30/21 12:55	990mL/5mL	1000mL/5mL	1.01

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 1031166</u>							
A1C1055-02	Soil	NWTPH-Dx	03/25/21 12:45	03/30/21 13:10	10.3g/5mL	10g/5mL	0.97
A1C1055-03	Soil	NWTPH-Dx	03/25/21 13:45	03/30/21 13:10	10.5g/5mL	10g/5mL	0.95
A1C1055-04	Soil	NWTPH-Dx	03/25/21 14:15	03/30/21 13:10	10.46g/5mL	10g/5mL	0.96
A1C1055-05	Soil	NWTPH-Dx	03/25/21 15:15	03/30/21 13:10	10.13g/5mL	10g/5mL	0.99
A1C1055-07	Soil	NWTPH-Dx	03/25/21 16:15	03/30/21 13:10	10.15g/5mL	10g/5mL	0.99
A1C1055-08	Soil	NWTPH-Dx	03/25/21 16:55	03/30/21 13:10	10.06g/5mL	10g/5mL	0.99

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 1031184</u>							
A1C1055-06	Water	NWTPH-Gx (MS)	03/25/21 15:45	03/30/21 18:38	5mL/5mL	5mL/5mL	1.00
A1C1055-09	Water	NWTPH-Gx (MS)	03/25/21 17:15	03/30/21 18:38	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 1031108</u>							
A1C1055-02	Soil	NWTPH-Gx (MS)	03/25/21 12:45	03/25/21 12:45	5.66g/5mL	5g/5mL	0.88
A1C1055-03	Soil	NWTPH-Gx (MS)	03/25/21 13:45	03/25/21 13:45	6.09g/5mL	5g/5mL	0.82
A1C1055-04	Soil	NWTPH-Gx (MS)	03/25/21 14:15	03/25/21 14:15	5.41g/5mL	5g/5mL	0.92
A1C1055-05	Soil	NWTPH-Gx (MS)	03/25/21 15:15	03/25/21 15:15	6.28g/5mL	5g/5mL	0.80
A1C1055-07	Soil	NWTPH-Gx (MS)	03/25/21 16:15	03/25/21 16:15	5.2g/5mL	5g/5mL	0.96
A1C1055-08	Soil	NWTPH-Gx (MS)	03/25/21 16:55	03/25/21 16:55	7.32g/5mL	5g/5mL	0.68

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030B

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

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Lisa Domenighini, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
---	---	---

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260D

<u>Prep: EPA 5030B</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 1031184</u>							
A1C1055-10	Water	EPA 8260D	03/25/21 16:00	03/30/21 18:38	5mL/5mL	5mL/5mL	1.00

Polyaromatic Hydrocarbons (PAHs) by EPA 8270E SIM

<u>Prep: EPA 3510C (Acid Extraction)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 1040016</u>							
A1C1055-01RE1	Water	EPA 8270E SIM	03/25/21 11:45	04/01/21 10:53	1030mL/2mL	1000mL/2mL	0.97

Percent Dry Weight

<u>Prep: Total Solids (Dry Weight)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 1031151</u>							
A1C1055-02	Soil	EPA 8000D	03/25/21 12:45	03/30/21 08:13			NA
A1C1055-03	Soil	EPA 8000D	03/25/21 13:45	03/30/21 08:13			NA
A1C1055-04	Soil	EPA 8000D	03/25/21 14:15	03/30/21 08:13			NA
A1C1055-05	Soil	EPA 8000D	03/25/21 15:15	03/30/21 08:13			NA
A1C1055-07	Soil	EPA 8000D	03/25/21 16:15	03/30/21 08:13			NA
A1C1055-08	Soil	EPA 8000D	03/25/21 16:55	03/30/21 08:13			NA

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QUALIFIER DEFINITIONS

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

Apex Laboratories

- F-13** The chromatographic pattern does not resemble the fuel standard used for quantitation
- PRES** Incomplete field preservation. Additional preservative was added to adjust the pH within the appropriate range for this analysis.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-24** The RPD for this spike and spike duplicate is above established control limits. Recoveries for both the spike and spike duplicate are within control limits.
- Q-30** Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260
- S-06** Surrogate recovery is outside of established control limits.

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--	--	---

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 ½ the Reporting Limit (RL).
-For Blank hits falling between ½ 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

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<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Mill Pond</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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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.

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503-718-2323
ORELAP ID: **OR100062**

<u>PBS Engineering and Environmental</u> 4412 SW Corbett Ave Portland, OR 97239	Project: <u>Mill Pond</u> Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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LABORATORY ACCREDITATION INFORMATION

ORELAP 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.

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

PBS Engineering and Environmental	Project: Mill Pond	
4412 SW Corbett Ave	Project Number: 24159.000	Report ID:
Portland, OR 97239	Project Manager: Chris Sheridan	AIC1055 - 04 06 21 1017

APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Lab # **AIC1055** coc 1 of 1

Company: PBS	Project Mgr: Chris Sheridan	Project Name: Mill Pond	Project #: 24159.000	PO #																				
Address: Portland		Email:																						
Sampled by: S. Eckes		Phone:																						
Site Location: OR WA CA AK ID _____																								
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCD	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Senti-Vols Full List	8082 PCBs	8081 Pest	R CRA Metals (8)	Priority Metals (13)	AL, Sb, As, Ba, Be, Bi, Br, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mn, Ni, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	TOTAL DISS. TCLP	Archive		
SB1-GW		3/25/21	1145	H ₂ O	7	X																		
SB3-2			1245	soil	3		X																	
SB3-27			1345	soil	3																			
SB4-2			1415	soil	3																			
SB4-27			1515	soil	3																			
SB4-GW			1545	H ₂ O	7																			
SB5-2			1615	soil	3																			
SB5-27			1655	soil	3																			
SB5-GW			1715	H ₂ O	7																			
Tripbank-032521			1800	H ₂ O	1							X												
Normal Turn Around Time (TAT) <u>3</u> Business Days																								
TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____																								
SPECIAL INSTRUCTIONS: H - will run dependent on results (hold)																								
RELINQUISHED BY: Signature: _____ Date: 3/25/21 Time: 1940 Project Name: S. Eckes Printed Name: Eric Soyler Time: 1020 Company: PBS Company: APEX LABS																								
RECEIVED BY: Signature: _____ Date: 3/26/21 Company: _____																								

Apex Laboratories

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Lisa Domenighini, Client Services Manager



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PBS Engineering and Environmental 4412 SW Corbett Ave Portland, OR 97239	Project: Mill Pond Project Number: 24159.000 Project Manager: Chris Sheridan	Report ID: A1C1055 - 04 06 21 1017
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APEX LABS COOLER RECEIPT FORM

Client: PBS Element WO#: A1C1055

Project/Project #: Mill Pond 24159.000

Delivery Info:
Date/time received: 3/24/21 @ 1020 By: ET

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

Cooler Inspection Date/time inspected: 3/24/21 @ 1048 By: ET

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>2.3</u>	<u>2.6</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>					
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>					
Condition:	<u>Good</u>	<u>Good</u>					

Cooler out of temp? (Y/N) Possible reason why: _____

Green dots applied to out-of temperature samples? Yes No

Out of temperature samples form initiated? Yes No

Sample Inspection: Date/time inspected: 3/24/21 @ 15:55 By: THU

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: B# 2655

COC/container discrepancies form initiated? Yes No

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

Do VOA vials have visible headspace? Yes No NA

Comments: 3/3 SBI-GW, SBA-GW, and SBS-GW have sed

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

Comments: _____

Additional information:

Labeled by: THU Witness: [Signature] Cooler Inspected by: THU

Apex Laboratories

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Lisa Domenighini

Lisa Domenighini, Client Services Manager

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

BENTON
1416

RECEIVED

AUG 16 1994

125/6W/13

(START CARD)# 63853

Instructions for completing this report are on the last page of this form.

WATER RESOURCES DEPT.
SALEM, OREGON

(1) OWNER:

Name GILBERT L FAXON Well Number _____
Address 2018 CHAPEL DR.
City PHILOMATH State ORA Zip 97370

(2) TYPE OF WORK

New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable Auger
 Other _____

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other _____

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well 115 ft.
Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
10	0	43 1/2	CEMENT	0	43 1/2	12 W/BENT
6	43 1/2	115				

How was seal placed: Method A B C D E
 Other _____

Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 6	+1	43 1/2	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 4 1/2	0	115	160	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) 43 1/2

(7) PERFORATIONS/SCREENS:

Perforations Method DRILL
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
75	115		160	1/2		<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem at	Time
15		115	1 hr.

Pump Bailer Air Flowing Artesian

Temperature of water 57 Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County BENTON Latitude _____ Longitude _____
Township 12S N or S Range 6W E or W. WM. _____
Section 13 1/4 _____ 1/4 _____
Tax Lot 100 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) SAME AS ABOVE

(10) STATIC WATER LEVEL:

45 ft. below land surface. Date 7-22-94
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 107

From	To	Estimated Flow Rate	SWL
107	109	15	45

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
41 FEET OF 4 IN CASING WAS REMOVED FROM WELL. THE HOLE WAS RECONSTRUCTED TO A 6 IN. WELL WITH CASING SEALED 5 FEET IN TO THE GREY BASALT FROM 37 TO 43 1/2 FEET. THE GREY BASALT INCOUNTERED TO 115 FEET.			

Date started 7-21-94 Completed 7-22-94

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed _____ WWC Number _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed Carol Hildebrand WWC Number 1238 Date 7-24-94

NOTICE TO WATER WELL CONTRACTOR
The original and first copy
of this report are to be
filed with the

RECEIVED
AUG 24 1970
STATE ENGINEER
SALEM, OREGON

Bent
5763
G-5401

STATE ENGINEER, SALEM, OREGON
within 30 days from the date
of well completion.

WATER WELL REPORT
OF OREGON
(Use type or print)
Do not write above this line

State Well No. 12/6W-13 abac
State Permit No. _____

(1) OWNER:

Name Hobin Lumber Company
Address Philomath, Oregon

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

CASING INSTALLED:

Threaded Welded
3" Diam. from +2 ft. to 169 ft. Gage .250
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

PERFORATIONS:

Perforated? Yes No.
Type of perforator used acetylene torch
Size of perforations 3/16 in. by 6 in.
90 perforations from 158 ft. to 168 ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

(7) SCREENS:

Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?
Yield: 30 gal./min. with 24 ft. drawdown after 1 hrs.
60 " " 87 " " 2 "
75 " " 128 " " 3 "
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m.
Temperature of water 55 Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite and puddled clay
Well sealed from land surface to 22 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal none sacks
Number of sacks of bentonite used in well seal 1 sacks
Brand name of bentonite Yellowstone
Number of pounds of bentonite per 100 gallons
of water Approx ratio 2 parts Bentonite lbs./100 gals.
1 part water
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Benton Driller's well number _____
1/4 Section 13 T. 12 R. 6W W.M. _____
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.

Depth at which water was first found 35 ft.
Static level 17 ft. below land surface. Date 6-22-70
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing _____
Depth drilled 169 ft. Depth of completed well 169 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
rock & gravel fill	0	2	
brown clay	2	11	
brown clay & gravel	11	30	
grey clay	30	39	
grey sand & gravel	39	48	
blue clay & wood	48	70	
gravel & sand	70	75	
brown clay	75	87	
grey clay	87	135	
brown clay & sand & fine gravel	135	145	
gravel & sand, fine to 2"	145	155	
gravel & sand, cemented	155	167	
grey clay	167	169	

Work started 6-3-70 19 _____ Completed 6-23-70 19 _____
Date well drilling machine moved off of well 6-23-70 19 _____

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed Raymond C. Gellatly Date 7-20, 1970
(Drilling Machine Operator)
Drilling Machine Operator's License No. 76

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Ray Gellatly and Ron Witham
(Person, firm or corporation) (Type or print)
Address Box 1, Philomath, Oregon 97370
[Signed Raymond C. Gellatly
(Water Well Contractor)
Contractor's License No. 77 Date 7-20-70, 19 _____

STATE OF OREGON
WATER SUPPLY WELL REPORT

BENT 54885

(ORS 537.765 & OAR 690-205-0210)

Instructions for completing this report are on the last page of this form.

WELL LABEL # L 113640
START CARD # 210475
ORIGINAL LOG # _____

(1) LANDOWNER Owner Well I.D. _____
First Name ED Last Name Sutton
Company _____
Address 800 South 9th Street
City Philomath State OR Zip 97370

(2) TYPE OF WORK New Conversion Deepening
 Alteration (complete Sections 2a & 10) Abandonment (complete Section 5a)

(2a) PRE-ALTERATION: Well Depth 120 ft.
Seal Material Bentonite
Casing Type: Steel Plastic Other _____
Casing Gauge .250 Casing Diameter 6

(3) DRILL METHOD Rotary Air Rotary Mud Auger
 Cable Cable Mud Reverse Rotary Other _____

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/Commercial Livestock Dewatering Injection
 Thermal Other _____

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well 120 ft. Special Standard: Yes (attach copy)

BORE HOLE			SEAL			
Dia	From	To	Material	From	To	Amount (Scks/lbs)
10	0	-2	Bentonite	0	-2	1/2

How was seal placed: Method A B C D E
 Other _____
Backfill placed from 0 ft. to -2 ft. Material Bentonite
Filter pack from _____ ft. to _____ ft. Material _____ Size 3/8

(5a) ABANDONMENT USING UNHYDRATED BENTONITE:
Calculated Amount Proposed to be Used: _____ sacks/lbs
Actual Amount Used: _____ sacks/lbs

(6) CASING/LINER

Csng	Lnr	Dia	+	From	To	Gauge	Steel	Plastic	Welded	Thrd
✓		6	x	1	-2	.250	✓			

Shoe Inside Outside Other Location of shoe(s) _____
Temporary casing Yes Diameter _____ From _____ To _____

(7) PERFORATIONS/SCREENS

Perforations Method _____
Screens Type _____ Material _____

Perf	Scrn	Csng	Lnr	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/pipe size

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
Yield gal/min 10 Drawdown _____ Drill stem/Pump depth 110 Duration (hr) 1
Temperature _____ °F Lab analysis Yes By _____
Water quality concerns? Yes (describe below) TDS _____ ppm
From _____ To _____ Description _____ Amount _____ Units _____

(9) LOCATION OF WELL (legal description)
County Benton Twp 12 N of S Range 6 E of W W.M.
Sec 12 SE 1/4 of the SE 1/4 Tax Lot 4900
Tax Map Number _____ Lot _____
Lat _____ " or _____ DMS or DD
Long _____ " or _____ DMS or DD

Street Address of Well (or nearest address) _____
SAME

(10) STATIC WATER LEVEL

Existing Well/Pre-Alteration	Date	SWL (psi)	+	SWL (ft)
Completed Well	<u>4-3-14</u>			<u>13</u>

Flowing Artesian? Yes Dry Hole? Yes

WATER BEARING ZONES Depth water was first found _____

SWL Date	From	To	Est Flow	SWL (psi)	+	SWL (ft)
<u>4-3-14</u>			<u>10</u>			<u>13</u>

(11) WELL LOG Ground _____
RECEIVED BY OWRD
APR 14 2014
WELL HEAD EX SALEM, OR

Date Started 4-3-2014 Completed 4-3-2014

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number _____ Date _____
Signed _____

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1753 Date 4-3-2014
Signed [Signature]
Contact Info. (optional) _____