

**Groundwater Monitoring Report
April 2020 through March 2021
Cascade Pole Site
Olympia, Washington**

July 1, 2021

Prepared for

Port of Olympia
915 Washington Street NE
Olympia, Washington

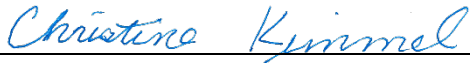


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LIST OF ABBREVIATIONS AND ACRONYMS

ARI.....	Analytical Resources Inc.
°C	degrees centigrade
CMP.....	compliance monitoring plan
cPAH.....	carcinogenic polycyclic aromatic hydrocarbons
CPC.....	Cascade Pole Site
DNAPL	dense non-aqueous phase liquid
Ecology.....	Washington State Department of Ecology
EPA.....	US Environmental Protection Agency
ft	foot/feet
FS	feasibility study
LAI	Landau Associates, Inc.
LTGCM.....	Long-Term Groundwater Compliance Monitoring
MLLW	mean lower low water
µg/L.....	micrograms per liter
MTCA	Model Toxics Control Act
NAPL.....	non-aqueous phase liquid
NWTPH-Dx	Northwest oil-range total petroleum hydrocarbon extended
NWTPH-G	Northwest gasoline-range total petroleum hydrocarbon
PCP	pentachlorophenol
Port	Port of Olympia
RI.....	remedial investigation
SIM.....	selected ion monitoring
SOU	Sediments Operable Unit
TEF	toxicity equivalency factor
TEQ.....	toxicity equivalency quotients
TPH-D	diesel-range total petroleum hydrocarbons
TPH-G	gasoline-range petroleum hydrocarbons
TPH-O	oil-range petroleum hydrocarbons
WAC	Washington Administrative Code

1.0 INTRODUCTION

This report, prepared by Landau Associates, Inc. (LAI), summarizes groundwater monitoring activities conducted between April 1, 2020 and March 31, 2021 at the Cascade Pole Site (CPC; Site), in Olympia, Washington. This is the fourteenth annual report summarizing the groundwater monitoring that has been conducted as part of the Long-Term Groundwater Compliance Monitoring (LTGCM) program outlined in the first amendment to Agreed Order No. DE 00TCPSR-753 (Washington State Department of Ecology [Ecology]; Ecology 2004). The compliance monitoring plan (CMP; LAI 2007) identifies the processes for collecting groundwater samples and measuring groundwater elevations. The LTGCM program consists of the following elements:

- **Hydraulic Control Monitoring:** Monthly monitoring of groundwater elevations at perimeter and interior monitoring wells. The groundwater elevation data are utilized to monitor the effectiveness of the groundwater extraction and treatment system in achieving hydraulic control. The locations of monitoring wells are shown on Figures 1 and 2.
- **Perimeter Well Monitoring:** Collection of semiannual water quality samples from four paired monitoring wells located along the perimeter (inside and outside) of the slurry wall. Groundwater samples are collected from the following paired wells: PZ 12 and PZ-13, LW-3 and PZ-17, LW-4R and PZ-18, and MW-02S and PZ-19, as shown on Figure 1. The analytical results for the groundwater quality samples are used to evaluate the effectiveness of the extraction and treatment system in controlling horizontal migration of contaminants.
- **Interior Well Monitoring:** Collection of semiannual water quality samples from three paired upper and lower aquifer wells located within the interior of the containment area. Groundwater samples are collected from the following paired interior wells: MW-01S and MW-01D, MW-02S and MW-02D, and MW-05S and MW-05D, as shown on Figure 2. In addition to the paired upper and lower aquifer wells, semiannual water quality samples are collected from well CW-13, as requested by Ecology. The analytical results for the paired upper and lower aquifer wells are utilized in evaluating vertical containment.
- **Reporting:** The results of semiannual groundwater monitoring are presented in an annual report and submitted to Ecology.

1.1 Background

The former CPC wood-treatment Site is located approximately 1 mile north of downtown Olympia, at the northern end of the peninsula that extends into Budd Inlet. The Port of Olympia (Port) owns the property, adjacent parcels, and adjacent in-waterway sediments area. A detailed history of the Site can be found in the CPC remedial investigation (RI) and feasibility study (FS) reports for the Sediments Operable Unit (SOU; LAI 1993b, a), located within Budd Inlet directly north of the CPC upland area. Environmental cleanup of the Site is proceeding under the Washington State Model Toxics Control Act (MTCA).

The Port implemented several interim remedial actions in the upland area of the Site to address contamination from the former wood treatment activities. These interim actions prevented further migration of hazardous substances from contaminated soil and groundwater into the adjacent

groundwater, surface water, and sediment. A groundwater extraction and non-aqueous phase liquid (NAPL) recovery and treatment system was installed in 1991 and 1992. In early 1993, a dense NAPL (DNAPL) recovery trench and an associated sheet pile cutoff wall were installed along a portion of the shoreline to eliminate the migration of DNAPL into Budd Inlet. The cutoff wall was extended to encircle the Site through installation of a soil-bentonite slurry wall in 1996 and 1997. The cutoff wall was keyed into the aquitard and encompasses the former wood treating facility and treated pole storage yards; areas where NAPL has been observed and impacted groundwater. The trench was abandoned in 2001 due to low DNAPL recovery rates.

Excavated and dredged sediments generated from cleanup of the SOU were placed in an upland containment cell within the cutoff wall, which was constructed within the northeast portion of the SOU. In addition, contaminated sediment and soil near the original sheet pile cutoff wall were contained during cleanup of the SOU by a second sheet pile cutoff wall. The second sheet pile cutoff wall was keyed into the existing slurry wall on each end and the underlying aquitard, forming a shoreline containment cell. The groundwater extraction and NAPL recovery and treatment system was expanded in 1999 and modified in conjunction with the construction of the upland sediment containment cell.

A major portion of the Site was paved between fall of 1997 and summer of 1998 to assist with stormwater runoff control and to reduce surface water infiltration. The Site was capped in three phases: Phase I was conducted in 2004, Phase II was conducted in 2009, and Phase III was completed in 2010. Upon completion of the capping activities, a new groundwater treatment system was installed to replace the 1993 system and to increase the Site treatment capacity by threefold. The new system began operation in January 2012, and an evaluation identifying several potential improvements to the groundwater extraction well system/components was completed in 2019 (LAI 2019). In response to the groundwater extraction system evaluation, the Port began testing various models of flow meters and transducers at well CW-5, and also modified the well cap to allow for manual data collection. Due in part to the COVID19 pandemic and the resulting reduced workforce availability, testing and evaluation of the components has not been completed; however, once finalized, the approved modifications will be conducted at other extraction wells to improve system performance.

1.2 Hydraulic Control Goals

The goal of the hydraulic control system at the Site is to prevent overtopping of the cutoff wall throughout the containment area. The performance criterion goal consists of maximum groundwater elevations within the cutoff wall, depending on adjacent cutoff wall top elevations (LAI 2000). The groundwater elevation performance criteria are 15.5 feet mean lower low water (ft MLLW) along the majority of the cutoff wall alignment, and 16.5 ft MLLW along wall alignment sections adjacent to Budd Inlet.

1.3 Groundwater Quality Compliance Monitoring Goals

The purpose of the groundwater quality compliance monitoring is to assess the effectiveness of the groundwater extraction and treatment system. The CMP identifies four pairs of shallow monitoring wells located along the perimeter (inside and outside) of the bentonite cutoff wall and three shallow and deep well pairs within the containment area to monitor the effectiveness of the containment system. One additional shallow extraction well not currently being operated, CW-13, is also being sampled at Ecology's request.

Groundwater quality results are compared to MTCA Method B values for the protection of marine surface water with the exception of petroleum hydrocarbons, which are compared to MTCA Method A cleanup levels. To evaluate the analytical data for carcinogenic polycyclic aromatic hydrocarbons (cPAHs), the toxicity equivalency quotients (TEQ) of individual cPAHs were calculated and summed for comparison to the benzo(a)pyrene cleanup level using the methodology established in Washington Administrative Code (WAC) 173-340-708. To calculate the TEQ, the toxicity equivalency factor (TEF) for a given cPAH compound was multiplied by the compound concentration, or half the reporting limit for compounds that were not detected above the laboratory reporting limit, and the resulting values were summed. The resulting TEQ was compared to the MTCA Method B cleanup level for benzo(a)pyrene of 0.1 micrograms per liter ($\mu\text{g}/\text{L}$). Pentachlorophenol (PCP) is initially analyzed using US Environmental Protection Agency (EPA) Method 8270 with a reporting limit of 10.0 $\mu\text{g}/\text{L}$. If the initial PCP results are not detected at the reporting limit, then samples are selected for follow-up analysis using EPA Method 8041 with a lower reporting limit of 0.25 $\mu\text{g}/\text{L}$. This PCP analysis sequence is conducted to allow for initial screening for elevated detections of the compound without damage to laboratory equipment, and the follow-up analysis allows for comparison of results to MTCA Method B cleanup levels.

2.0 COMPLIANCE MONITORING PROCEDURES

Two groundwater quality monitoring events were conducted at the Site during this reporting period (September 2020 and March 2021). Monthly groundwater elevation data were also collected to evaluate system hydraulic control measures in accordance with the CMP (LAI 2007). The following sections describe the sampling methods for collection of water level measurements and groundwater sampling.

2.1 Hydraulic Control Measurements

Monthly groundwater level measurements from the selected compliance perimeter well pairs (PZ-12 and PZ-13, LW-3 and PZ-17, LW-4R and PZ-18, and MW-02S and PZ-19) and from interior monitoring well shallow and deep aquifer pairs (MW-01S and MW-01D; MW-02S and MW-02D; and MW-05S and MW-05D) have been collected throughout the reporting period.

The depths to groundwater measurements were collected using an electronic water level meter and measurements were recorded to the nearest 0.01 ft. Measurements were made from surveyed reference points on the top of the well casing. Depth to groundwater was converted to groundwater elevation for each well using a surveyed reference elevation at the top of the casing.

2.2 Groundwater Sampling

Groundwater quality monitoring events were conducted in September 2020 during a time of low groundwater elevations, which corresponded to a typical “dry season,” and in March 2021 at a time when high groundwater elevations corresponded to a typical “wet season.”

Groundwater samples were collected using low-flow sampling techniques as described in the CMP. Groundwater was purged from the selected wells using a non-dedicated peristaltic pump and dedicated sampling tubing. Field parameters (pH, conductivity, dissolved oxygen, and temperature), along with groundwater levels, were monitored every 3 to 5 minutes during the purge process to verify the flow rate and to minimize groundwater level drawdown. Groundwater samples were collected directly into laboratory-prepared containers, labeled, stored in a cooler with a maintained temperature of 4°centigrade (°C) to 6°C, and transported to the laboratory in accordance with proper chain-of-custody procedures.

A total of 14 wells were sampled as part of the LTGCM plan. The selected wells included perimeter well pairs (PZ-12 and PZ-13, LW-3 and PZ-17, LW 4R and PZ-18, and MW-02S and PZ-19) and interior wells (MW-01S and MW01D, MW-02S and MW-02D, MW-05S and MW-05D, and CW-13).

Groundwater samples were submitted to Analytical Resources Inc. (ARI) located in Tukwila, Washington. Samples were analyzed for PAHs using EPA Method 8270 with selected ion monitoring (SIM); gasoline-range total petroleum hydrocarbons (TPH-G) using Method Northwest gasoline-range total petroleum hydrocarbon (NWTPH-G); and diesel- and oil-range TPH (TPH-D and TPH-O, respectively) and creosote using Method Northwest oil-range total petroleum hydrocarbon extended

(NWTPH-Dx). Follow-up PCP analysis was conducted using low reporting limit testing, EPA Method 8041, if results from the PAH testing using EPA Method 8270 indicated results were below the associated method reporting limit.

3.0 COMPLIANCE MONITORING RESULTS

The following sections discuss the performance of the system relative to the hydraulic control and groundwater quality criteria. Groundwater elevation data collected during this reporting period is summarized in Table 1. Groundwater quality compliance monitoring data collected during this reporting period is summarized in Table 2. Historical data (groundwater elevation and groundwater analytical results) are presented in Appendix A. Laboratory reports for the sampling events conducted during this reporting period are presented in Appendix B.

3.1 Hydraulic Control

The LTGCM plan dictates that hydraulic control for the Site will be conducted by pumping groundwater from a series of shallow extraction wells and directing water to the onsite treatment system. The groundwater elevation performance goals are set to maintain groundwater levels below the top of the perimeter cutoff wall, which requires maintaining groundwater elevations below 15.5 ft MLLW along the majority of the cutoff wall alignment, and below 16.5 ft MLLW along wall alignment sections adjacent to Budd Inlet. The monthly hydraulic control data is summarized in Table 1.

Available groundwater elevation data collected during this reporting period indicate that the performance elevation goals were exceeded at every well at some time from April 2020 to March 2021. The performance groundwater elevation goals were exceeded during the reporting period at the following times and locations:

- Groundwater elevations observed at perimeter wells PZ-12 and MW-02S exceeded the performance goal for three out of the twelve measurements collected during this reporting period. The measurements where the goal was exceeded occurred primarily during the “wet season” (January, February, and March 2021).
- Groundwater elevations observed at perimeter wells LW-3 and MW-05S exceeded the performance goal for one out of the twelve measurements collected during this reporting period. The measurement where the goal was exceeded occurred during the “wet season” (February 2021).
- Groundwater elevations observed at well LW-4R exceeded the performance goal for four out of the twelve measurements collected during this reporting period. The measurements where the goal was exceeded occurred primarily during the “wet season” (April, August, and October 2020; and March 2021).

According to the Port, extraction wells CW-3, CW-8, and CW-10 operated nearly full-time during this reporting period, while extraction wells CW-1, CW-2, CW-4, and CW-5 operated between 5 and 50 percent of the time. Extraction wells CW-6, CW-7, CW-9, CW-12, and CW-13 were not operational during this reporting period. Future increased operation of the extraction well system toward full containment capacity should reduce the exceedances of the short-term groundwater elevation performance criteria.

3.2 Groundwater Analytical Results

The groundwater analytical results for the two sampling events (September 2020 and March 2021) are summarized in Table 2. Analytical results for constituents detected above the cleanup screening levels during this reporting period are shown on Figure 3. The following paragraphs summarize the analytical results for this reporting period.

3.2.1 Exterior Shallow Wells

Exterior shallow wells (PZ-13, PZ-17, PZ-18, and PZ-19) represent groundwater outside of the hydraulic containment system and, as such, exceedance of screening levels in these wells may indicate a lack of hydraulic containment in the vicinity of the subject exterior well or an external source/release.

Analytical results for the exterior shallow wells (located outside of the slurry wall) were below the laboratory reporting limits during this reporting period for wells PZ-13 and PZ-19. Low-level concentrations of TPH-G were reported at wells PZ-17 and PZ-18 during the March 2021 event; however, these concentrations are all below the respective screening levels.

3.2.2 Interior Shallow Wells

Interior shallow wells (PZ-12, LW-3, LW-4R, MW-01S, MW-02S, MW-05S, and CW-13) represent the groundwater that is being contained by the hydraulic containment system. As a result, exceedances of groundwater screening levels are anticipated.

No constituents were detected above laboratory reporting limits at PZ-12 or LW-4R during the reporting period. Low-level concentrations (below the respective screening levels) of various PAH compounds were detected at MW-02S, MW-05S, and CW-13; however, no detected concentrations were above the applicable screening levels.

The following compounds were detected at concentrations above the respective screening levels:

- LW-3 sample results for the March 2021 event indicate TPH-G was detected at a concentration of 1,420 µg/L
- Well MW-01S had several compounds detected at concentrations above the screening level: naphthalene (7,790 µg/L), pentachlorophenol (78 to 3,110 µg/L), total cPAH values (1.27 to 7.95 µg/L), TPH-G (31,400 to 36,100 µg/L), TPH-D (3,370 to 4,690 µg/L), and creosote-range TPH (12,600 to 15,300 µg/L). The total cPAH values are calculated both by using zero for the non-detected constituents, and by using half the reporting limit for non-detected constituents. Due to elevated reporting limits for cPAHs at MW-01S during the September 2020 event, the total cPAH value is non-detect when calculated using zero but exceeds the screening level when using half the reporting limit.

The observed concentrations during this reporting period were within historical ranges for each of the interior shallow wells.

3.2.3 Interior Deep Wells

Interior deep wells MW-01D, MW-02D, and MW-05D were monitored for groundwater quality during the reporting period. These wells are screened in the lower aquifer that underlies the Site, are located within the interior of the slurry wall, and are in close proximity to the shallow interior wells. The intent of the deep wells is to monitor potential vertical migration of contaminants from the overlying containment system.

Analytical results for the interior deep wells indicate that concentrations of Site constituents of concern were below the respective screening levels during this reporting period. Well MW-01D had a low-level detection of naphthalene in the September 2020 event (concentrations decreased to below the screening limit in March 2021) and well MW-05D had a low-level detection of TPH-G during the September 2020 event. Well MW-02D had low-level detections of naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorine, phenanthrene, 1-methylnaphthalene, and creosote-range hydrocarbons reported during one or both sampling events; however, the low-level concentrations are all below the respective screening levels.

Analytical results for the deep wells are consistent with historical concentrations.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Evaluation of groundwater elevations for shallow monitoring wells located along the perimeter of the bentonite slurry wall indicates that the hydraulic control system achieved the hydraulic containment goals for the majority of the reporting period, but not throughout an entire 12-month period for any well. Reoccurring exceedances of the hydraulic containment goals occurred at LW-4R and MW-02S during this reporting period, and the performance elevation goals were also exceeded at PZ-12, LW-3, and MW05S for one or more measurements. However, there were fewer exceedances during this reporting period than in previous years. Maintenance of the extraction wells is recommended to increase the individual well operational time.

Analytical results indicate no exceedances of the groundwater screening levels in the majority of the wells (PZ-12, PZ-13, PZ-17, PZ-18, PZ-19, LW-4R, MW-02S, MW-05S, MW-01D, MW-02D, MW-05D, and CW-13). Two shallow interior wells (LW-3 and MW-01S) reported concentrations above the screening level during both sampling events conducted during this reporting period. TPH-G was detected at concentrations exceeding the screening level during one sampling event at LW-3. Groundwater screening levels were exceeded at MW-01S for PCP, total cPAHs, TPH-G, TPH-D, creosote hydrocarbons and naphthalene. No exceedances of the screening levels were observed in the paired deeper well MW-01D, which would indicate no downward migration of impacted conditions observed at MW-01S. Exceedances at MW-01S and LW-3 are anticipated, as these wells are located inside the containment system perimeter.

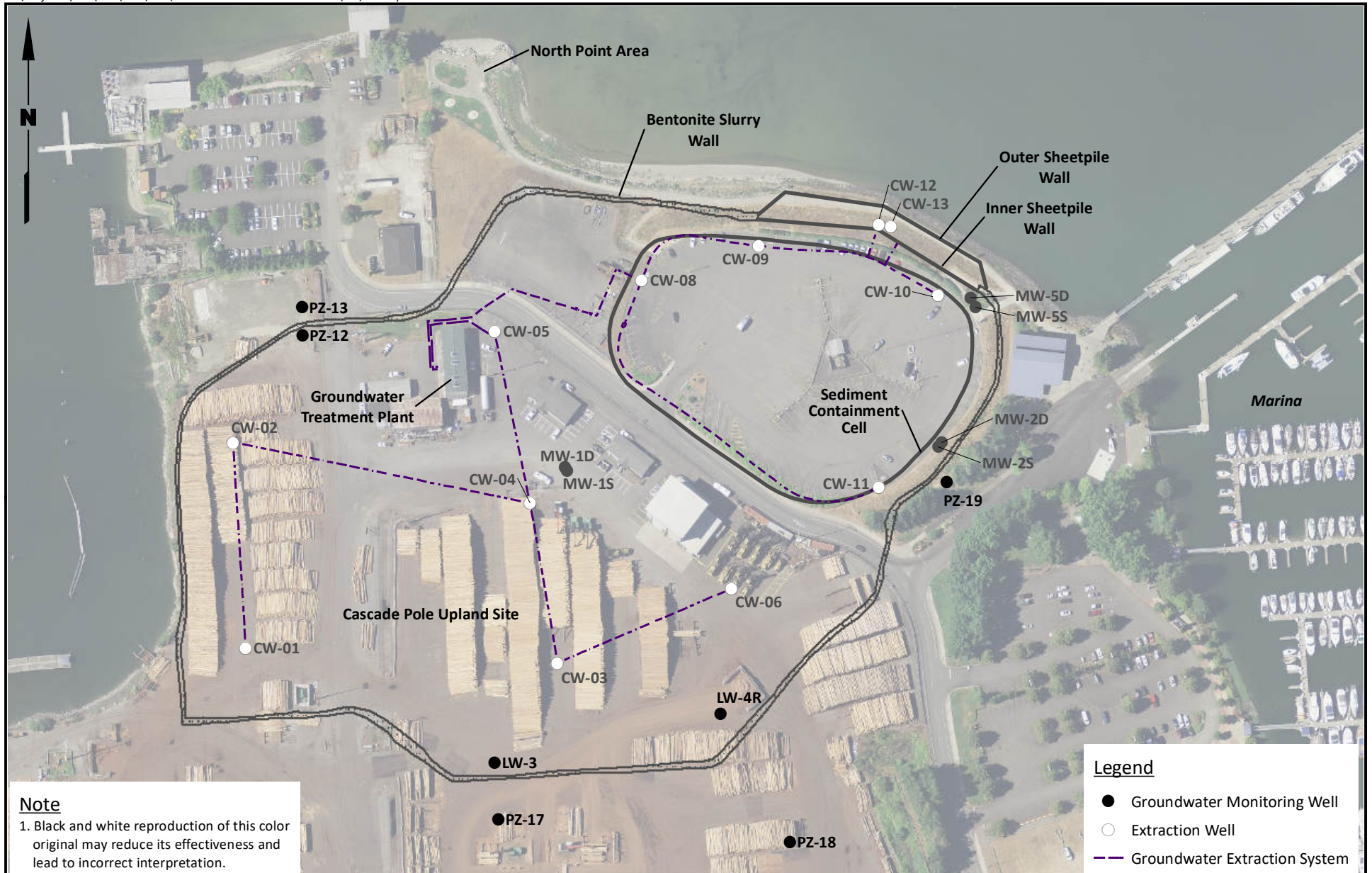
The next semiannual sampling event is currently scheduled for late August to early October 2021, to coincide with typical low groundwater elevations representative of a “dry season” event. The “wet season” event will be conducted in February or March 2022, depending on precipitation rates.

5.0 LIMITATIONS

This report has been prepared for the exclusive use of the Port of Olympia for specific application to the Cascade Pole Site in Olympia, Washington. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. LAI makes no other warranty, either express or implied.

6.0 REFERENCES

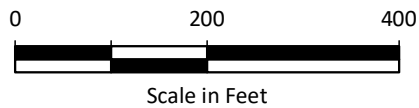
- Ecology. 2004. Amendment No. 1 to Agreed Order No. DE 00TCPSR-753; In The Matter of Remedial Action by: The Port of Olympia. Washington State Department of Ecology.
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Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

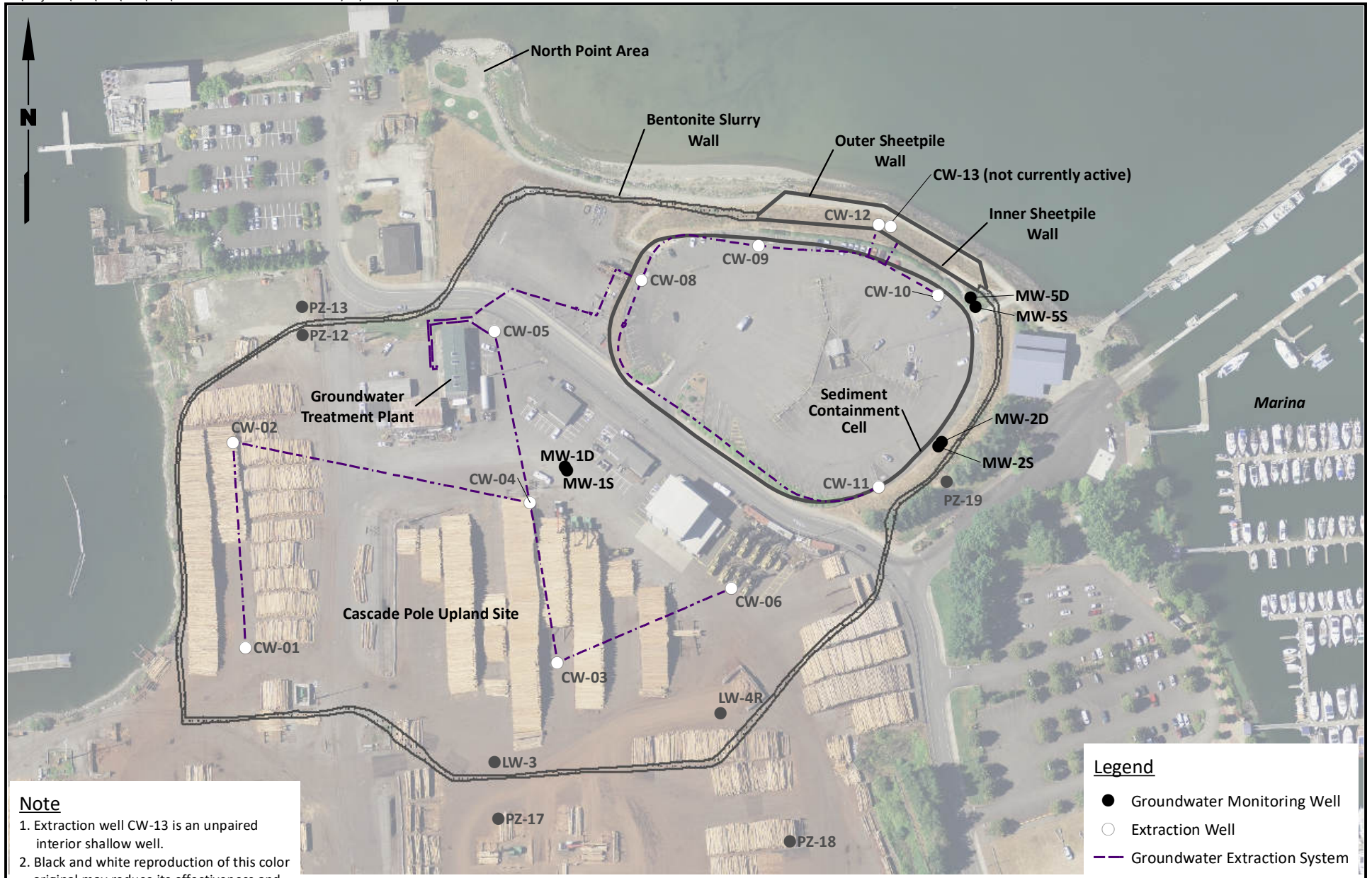
Source: Thurston County Aerial, 2018



Port of Olympia
Olympia, Washington

**Perimeter Paired Groundwater
Monitoring Network
Well Locations**

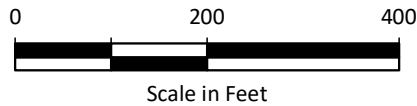
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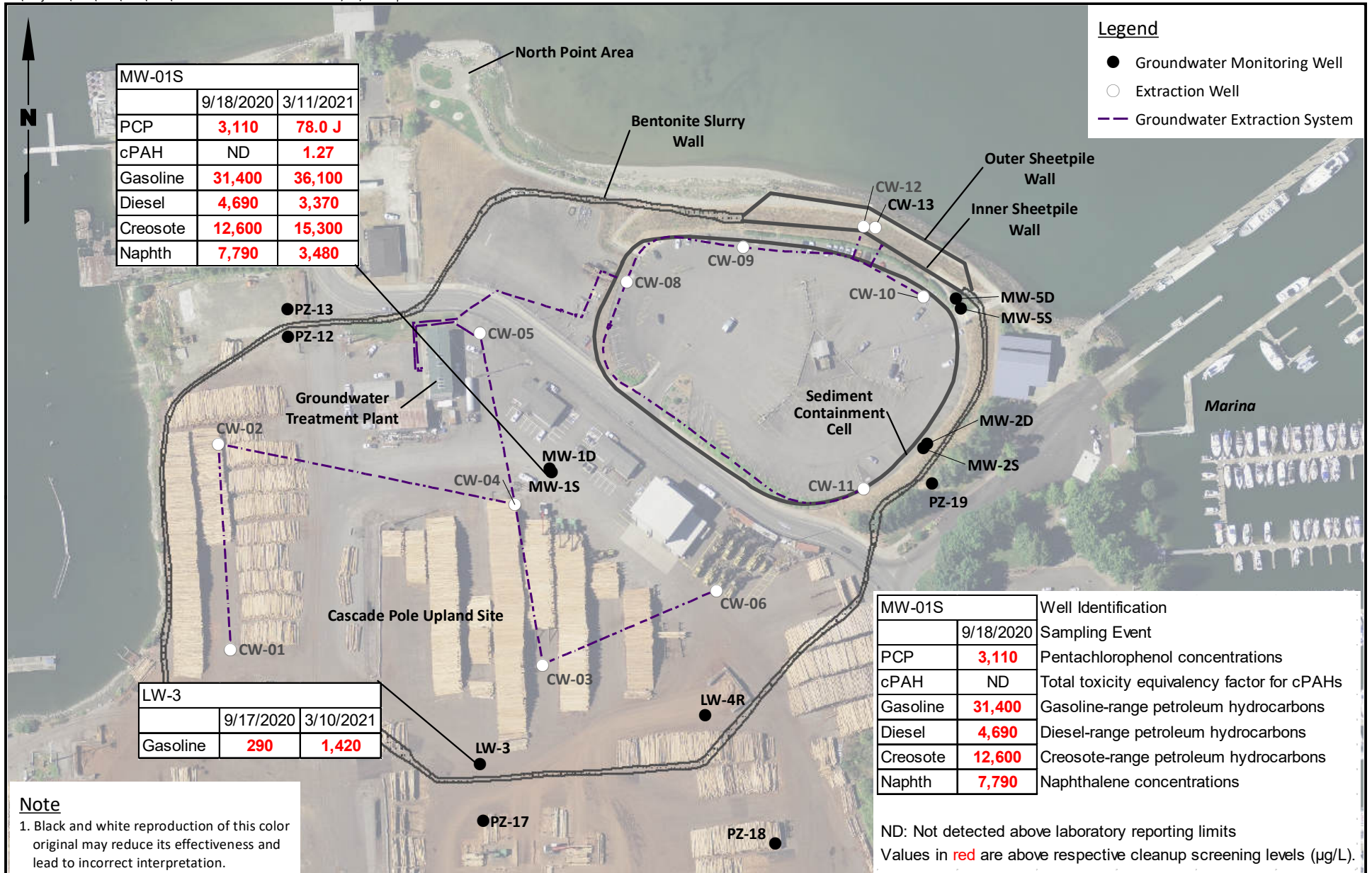


Note

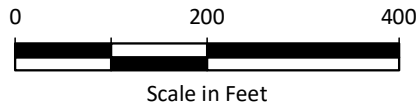
1. Extraction well CW-13 is an unpaired interior shallow well.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Source: Thurston County Aerial, 2018





Source: Thurston County Aerial, 2018



**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
4/5/2020	PZ-13	6.62	19.50	12.88	--		
4/5/2020	PZ-12	3.90	19.00	15.10	15.50	No	
5/10/2020	PZ-13	6.59	19.50	12.91	--		
5/10/2020	PZ-12	4.04	19.00	14.96	15.50	No	
6/13/2020	PZ-13	6.83	19.50	12.67	--		
6/13/2020	PZ-12	4.10	19.00	14.90	15.50	No	
7/4/2020	PZ-13	6.90	19.50	12.60	--		
7/4/2020	PZ-12	4.21	19.00	14.79	15.50	No	
8/9/2020	PZ-13	7.26	19.50	12.24	--		
8/9/2020	PZ-12	4.44	19.00	14.56	15.50	No	
9/17/2020	PZ-13	7.17	19.50	12.33	--		
9/17/2020	PZ-12	4.57	19.00	14.43	15.50	No	
10/22/2020	PZ-13	6.37	19.50	13.13	--		
10/22/2020	PZ-12	4.12	19.00	14.88	15.50	No	
11/14/2020	PZ-13	5.85	19.50	13.65	--		
11/14/2020	PZ-12	3.57	19.00	15.43	15.50	No	
12/12/2020	PZ-13	6.49	19.50	13.01	--		
12/12/2020	PZ-12	3.82	19.00	15.18	15.50	No	
1/16/2021	PZ-13	3.74	19.50	15.76	--		
1/16/2021	PZ-12	2.82	19.00	16.18	15.50	Yes	
2/6/2021	PZ-13	4.61	19.50	14.89	--		
2/6/2021	PZ-12	2.82	19.00	16.18	15.50	Yes	
3/10/2021	PZ-13	5.54	19.50	13.96	--		
3/10/2021	PZ-12	2.97	19.00	16.03	15.50	Yes	

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
4/5/2020	PZ-17	6.28	20.48	14.20	--		
4/5/2020	LW-3	4.50	19.83	15.33	15.50	No	
5/10/2020	PZ-17	NA	20.48	--	--		Covered by logs
5/10/2020	LW-3	5.04	19.83	14.79	15.50	No	
6/13/2020	PZ-17	6.73	20.48	13.75	--		
6/13/2020	LW-3	5.32	19.83	14.51	15.50	No	
7/4/2020	PZ-17	NA	20.48	--	--		Covered by log deck
7/4/2020	LW-3	5.42	19.83	14.41	15.50	No	
8/9/2020	PZ-17	6.90	20.48	13.58	--		
8/9/2020	LW-3	5.51	19.83	14.32	15.50	No	
9/17/2020	PZ-17	7.18	20.48	13.30	--		
9/17/2020	LW-3	5.53	19.83	14.30	15.50	No	
10/22/2020	PZ-17	NA	20.48	--	--		Covered with logs
10/22/2020	LW-3	5.33	19.83	14.50	15.50	No	
11/14/2020	PZ-17	6.81	20.48	13.67	--		
11/14/2020	LW-3	5.14	19.83	14.69	15.50	No	
12/12/2020	PZ-17	6.58	20.48	13.90	--		
12/12/2020	LW-3	4.96	19.83	14.87	15.50	No	
1/16/2021	PZ-17	5.69	20.48	14.79	--		
1/16/2021	LW-3	4.46	19.83	15.37	15.50	No	
2/6/2021	PZ-17	5.65	20.48	14.83	--		
2/6/2021	LW-3	3.84	19.83	15.99	15.50	Yes	
3/10/2021	PZ-17	NA	20.48	--	--		
3/10/2021	LW-3	4.61	19.83	15.22	15.50	No	

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
4/5/2020	PZ-18	NA	21.20	--	--		Covered by logs
4/5/2020	LW-4R	6.27	22.02	15.75	15.50	Yes	
5/10/2020	PZ-18	6.12	21.20	15.08	--		
5/10/2020	LW-4R	6.76	22.02	15.26	15.50	No	
6/13/2020	PZ-18	6.67	21.20	14.53	--		
6/13/2020	LW-4R	7.01	22.02	15.01	15.50	No	
7/4/2020	PZ-18	6.58	21.20	14.62	--		
7/4/2020	LW-4R	8.59	22.02	13.43	15.50	No	
8/9/2020	PZ-18	6.31	21.20	14.89	--		
8/9/2020	LW-4R	6.17	22.02	15.85	15.50	Yes	
9/17/2020	PZ-18	6.42	21.20	14.78	--		
9/17/2020	LW-4R	8.75	22.02	13.27	15.50	No	
10/22/2020	PZ-18	6.82	21.20	14.38	--		
10/22/2020	LW-4R	6.38	22.02	15.64	15.50	Yes	
11/14/2020	PZ-18	6.56	21.20	14.64	--		
11/14/2020	LW-4R	8.43	22.02	13.59	15.50	No	
12/12/2020	PZ-18	6.49	21.20	14.71	--		
12/12/2020	LW-4R	9.37	22.02	12.65	15.50	No	
1/16/2021	PZ-18	6.17	21.20	15.03	--		
1/16/2021	LW-4R	8.76	22.02	13.26	15.50	No	
2/6/2021	PZ-18	6.47	21.20	14.73	--		
2/6/2021	LW-4R	9.13	22.02	12.89	15.50	No	
3/10/2021	PZ-18	6.52	21.20	14.68	--		

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
3/10/2021	LW-4R	6.26	22.02	15.76	15.50	Yes	
4/5/2020	PZ-19	13.78	23.67	9.89	--		
4/5/2020	MW-02S	16.60	31.96	15.36	15.50	No	
5/10/2020	PZ-19	14.14	23.67	9.53	--		
5/10/2020	MW-02S	17.41	31.96	14.55	15.50	No	
6/13/2020	PZ-19	15.08	23.67	8.59	--		
6/13/2020	MW-02S	17.88	31.96	14.08	15.50	No	
7/4/2020	PZ-19	16.42	23.67	7.25	--		
7/4/2020	MW-02S	18.03	31.96	13.93	15.50	No	
8/9/2020	PZ-19	14.75	23.67	8.92	--		
8/9/2020	MW-02S	20.08	31.96	11.88	15.50	No	
9/17/2020	PZ-19	12.84	23.67	10.83	--		
9/17/2020	MW-02S	17.93	31.96	14.03	15.50	No	
10/22/2020	PZ-19	13.66	23.67	10.01	--		
10/22/2020	MW-02S	17.81	31.96	14.15	15.50	No	
11/14/2020	PZ-19	14.38	23.67	9.29	--		
11/14/2020	MW-02S	17.69	31.96	14.27	15.50	No	
12/12/2020	PZ-19	14.02	23.67	9.65	--		
12/12/2020	MW-02S	16.91	31.96	15.05	15.50	No	
1/16/2021	PZ-19	13.09	23.67	10.58	--		
1/16/2021	MW-02S	13.91	31.96	18.05	15.50	Yes	
2/6/2021	PZ-19	11.66	23.67	12.01	--		
2/6/2021	MW-02S	14.34	31.96	17.62	15.50	Yes	

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
3/10/2021	PZ-19	12.94	23.67	10.73	--		
3/10/2021	MW-02S	14.99	31.96	16.97	15.50	Yes	
4/5/2020	MW-02S	16.60	31.96	15.36	15.50	No	
4/5/2020	MW-02D	17.60	31.81	14.21	--		
5/10/2020	MW-02S	17.41	31.96	14.55	15.50	No	
5/10/2020	MW-02D	21.23	31.81	10.58	--		
6/13/2020	MW-02S	17.88	31.96	14.08	15.50	No	
6/13/2020	MW-02D	20.31	31.81	11.50	--		
7/4/2020	MW-02S	18.03	31.96	13.93	15.50	No	
7/4/2020	MW-02D	21.65	31.81	10.16	--		
8/9/2020	MW-02S	18.35	31.96	13.61	15.50	No	
8/9/2020	MW-02D	20.08	31.81	11.73	--		
9/17/2020	MW-02S	17.93	31.96	14.03	15.50	No	
9/17/2020	MW-02D	18.68	31.81	13.13	--		
10/22/2020	MW-02S	17.81	31.96	14.15	15.50	No	
10/22/2020	MW-02D	18.90	31.81	12.91	--		
11/14/2020	MW-02S	17.69	31.96	14.27	15.50	No	
11/14/2020	MW-02D	18.81	31.81	13.00	--		
12/12/2020	MW-02S	16.91	31.96	15.05	15.50	No	
12/12/2020	MW-02D	18.13	31.81	13.68	--		
1/16/2021	MW-02S	13.91	31.96	18.05	15.50	Yes	
1/16/2021	MW-02D	18.62	31.81	13.19	--		
2/6/2021	MW-02S	14.34	31.96	17.62	15.50	Yes	
2/6/2021	MW-02D	17.68	31.81	14.13	--		

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
3/10/2021	MW-02S	14.99	31.96	16.97	15.50	Yes	
3/10/2021	MW-02D	18.52	31.81	13.29	--		
4/5/2020	MW-01S	6.18	21.64	15.46	--		
4/5/2020	MW-01D	7.72	21.72	14.00	--		
5/10/2020	MW-01S	6.48	21.64	15.16	--		
5/10/2020	MW-01D	9.87	21.72	11.85	--		
6/13/2020	MW-01S	6.57	21.64	15.07	--		
6/13/2020	MW-01D	9.47	21.72	12.25	--		
7/4/2020	MW-01S	6.64	21.64	15.00	--		
7/4/2020	MW-01D	10.96	21.72	10.76	--		
8/9/2020	MW-01S	6.89	21.64	14.75	--		
8/9/2020	MW-01D	9.48	21.72	12.24	--		
9/17/2020	MW-01S	6.97	21.64	14.67	--		
9/17/2020	MW-01D	8.83	21.72	12.89	--		
10/22/2020	MW-01S	6.68	21.64	14.96	--		
10/22/2020	MW-01D	8.48	21.72	13.24	--		
11/14/2020	MW-01S	6.39	21.64	15.25	--		
11/14/2020	MW-01D	8.60	21.72	13.12	--		
12/12/2020	MW-01S	6.13	21.64	15.51	--		
12/12/2020	MW-01D	8.14	21.72	13.58	--		
1/16/2021	MW-01S	4.80	21.64	16.84	--		
1/16/2021	MW-01D	8.13	21.72	13.59	--		
2/6/2021	MW-01S	4.71	21.64	16.93	--		

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
2/6/2021	MW-01D	7.28	21.72	14.44	--		
3/10/2021	MW-01S	4.77	21.64	16.87	--		
3/10/2021	MW-01D	8.04	21.72	13.68	--		
4/5/2020	MW-05S	16.14	29.45	13.31	16.50	No	
4/5/2020	MW-05D	11.74	26.50	14.76	--		
5/10/2020	MW-05S	17.29	29.45	12.16	16.50	No	
5/10/2020	MW-05D	15.18	26.50	11.32	--		
6/13/2020	MW-05S	17.98	29.45	11.47	16.50	No	
6/13/2020	MW-05D	14.33	26.50	12.17	--		
7/4/2020	MW-05S	17.94	29.45	11.51	16.50	No	
7/4/2020	MW-05D	16.41	26.50	10.09	--		
8/9/2020	MW-05S	18.48	29.45	10.97	16.50	No	
8/9/2020	MW-05D	13.77	26.50	12.73	--		
9/17/2020	MW-05S	16.33	29.45	13.12	16.50	No	
9/17/2020	MW-05D	11.73	26.50	14.77	--		
10/22/2020	MW-05S	16.97	29.45	12.48	16.50	No	
10/22/2020	MW-05D	12.82	26.50	13.68	--		
11/14/2020	MW-05S	17.09	29.45	12.36	16.50	No	
11/14/2020	MW-05D	13.29	26.50	13.21	--		
12/12/2020	MW-05S	16.09	29.45	13.36	16.50	No	
12/12/2020	MW-05D	12.48	26.50	14.02	--		
1/16/2021	MW-05S	13.13	29.45	16.32	16.50	No	
1/16/2021	MW-05D	13.12	26.50	13.38	--		

**TABLE 1
GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
2/6/2021	MW-05S	12.67	29.45	16.78	16.50	Yes	
2/6/2021	MW-05D	11.13	26.50	15.37	--		
3/10/2021	MW-05S	14.17	29.45	15.28	16.50	No	
3/10/2021	MW-05D	12.22	26.50	14.28	--		

Notes:

Groundwater elevations determined by subtracting depth to groundwater below top of casing (ft) from top of well casing elevation (MLLW, ft).

(a) Below top of PVC well casing.

(b) Short-term hydraulic control goal is 15.5 ft along the majority of the cutoff wall alignment and 16.5 ft adjacent to Budd Inlet.

Abbreviations and Acronyms:

ft = foot/feet

ID = Identification

MLLW = Mean low low water

NA = Not available

NM = Not measured

**TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels (a)	PZ-12 20I0229-13 9/17/2020	PZ-12 21C0181-04 3/10/2021	PZ-13 20I0229-14 9/17/2020	PZ-13 21C0181-05 3/10/2021	PZ-17 20I0229-05 9/17/2020	PZ-17 21C0181-12 3/10/2021	PZ-18 20I0229-04 9/17/2020	PZ-18 21C0181-13 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)									
EPA Method SW8270D,E / SW8270D,E-SIM									
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10.0 U	10.0 UJ	10.0 U	10.0 UJ	10.0 U	10.0 UJ	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (b)	0.1 (c)	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)									
EPA Method SW8041A									
Pentachlorophenol	3	0.25 UJ	0.25 UJ	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS									
Method NWTPh-Gx (µg/L)									
Gasoline	1,000	100 U	100 U	100 U	100 U	100 U	830	100 U	997
Method NWTPh-Dx (µg/L)									
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U

TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON

	Cleanup Screening Levels (a)	PZ-19 20I0229-12 9/18/2020	PZ-19 21C0181-16 3/11/2021	LW-3 20I0229-08 9/17/2020	LW-3 21C0181-10 3/10/2021	LW-4R 20I0229-09 9/17/2020	LW-4R 21C0181-11 3/10/2021	MW-01S 20I0229-16 9/18/2020	MW-01S 21C0181-15 3/11/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)									
EPA Method SW8270D,E / SW8270D,E-SIM									
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7,790	3,480
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	381	358
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10.0 U	4.0
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	222	256
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	78.9	84.8
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	69.2	79.4
Pentachlorophenol	3	10.0 U	10.0 UJ	10.0 U	10.0 UJ	10.0 U	10.0 UJ	3,110	78.0 J
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	81.4	104
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	13.4	15.7
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	15.8	29.0
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	12.3	24.7 J
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.0 U	2.10
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.0 U	2.04
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.0 U	0.85
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.0 U	0.21
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	10.0 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U	261	251
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	20.0 U	1.68
cPAH TEQ (b)	0.1 (c)	ND	ND	ND	ND	ND	ND	ND	1.27
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	0.076	0.076	0.076	0.076	0.076	0.076	7.55	1.27
PENTACHLOROPHENOL (µg/L)									
EPA Method SW8041A									
Pentachlorophenol	3	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U	NA	NA
PETROLEUM HYDROCARBONS									
Method NWTPH-Gx (µg/L)									
Gasoline	1,000	100 U	100 U	290	1,420	100 U	100 U	31,400	36,100
Method NWTPH-Dx (µg/L)									
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	4,690	3,370
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	417	2,000 U
Creosote Oil	500	200 U	200 U	202	339	200 U	200 U	12,600	15,300

TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON

	Cleanup Screening Levels (a)	MW-02S 20I0229-10 9/17/2020	MW-02S 21C0181-03 3/10/2021	MW-05S 20I0229-02 9/17/2020	Dup of MW-05S PZ-30 20I0229-03 9/17/2020
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)					
EPA Method SW8270D,E / SW8270D,E-SIM					
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		2.7	1.3	7.6	6.6
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10.0 U	10.0 UJ	10.0 U	10.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (b)	0.1 (c)	ND	ND	ND	ND
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)					
EPA Method SW8041A					
Pentachlorophenol	3	0.25 UJ	0.25 U	0.25 UJ	0.25 UJ
PETROLEUM HYDROCARBONS					
Method NWTPH-Gx (µg/L)					
Gasoline	1,000	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)					
Diesel	500	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U
Creosote Oil	500	200 U	200 U	200 U	200 U

**TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels (a)	Dup of MW-05S		MW-01D 20I0229-15 9/18/2020	MW-01D 21C0181-14 3/11/2021	MW-02D 20I0229-11 9/17/2020	MW-02D 21C0181-02 3/10/2021	MW-05D 20I0229-07 9/17/2020	MW-05D 21C0181-07 3/10/2021
		MW-05S 21C0181-08 3/10/2021	PZ-30 21C0181-09 3/10/2021						
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)									
EPA Method SW8270D,E / SW8270D,E-SIM									
Naphthalene	4,900	7.5	7.3	1.5	1.0 U	23.9	2.7	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	3.8	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		5.7	5.8	1.0 U	1.0 U	7.7	3.5	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	2.2	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	2.5	1.0	1.0 U	1.0 U
Pentachlorophenol	3	10.0 UJ	10.0 UJ	10.0 U	10.0 UJ	10.0 U	10.0 UJ	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.1	1.2	1.0 U	1.0 U	4.5	1.0	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (b)	0.1 (c)	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)									
EPA Method SW8041A									
Pentachlorophenol	3	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS									
Method NWTPH-Gx (µg/L)									
Gasoline	1,000	100 U	100 U	100 U	100 U	100 U	100 U	162	100 U
Method NWTPH-Dx (µg/L)									
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	200 U	200 U	200 U	200 U	235	200 U	200 U	200 U

TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON

	Cleanup Screening Levels (a)	CW-13 20I0229-06 9/17/2020	CW-13 21C0181-06 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)			
EPA Method SW8270D,E / SW8270D,E-SIM			
Naphthalene	4,900	1.2	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U
Acenaphthene		4.8	1.0 U
Dibenzofuran		2.3	1.0 U
Fluorene		1.0	1.0 U
Pentachlorophenol	3	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U
Anthracene		1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U
Chrysene		0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U
1-Methylnaphthalene		1.0	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U
cPAH TEQ (b)	0.1 (c)	ND	ND
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	0.076	0.076
PENTACHLOROPHENOL (µg/L)			
EPA Method SW8041A			
Pentachlorophenol	3	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS			
Method NWTPH-Gx (µg/L)			
Gasoline	1,000	100 U	100 U
Method NWTPH-Dx (µg/L)			
Diesel	500	100 U	100 U
Motor Oil	500	200 U	200 U
Creosote Oil	500	200 U	200 U

**TABLE 2
SUMMARY OF CURRENT ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels (a)	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)		
EPA Method SW8270D,E / SW8270D,E-SIM		
Naphthalene	4,900	
2-Methylnaphthalene		
Acenaphthylene		
Acenaphthene		
Dibenzofuran		
Fluorene		
Pentachlorophenol	3	
Phenanthrene		
Anthracene		
Fluoranthene		
Pyrene	2,600	cPAH = carcinogenic polycyclic aromatic hydrocarbon
Benzo(a)Anthracene		µg/L = micrograms per liter
Chrysene		EPA = US Environmental Protection Agency
Benzo(a)Pyrene		MTCA = Model Toxics Control Act
Indeno(1,2,3-cd)Pyrene		NA = not analyzed
Dibenz(a,h)Anthracene		ND = Not Detected.
Benzo(g,h,i)Perylene		NWTPH-Dx = total petroleum hydrocarbons diesel range
1-Methylnaphthalene		NWTPH-Gx = TPH gasoline range
Total Benzofluoranthenes		PCP = pentachlorophenol
cPAH TEQ (b)	0.1 (c)	RL = reporting limit
cPAH TEQ (b) (Using 1/2 RL for ND)	0.1 (c)	SIM = select ion monitoring
		WAC = Washington Administrative Code
PENTACHLOROPHENOL (µg/L)		
EPA Method SW8041A		
Pentachlorophenol	3	U = Indicates the compound was undetected at the given reporting limit.
		J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
PETROLEUM HYDROCARBONS		
Method NWTPH-Gx (µg/L)		
Gasoline	1,000	UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
		Bold indicates detected compound. Box indicates exceedance of screening levels.
		Box indicates exceedance of screening level.
Method NWTPH-Dx (µg/L)		
Diesel	500	(a) Groundwater screening levels are MTCA Method B for marine surface water for cPAHs and PCP; MTCA Method A for TPH-Gx/TPH-Dx.
Motor Oil	500	(b) Toxicity equivalency factor (TEQ) as described in WAC 173-340-708 (8).
Creosote Oil	500	(c) cPAH cleanup screening levels based on practical quantitation limit (PQL) for individual cPAHs.
		(d) Verification sample analyzed using SW8270-SIM.

Historical Analytical Results and Groundwater Elevations

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	
		2005060439-08 6/27/2005	2006030253-01 3/20/2006	2006110182-02 11/11/2006	LS10B 10/1/2007	MO26G 3/20/2008	NH92A 7/29/2008	OH11B 1/8/2009	PK28A 8/11/2009	QF84J 1/15/2010	RS33A 10/18/2010	SO900 3/24/2011	TH68B 8/8/2011	UL19B 3/7/2012	VP53F 10/25/2012	WF57A 2/27/2013	XC89D 8/29/2013	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																		
EPA Method SW8270D,E / SW8270D,E-SIM																		
Naphthalene	4,900	0.10 U	NA	0.30	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0	1.0 U	1.0 U	1.0 U	1.8	
2-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Dibenzofuran		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Fluorene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pentachlorophenol	3	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Phenanthrene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbazole		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	
Anthracene		0.20	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Fluoranthene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pyrene	2,600	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(b)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(k)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(g,h,i)Perylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Total Benzofluoranthenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.071	0.071	0.071	0.076	0.076	0.076	
PENTACHLOROPHENOL (µg/L)																		
EPA Method SW8041A																		
Pentachlorophenol	3	10 U	0.10 U	0.1 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U	0.25 U	1.8	0.25 U	0.25 U	0.31	0.25 U	5.8
PETROLEUM HYDROCARBONS																		
Method NWTPH-Gx (µg/L)																		
Gasoline	1,000	50 U	50 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																		
Diesel	500	100 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	110 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	500 U	200 U	220 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	NA	NA	NA	NA	250 U	500 U	250 U	500 U	250 U	100 U	220 U	200 U	200 U	100 U	100	100 U	
BTEX (µg/L)																		
Method SW8021B/SW021B MOD																		
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12	PZ-12
		YA02K 2/19/2014	ZB62K 9/24/2014	ZZ61A 3/9/2015	ANH7L 9/25/2015	AWD0J 2/17/2016	16I0325-11 9/20/2016	17C0014-16 3/1/2017	17J0190-16 10/12/2017	18C0203-13 3/9/2018	18I0183-13 9/12/2018	19C0223-13 3/11/2019	19I0442-13 9/25/2019	20C0265-13 3/19/2020	20I0229-13 9/17/2020	21C0181-04 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	1.0 U	2.7	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.071	0.071	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 UJ
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13
		2005060392-01 6/27/2005	2006030241-01 3/19/2006	2006110182-01 11/11/2006	LS10A 9/30/2007	MO26H 3/19/2008	NH92B 7/29/2008	OH11A 1/8/2009	PK28B 8/11/2009	PP40A 9/21/2009	QF84F 1/14/2010	RS33B 10/18/2010	SO90E 3/24/2011	TH68A 8/8/2011	UL19F 3/7/2012	VP53A 10/25/2012	WF57B 2/27/2013
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	0.10 U	NA	10.2	1.0 U	1.0 U	1.0 U	1.0 U	9.1	4.0	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		0.10 U	NA	0.75	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U
Phenanthrene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Anthracene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.071	0.071	0.071	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	10 U	0.10 U	0.10 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	50 U	50 U	112	250 U	250 U	250 U	250 U	1,900	310	250 U	250 U	250 U	250 U	250	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	NA	250 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	NA	500 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	NA	NA	NA	NA	250 U	500 U	250 U	500 U	NA	250 U	100 U	200 U	200 U	200 U	100 U	170
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13	PZ-13
		XC89B 8/29/2013	XH58A 10/1/2013	YA02H 2/19/2014	ZB62L 9/24/2014	ZZ61B 3/9/2015	ANH7M 9/25/2015	AWDOK 2/17/2016	16I0325-12 9/20/2016	17C0014-06 3/1/2017	17J0190-06 10/12/2017	18C0203-14 3/9/2018	18I0183-14 9/12/2018	19C0223-14 3/11/2019	19C0223-14 3/11/2019	19I0442-14 9/25/2019
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	1.0 U	NA	1.0 U	5.9	1.0 U	2.6	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	NA	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	NA	0.071	0.071	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	250 U	NA	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	100 U	100 U	100 U	110 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	540	200 U	200 U	200 U	220 U	200 U	210 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	160	100 U	100 U	100 U	110 U	100 U	110 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-13	PZ-13	PZ-13	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17
		20C0265-14 3/19/2020	20I0229-14 9/17/2020	21C0181-05 3/10/2021	2005060439-04 6/28/2005	2006030253-02 3/20/2006	2006110200-01 11/13/2006	LS10E 10/1/2007	MO07B 3/19/2008	NH70B 7/28/2008	OH11C 1/8/2009	PJ99B 8/10/2009	QF84C 1/14/2010	RS33D 10/18/2010	SO90L 3/24/2011	TH68C 8/8/2011	UL19C 3/7/2012
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.11	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	3.2	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.23	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10.0 U	10.0 U	10.0 U	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.9 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.11 U	0.10 U	0.10 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.078	0.071	0.071
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	10 U	0.10 U	0.10 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	100 U	100 U	100 U	50 U	50 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	110 U
Motor Oil	500	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	220 U	200 U
Creosote Oil	500	200 U	200 U	200 U	NA	NA	NA	NA	250 U	500 U	250 U	250 U	250 U	100 U	200 U	220 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17 (e)	PZ-17	PZ-17	PZ-17
		VP53G 10/26/2012	WF57G 2/27/2013	XC81H 8/28/2013	YA02O 2/19/2014	ZB62F 9/23/2014	ZF85A 10/16/2014	ZZ61H 3/9/2015	ANH7B 9/24/2015	APW3B 11/3/2015	AWD0H 2/16/2016	16I0325-13 9/20/2016	16K0034-01 11/1/2016	2016110077 11/1/2016	17C0014-07 2/28/2017	17I0190-07 10/11/2017	18C0203-05 3/8/2018
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.9	4.8	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	2.6	18	1.9	2.3	NA	NA	1.0 U	1.5	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.4	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	3.2	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10.0 U	10.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	NA	NA	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	NA	NA	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	NA	NA	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	NA	NA	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	NA	NA	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	NA	NA	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	6.7	27	2.4	2.8	NA	NA	1.0 U	1.4	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.10 U	0.11 U	NA	0.20 U	0.10 U	NA	0.10 U	0.20 U	NA	NA	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.071	0.078	NA	0.076	0.076	0.760	0.076	0.076	NA	NA	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	1.8 U	0.25 U	NA	0.25 U	0.25 U	NA	0.26 U	5.42	0.25 U	0.100 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	NA	250 U	300	590	100 U	154	NA	NA	100 U	100 U	344
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	100 U	110	100 U	100 U	100 U	NA	100 U	100 U	NA	NA	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	640	200 U	200 U	200 U	NA	200 U	200 U	NA	NA	200 U	200 U	200 U
Creosote Oil	500	100 U	150	100 U	100 U	310	100 U	100 U	210	NA	100 U	126	NA	NA	100 U	200 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-17	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	
		18I0183-05 9/12/2018	19C0223-05 3/11/2019	19I0442-05 9/25/2019	20C0265-05 3/19/2020	20I0229-05 9/17/2020	21C0181-12 3/10/2021	2005060439-01 6/29/2005	2006030261-01 3/21/2006	2006110239-01 11/14/2006	LS10C 10/1/2007	MO07C 3/19/208	NH70C 7/28/2008	NM64A 8/28/2008	OH11E 1/8/2009	PJ99C 8/10/2009
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.13	1.0 U	1.0 U	1.0 U	NA	1.0 U	3.2
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Acenaphthene		1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Pentachlorophenol	3	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	NA	NA	NA	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.6 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.1 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	NA	0.076	0.076
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	10 U	0.10 U	0.10 U	0.25 U	0.25 U	1.8	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	100 U	443	318	942	100 U	830	50 U	50 U	50 U	250 U	250 U	250 U	NA	250 U	250 U
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	182	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	250 U	250 U	NA	250 U	250 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500 U	500 U	NA	500 U	500 U
Creosote Oil	500	374	1,210	200 U	281	200 U	200 U	NA	140	NA	NA	250 U	500 U	NA	250 U	250 U
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18
		PP40B 9/21/2009	QF84K 1/15/2010	RS33L 10/19/2010	SO90F 3/24/2011	TH68F 8/8/2011	UL19E 3/7/2012	UO79A 3/30/2012	VP10B 10/24/2012	WF72G 2/28/2013	XC81I 8/28/2013	YA02F 2/18/2014	ZB62G 9/23/2014	ZZ61G 3/9/2015	ANH7A 9/24/2015	AWDOI 2/16/2016	16I0325-14 9/20/2016
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	2.8	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	NA	5.0 U	5.0 U	5.0 U	5.0 U	15 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		1.0 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		1.0 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		1.0 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		1.0 U	0.11 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		1.0 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		1.0 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		1.0 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	NA	0.20 U	0.20 U	0.20 U	0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.76	0.083	0.071	0.071	0.071	0.071	NA	0.076	0.076	0.076	0.071	0.078	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	NA	0.41	0.91	0.25 U	0.31 U	0.25 U	NA	0.25 U	0.48	0.26 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	NA	250 U	250 U	250 U	250 U	270	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	NA	250 U	100 U	110 U	120 U	130	100 U	100 U	100 U	110 U	100 U	100 U	110 U	100 U	100 U	100 U
Motor Oil	500	NA	500 U	200 U	220 U	240 U	200 U	200 U	200 U	200 U	210 U	200 U	200 U	220 U	200 U	200 U	200 U
Creosote Oil	500	NA	250 U	100 U	220 U	240 U	470	200 U	100 U	140	110 U	100 U	100 U	110 U	100 U	100 U	100 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-18	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19
		17C0014-08 2/28/2017	17J0190-08 10/11/2017	18C0203-04 3/8/2018	18I0183-04 9/12/2018	19C0223-04 3/11/2019	19I0442-04 9/25/2019	20C0265-04 3/19/2020	20I0229-04 9/17/2020	21C0181-13 3/10/2021	2005060439-03 6/29/2005	2006030294-04 3/22/2006	2006110239-04 11/14/2006	LS21E 10/2/2007	MO26B 3/20/2008	NH70E 7/28/2008
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.13	NA	0.10 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	NA	NA	NA	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	10 U	0.10 U	0.10 U	0.21 U	0.25 U	0.70 U
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	50 U	50 U	50 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	106	100 U	100 U	250 U	250 U	250 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U	500 U	500 U
Creosote Oil	500	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	NA	NA	NA	NA	250 U	500 U
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19
		NM64B 8/28/2008	OH25C 1/9/2009	PK28E 8/11/2009	QG15C 1/18/2010	RS33H 10/19/2010	SO90H 3/25/2011	TI17B 8/9/2011	UL56G 3/8/2012	VP10C 10/24/2012	WF72C 2/28/2013	XC81E 8/28/2013	YA02E 2/18/2014	ZB62O 9/24/2014	ZZ61L 3/10/2015	ANH7C 9/24/2015	AWD0G 2/16/2016
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		NA	NA	NA	NA	0.10 U	0.10 U	0.11 U	0.10 U	0.20 U	0.20 U	0.20 U	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U
cPAH TEQ (a)	0.1 (b)	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	NA	0.076	0.076	0.076	0.071	0.071	0.078	0.071	0.076	0.076	0.076	0.071	0.071	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	NA	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	NA	250 U	250 U	250 U	100 U	110 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	NA	500 U	250 U	500 U	200 U	230 U	200 U	200 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	NA	250 U	500 U	250 U	100 U	230 U	200 U	200 U	200 U	140	100 U	100 U	100 U	100 U	100 U	100 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	PZ-19	LW-3	LW-3	LW-3	Dup of LW-3 PZ30
		16I0325-15 9/21/2016	17C0014-09 3/1/2017	17J0190-09 10/12/2017	18C0203-12 3/9/2018	18I0183-12 9/13/2018	19C0223-12 3/12/2019	19I0442-12 9/25/2019	20C0265-12 3/19/2020	20I0229-12 9/18/2020	21C0181-16 3/11/2021	2005060439-05 6/28/2005	2006030316-02 3/23/2006	2006110200-02 11/13/2006	2006110200-04 11/13/2006
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21	NA	0.12	0.13
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Pentachlorophenol	3	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	0.10 U	NA	NA	NA
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	NA	0.10 U	0.10 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	NA	NA	NA	NA
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	10 U	0.10 U	0.10 U	0.10 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	1,750 (c) T	53	50 U	50 U
Method NWTPH-Dx (µg/L)															
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	500 U	500 U
Creosote Oil	500	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	NA	NA	NA	NA
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3
		LS10G 10/1/2007	MO07A 3/19/2008	NH70A 7/28/2008	OH11D 1/8/2009	PI99A 8/10/2009	QF84E 1/14/2010	RS33C 10/18/2010	SO90M 3/24/2011	TH68D 8/8/2011	UL19D 3/7/2012	VP53H 10/26/2012	WF57H 2/27/2013	XC81J 8/28/2013	YA02N 2/19/2014	2014060297 6/11/2014	ZB62D 9/23/2014
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	7.9	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	2.0	0.539	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Pentachlorophenol	3	5.0 U	5.0 U	5.0 U	5.0 U	10 UJ	5.0 U	15 U	5.0 U	5.0 U	15 U	10 U	10 U	10 U	10 U	0.100 U	10 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 UJ	1.0 U	1.0 U	3.0 U	1.0 U	NA	NA	NA	NA	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.100 U	0.12 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.100 U	0.12 U	
Benzo(b)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	0.100 U	NA	
Benzo(k)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	0.100 U	NA	
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.100 U	0.12 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.100 U	0.12 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.100 U	0.12 U	
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	0.100 U	1.0 U	
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	1.0 U	3.0 U	1.0 U	1.0 U	3.0 U	1.0 U	1.0 U	1.0 U	0.168	1.0 U	
Total Benzofluoranthenes		NA	NA	NA	NA	NA	NA	0.10 U	1.0 U	0.10 U	0.20 U	0.20 U	0.22 U	0.10 U	NA	0.12 U	
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.71 U	0.071	0.071	0.076	0.076	0.083	0.071	0.071	0.085
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	3.6 U	0.25 U	0.57	0.25 U	0.28 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.31 U	3.7 U	NA	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	250 U	250 U	250 U	250 U	20,000	1,800	250 U	250 U	1,400	1,300	4,100	270	250 U	250 U	189	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	250 U	250 U	250 U	250 U	770	1,200	100 U	120 U	170	620	410	1,600	150	2,100	247	100 U
Motor Oil	500	500 U	500 U	500 U	500 U	1,300	1,200	200 U	250 U	220 U	1,200	310	860	230 U	1,200	500 U	200 U
Creosote Oil	500	NA	250 U	500 U	250 U	2,000	4,400	170	250 U	390	2,100	2,800	12,000	580	9,200	NA	270
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3	LW-3
		ZZ61J 3/9/2015	ANH7J 9/24/2015	AWDON 2/16/2016	16I0325-03 9/20/2016	17C0014-10 2/28/2017	17J0190-10 10/11/2017	18C0203-08 3/8/2018	18I0183-08 9/12/2018	19C0223-08 3/11/2019	19I0442-08 9/25/2019	19L0406-02 12/20/2019	20C0265-08 3/19/2020	20I0229-08 9/17/2020	21C0181-10 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.1	1.0 U	2.1	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 UJ	10 UJ	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.2	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0	1.0 U	1.4	1.0 U
Total Benzofluoranthenes		0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.57	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	250 U	250 U	140	150	396	165	248	230	207	237	977	134	290	1,420
Method NWTPH-Dx (µg/L)															
Diesel	500	120 U	510	100 U	143 J	216	209	100 U	200	133	118	100	100 U	100 U	100 U
Motor Oil	500	230 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	120 U	1700	150	501	1,010	654	200 U	1,080	763	422	386	200 U	202	339
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R
		2005060439-02 6/29/2005	2006030316-01 3/23/2006	2006110239-02 11/14/2006	LS10D 10/1/2007	MO07D 3/19/2008	NH70D 7/28/2008	OH11F 1/8/2009	PJ99D 8/10/2009	QF84L 1/15/2010	RS33N 10/19/2010	SO90A 3/24/2011	TH68E 8/8/2011	UL19A 3/7/2012	VP10F 10/24/2012	WF72F 2/28/2013	XC81K 8/28/2013
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Anthracene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.083	0.071	0.071	0.071	0.071	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	10 U	0.10 U	0.10 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.42	0.25 U	0.25 U	0.25 U	0.25 U	0.85	0.28 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	50 U	50 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	130 U	110 U	100 U	100 U	100 U	100 U
Motor Oil	500	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	260 U	220 U	200 U	100 U	400	200 U
Creosote Oil	500	NA	NA	NA	NA	250 U	500 U	250 U	250 U	250 U	100 U	260 U	220 U	200 U	200 U	200	100 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R	LW-4R
		YA02L 2/19/2014	ZB62E 9/23/2014	ZZ61K 3/9/2015	ANH7I 9/24/2015	AWD0O 2/16/2016	16I0325-04 9/20/2016	17C0014-11 2/28/2017	17J0190-11 10/11/2017	18C0203-09 3/8/2018	18I0183-09 9/12/2018	19C0223-09 3/11/2019	19I0442-09 9/25/2019	20C0265-09 3/19/2020	20I0229-09 9/17/2020	21C0181-11 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	2.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.071	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	100 U	120 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	240 U	200 U	210 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	100 U	100 U	120 U	100 U	110 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-015	MW-015	Dup of MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015	MW-015
		2005070010-01 6/30/2005	2006030261-04 3/21/2006	PZ30 2006030261-05 3/21/2006	2006110251-01 11/15/2006	LS10F 10/1/2007	MO07F 3/19/2008	NH92C 7/29/2008	OH25E 1/9/2009	PJ99F 8/10/2009	QF84H 1/15/2010	RS33M 10/19/2010	SO90N 3/25/2011	TI17G 8/9/2011	UL56H 3/8/2012	VP53D 10/25/2012	WF72D 2/28/2013
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	5,130	NA	NA	3,120	11,000	7,100	11,000	9,000	9,100	5,000	9,100	5,400	6,900	5,000	4600	7,100
2-Methylnaphthalene		NA	NA	NA	NA	920	1,000	810	1,000	890	900	750	740	680	1100	710	1000
Acenaphthylene		860	NA	NA	33	8.9	10	6.6	9.7 J	2.0 U	100 U	100 U	1.0 U	1.0 U	6.8	10	100 U
Acenaphthene		10 U	NA	NA	398	210	290	200	290	250	270	190	200	190	340	220	320
Dibenzofuran		NA	NA	NA	NA	73	130	98	110	99	120	100 U	64	79	79	110	140
Fluorene		380	NA	NA	112	59	100	63	86	72	100 U	100 U	47	47	69	90	110
Pentachlorophenol	3	NA	NA	NA	NA	8,300	4,100	2,000	1,600	3,900	4,400	3,500	4,200	4,200	3,200	4,300	4,700
Phenanthrene		23	NA	NA	132	46	98	53	76	44	100 U	100 U	44	34	65	82	94 J
Carbazole		NA	NA	NA	NA	120	120	69	80	86	100 U	100 U	57	24	53	52	NA
Anthracene		17	NA	NA	96	14	26	14	17	40	100 U	100 U	12	10	18	21	100 U
Fluoranthene		10 U	NA	NA	172	6.3	30	11	13	14	100 U	100 U	7.8	2.0	19	18	100 U
Pyrene	2,600	12	NA	NA	24	7.8	15	5.2	11	7.4	100 U	100 U	3.9	1.7	14	8.9	100 U
Benzo(a)Anthracene		10 U	0.84	0.86	10 U	1.6	2.1	5.0 U	1.5 J	3.6 J	4.2	0.58	1.0 U	1.0	1.8	2.5	1.7
Chrysene		10 U	0.55	0.57	10 U	1.7	2.2	5.0 U	1.6 J	3.8 J	4.4	0.51	1.0 U	1.1	1.8	2.4	1.6
Benzo(b)Fluoranthene		10 U	0.98	1.05	10 U	0.88	1.1	5.0 U	1.0 U	1.0	1.3	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		10 U	0.55	0.59	10 U	0.32	1.0 U	5.0 U	1.0 U	1.0	1.3	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		10 U	0.74	0.80	10 U	0.53	1.0 U	5.0 U	1.0 U	1.3	1.6	0.18	1.0 U	0.33	0.65	0.76	1.0 U
Indeno(1,2,3-cd)Pyrene		10 U	0.22	0.24	10 U	0.12	1.0 U	5.0 U	1.0 U	0.34	0.35	0.10 U	1.0 U	0.12 U	0.14	0.11	1.0 U
Dibenz(a,h)Anthracene		10 U	0.10 U	0.10 U	10 U	0.10 U	1.0 U	5.0 U	1.0 U	0.20	0.17	0.10 U	1.0 U	0.12 U	0.10 U	0.10 U	1.0 U
Benzo(g,h,i)Perylene		10 U	NA	NA	10 U	1.0 U	10 U	5.0 U	10 U	2.0 U	100 U	100 U	1.0 U	1.0 U	1.0 U	3.0 U	100 U
1-Methylnaphthalene		NA	NA	NA	NA	470	640	570	610	520	520	400	380	390	770	560	580
Total Benzofluoranthenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.35	1.0 U	0.76	1.4	1.5	2.0 U	
cPAH TEQ (a)	0.1 (b)	ND	1.00	1.08	ND	0.839	0.342	ND	0.166	1.95	2.38	0.278	ND	0.517	1.0	1.2	0.186
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	1.01	1.08	0.076	0.84	0.992	3.78	0.866	1.95	2.38	0.288	0.71 U	0.529	1.0	1.2	0.886
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	7,470	3,440	3,330	9,120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	5,830 (d)	9,620	9,580	28,000	52,000	16,000	40,000	41,000	14,000	23,000	36,000	57,000	55,000	26,000	34,000	38,000
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	100 U	9,100	9,300	7,800	5,600	7,600	6,000	4,800	5,100	9,800	4,400	6,200	5,500
Motor Oil	500	500 U	500 U	500 U	500 U	2500 U	5000 U	5,000 U	5,000 U	2500 U	5000 U	2000 U	500	1000 U	200 U	5000 U	890
Creosote Oil	500	13,000	6530 J	5,090 J	8,370	NA	48,000	46,000	48,000	22,000	24,000	35,000	24,000	31,000	18,000	44,000	40,000
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S	MW-01S
		XC89C 8/29/2013	YA02M 2/19/2014	ZB62M 9/24/2014	ZZ61N 3/10/2015	ANH7N 9/25/2015	AWDOL 2/17/2016	16I0325-06 9/21/2016	17C0014-12 3/1/2017	17J0190-12 10/12/2017	18C0203-16 3/9/2018	18I0183-16 9/13/2018	19C0223-16 3/12/2019	19I0442-16 9/26/2019	20C0265-16 3/19/2020	20I0229-16 9/18/2020
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	6,800	6,800	10,000	8,000	17,000	5,200	6,790	4,400	5,080	3,560	4,230	1,620	5,820	2,690	7,790
2-Methylnaphthalene		780	1,200	550	720	1100	850	654	587	618	644	555	329	427	302	381
Acenaphthylene		10 U	10 U	10 U	10 U	10 U	10 U	30 U	10 U	7.8	1.0 U	7.2	10.0 U	10.0 U	6.6	10.0 U
Acenaphthene		270	330	240	280	360	220	221	263	255	334	260	201	236	206	222
Dibenzofuran		140	160	71	110	130	110	97.6	118	76.0	120	98.2	79.9	85.6	71.3	78.9
Fluorene		110	120	66	73	61	74	63.5	112	75.6	122	92.5	74.2	81.7	68.1	69.2
Pentachlorophenol	3	4,000	6,600	4,900 J	2,900 J	13,000	1,300	3,950	1,290	5,510 J	1,260	6,190	426	2,580	405	3,110
Phenanthrene		130	120	68	69	92 J	69	52.6	114	69.3	169	89.2	93.8	73.8	68.3	81.4
Carbazole		NA	NA	100	53	290	68	51.1	43.5	30.3	27.2	42.5	26.3	49.5	35.8	45.0
Anthracene		39	27	17	16	27	16	30 U	27.6	14.5	31.8	15.5	20.1	16.8	16.6	13.4
Fluoranthene		56	44	10 U	10 U	12	20	30 U	30.8	16.7	51.3	11.0	26.0	14.4	15.6	15.8
Pyrene	2,600	34	22	10 U	10 U	5.3	12	30 U	20.8	7.9	43.4	8.2	17.5	10.5	9.1	12.3
Benzo(a)Anthracene		4.1	2.1	0.83	1.5	1.0 U	2.3	2.5 U	1.54	1.33	12.2	0.61	2.52	0.70	0.92	10.0 U
Chrysene		3.4	2.2	0.82	1.6	1.0 U	2.3	2.5 U	1.42	1.26	12.0	0.65	2.84	0.77	0.92	10.0 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		1.4	0.69	0.3 U	0.54	1.0 U	0.81	2.5 U	0.54	0.44	4.29	0.30 U	0.91	0.26	0.34	10.0 U
Indeno(1,2,3-cd)Pyrene		0.58	0.15	0.3 U	0.13	1.0 U	0.30 U	2.5 U	0.14	0.12	1.08	0.30 U	0.22	0.10 U	0.12	10.0 U
Dibenz(a,h)Anthracene		0.53	0.10 U	0.3 U	0.10 U	1.0 U	0.30 U	2.5 U	0.10 U	0.10 U	0.50 U	0.30 U	0.10 U	0.10 U	0.10 U	10.0 U
Benzo(g,h,i)Perylene		10 U	10 U	10 U	10 U	10 U	10 U	30 U	10 U	1.0 U	1.0 U	3.0 U	3.0 U	10.0 U	1.0 U	10.0 U
1-Methylnaphthalene		580	580	450	420	710	460	373	399	418	449	391	237	338	212	261
Total Benzofluoranthenes		2.7	1.4	0.55	1.1	1.0 U	1.6	5.0 U	1.1	1.03	8.89	0.60 U	2.00	0.67 J	0.79	20.0 U
cPAH TEQ (a)	0.1 (b)	2.2	1.1	0.146	0.829	ND	1.22	ND	0.83	0.70	6.63	0.07	1.41	0.41	0.53	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	2.2	1.1	0.326	0.834	0.71 U	1.25	1.89	0.84	0.71	6.65	0.28	1.42	0.42	0.54	7.55
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	48,000	47,000	52,000	44,000	41,000	28,000	37,200	24,200	33,900	25,900	27,000	16,700	39,100	30,100	31,400
Method NWTPH-Dx (µg/L)																
Diesel	500	9,400	7,300	11,000	3,700	10,000	6,000	6,110 J	4,790	10,300	5,610	8,670	5,150	4,720	2,630	4,690
Motor Oil	500	280	390	690	300	10000 U	690	1000 U	412	774	446	4,000 U	234	538	200 U	417
Creosote Oil	500	39,000	34,000	59,000	16,000	55,000	24,000	23,700	24,900	40,300	28,600	53,000	35,000	16,900	9,930	12,600
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-01S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	Dup of MW-02S		MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S
		21C0181-15 3/11/2021	2005070010-05 7/1/2005	2006030294-01 3/22/2006	2006110251-04 11/15/2006	LS21A 10/2/2007	MO26E 3/20/2008	NH70G 7/28/2008	OG76B 1/7/2009	MW30 OG76A 1/7/2009	OG76A PK28C 8/11/2009	OG76A QG15B 1/18/2010	RS33E SO90I 3/25/2011	RS33E SO90I 10/18/2010	RS33E SO90I 3/25/2011	TI17E UL56D 8/9/2011	UL56D 3/8/2012
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	3,480	0.29	NA	44.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		358	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		4.0	0.10	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		256	0.92	NA	0.36	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		84.8	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		79.4	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	78.0 J	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		104	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		16.1	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		15.7	1.19 E	NA	1.65	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U
Fluoranthene		29.0	0.28	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	24.7 J	0.18	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		2.10	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.10 U	0.10 U
Chrysene		2.04	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA
Benzo(a)Pyrene		0.85	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.21	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		251	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		1.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.12 U	0.10 U	0.10 U
cPAH TEQ (a)	0.1 (b)	1.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	1.27	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.085	0.071	0.071
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	NA	0.50 U	0.10 U	0.63	0.21 U	0.25 U	1.0	0.25 U	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	36,100	50 U	50 U	99	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	480	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	3,370	100 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	120 U	130	100 U
Motor Oil	500	2,000 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	500 U	200 U	240 U	990	200 U
Creosote Oil	500	15,300	NA	NA	NA	NA	250 U	500 U	250 U	250 U	500 U	250 U	100 U	240 U	200 U	200 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	MW-02S	
		VP10H 10/24/2012	WF72B 2/28/2013	XC81F 8/28/2013	YA02J 2/19/2014	ZB62A 9/23/2014	ZZ61I 3/9/2015	ANH7E 9/24/2015	AWD0A 2/16/2016	16I0325-08 9/20/2016	17C0014-13 2/28/2017	17J0190-13 10/11/2017	18C0203-10 3/8/2018	18I0183-10 9/13/2018	19C0223-10 3/12/2019	19I0442-10 9/25/2019	20C0265-10 3/19/2020	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																		
EPA Method SW8270D,E / SW8270D,E-SIM																		
Naphthalene	4,900	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7	1.3	2.8	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Acenaphthene		1.0 U	1.1	1.2	1.2	1.0	1.0 U	1.4	1.0 U	1.6	1.0 U	1.9	1.0 U	1.3	1.0 UJ	1.3	1.2	
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Pentachlorophenol	3	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Carbazole		1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Anthracene		1.0 U	1.0	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Benzo(a)Anthracene		0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Chrysene		0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)Pyrene		0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.11 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	
Total Benzofluoranthenes		0.20 U	0.20 U	0.22 U	0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.083	0.071	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	
PENTACHLOROPHENOL (µg/L)																		
EPA Method SW8041A																		
Pentachlorophenol	3	0.25 U	0.25 U	0.28 U	0.25 U	0.83	0.25 U	0.25 U	0.43 U	0.25 U	0.34	0.36	0.25 U	0.25 U	0.25 U	0.38 J	0.25 U	
PETROLEUM HYDROCARBONS																		
Method NWTPH-Gx (µg/L)																		
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Method NWTPH-Dx (µg/L)																		
Diesel	500	100 U	100 U	130 U	100 U	100 U	120 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	311	100 U	100 U	
Motor Oil	500	200 U	210 U	260 U	240	200 U	230 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	
Creosote Oil	500	110	210	130 U	100 U	100 U	120 U	190	100 U	100 U	100 U	100 U	200 U	200 U	1,930	200 U	200 U	
BTEX (µg/L)																		
Method SW8021B/SW021B MOD																		
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-02S	MW-02S	MW-05S	Dup of MW-05S		MW-05S	MW-05S	MW-05S	MW-05S	Dup of MW-05S		Dup of MW-05S		Dup of MW-05S	
		2010229-10 9/17/2020	21C0181-03 3/10/2021	2005070010-03 6/30/2005	PZ30 2005070010-04 6/30/2005	MW-05S 2006030294-07 3/22/2006	MW-05S 2006110275-01 11/16/2006	LS21C 10/2/2007	MO26C 3/20/2008	PZ30 MO26A 3/20/2008	MW-05S NH92E 7/29/208	PZ30 NH92F 7/29/208	MW-05S OG76C 1/7/2009	MW-05S PK28H 8/11/2009	PZ30 PK28I 8/11/2009	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																
EPA Method SW8270D,E / SW8270D,E-SIM																
Naphthalene	4,900	1.0 U	1.0 U	10.8 E	11.8 E	NA	29.1	92	48	43	46	39	17	1.0 U	1.0 U	
2-Methylnaphthalene		1.0 U	1.0 U	NA	NA	NA	NA	2.5	2.0	1.8	2.0	2.1	1.0 U	1.0 U	1.0 U	
Acenaphthylene		1.0 U	1.0 U	0.29	0.27	NA	0.14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthene		2.7	1.3	5.25 E	5.13 E	NA	5.91	9.2	8.8	7.6	8.3	7.3	6.6	4.3	4.4	
Dibenzofuran		1.0 U	1.0 U	NA	NA	NA	NA	3.2	2.9	2.5	2.6	2.3	1.6	1.0 U	1.0 U	
Fluorene		1.0 U	1.0 U	2.26 E	2.26 E	NA	1.00	2.8	2.6	2.2	2.0	1.7	1.0 U	1.0 U	1.0 U	
Pentachlorophenol	3	10.0 U	10.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Phenanthrene		1.0 U	1.0 U	1.45 E	1.76 E	NA	1.18	1.9	1.8	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbazole		1.0 U	1.0 U	NA	NA	NA	NA	1.9	1.1	1.0 U	1.0	1.0 U	1.2	1.0 U	1.0 U	
Anthracene		1.0 U	1.0 U	1.23 E	1.25 E	NA	1.02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.2	1.3	
Fluoranthene		1.0 U	1.0 U	1.71 E	1.75 E	NA	0.90	1.0 U	1.1	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pyrene	2,600	1.0 U	1.0 U	1.64 E	1.71 E	NA	0.41	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Benzo(a)Anthracene		0.10 U	0.10 U	0.28	0.33	0.10 U	0.18	0.10 U	0.10	0.10	0.11	0.10 U	0.13	0.10 U	0.10 U	
Chrysene		0.10 U	0.10 U	0.20	0.22	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.13	0.10 U	0.10 U	
Benzo(b)Fluoranthene		NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(k)Fluoranthene		NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12	0.10 U	0.10 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(g,h,i)Perylene		1.0 U	1.0 U	0.10 U	0.10 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1-Methylnaphthalene		1.0 U	1.0 U	NA	NA	NA	NA	5.2	3.9	3.4	4.0	3.6	1.7	1.0 U	1.0 U	
Total Benzofluoranthenes		0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
cPAH TEQ (a)	0.1 (b)	ND	ND	0.030	0.035	ND	0.018	ND	0.010	0.010	0.011	ND	0.134	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.039	0.044	0.076	0.089	0.076	0.081	0.081	0.082	0.076	0.154	0.076	0.076	
PENTACHLOROPHENOL (µg/L)																
EPA Method SW8041A																
Pentachlorophenol	3	0.25 U	0.25 U	0.10 U	0.50 U	0.10 U	0.10 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.27 U	
PETROLEUM HYDROCARBONS																
Method NWTPH-Gx (µg/L)																
Gasoline	1,000	100 U	100 U	50 U	50 U	50 U	50 U	530	320	250 U	270	250 U	250 U	250 U	250 U	
Method NWTPH-Dx (µg/L)																
Diesel	500	100 U	100 U	100 U	100 U	430	100 U	250 U	250 U	250 U	250 U	NA	250 U	250 U	250 U	
Motor Oil	500	200 U	200 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	NA	500 U	250 U	250 U	
Creosote Oil	500	200 U	200 U	NA	NA	NA	NA	NA	410	390	500 U	NA	250 U	500 U	500 U	
BTEX (µg/L)																
Method SW8021B/SW021B MOD																
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055	
		MW-055 QF84B 1/14/2010	PZ30 QF84G 1/14/2010	MW-055 RS33I 10/19/2010	Duplicate RS33J 10/19/2010	MW-055 SO90C 3/25/2011	Duplicate SO90B 3/25/2011	MW-055 T117C 8/9/2011	Duplicate T117A 8/9/2011	MW-055 UL56E 3/8/2012	PZ-30 UL56F 3/8/2012	MW-055 VP10E 10/24/2012	PZ-30 VP10D 10/24/2012	MW-055 WF57E 2/27/2013	PZ-30 WF57F 2/27/2013
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	5.3	5.3	1.8 J	4.8 J	1.0 U	1.0 U	1.0 U	1.0 U	1.1	2.0	1.0 U	1.0 U	1.6	1.6
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		13	11	9.0	8.3	6.0	6.1	7.6	8.1	7.5	8.2	8.2	10	10	11
Dibenzofuran		3.1	2.2	2.0	2.0	1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.9	1.3	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Anthracene		1.4	1.5	1.0 U	1.0 U	1.2	1.2	1.1	1.3	1.0 U	1.0 U	1.0	1.2	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		2.6 J	1.5 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		NA	NA	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.11 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.071	0.071	0.085	0.085	0.085	0.078	0.071	0.071	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.27 U	0.25 U	0.25 U	0.28 U	0.28 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)															
Diesel	500	250 U	250 U	100 U	100 U	120 U	120 U	100 U	110	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	500 U	500 U	200 U	200 U	250 U	230 U	200 UJ	500 J	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	250 U	250 U	100 U	100 U	250 U	230 U	200 U	200 U	200 U	200 U	170	170	230	210
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055	
		MW-055 XC81D 8/28/2013	PZ-30 XC81G 8/28/2013	MW-055 YA02B 2/18/2014	PZ-30 YA02A 2/18/2014	MW-055 ZB62B 9/23/2014	PZ-30 ZB62C 9/23/2014	MW-055 ZZ61D 3/9/2015	PZ-30 ZZ61C 3/9/2015	MW-055 ANH7H 9/24/2015	PZ-30 ANH7G 9/24/2015	MW-055 AWD0D 2/16/2016	PZ-30 AWD0E 2/16/2016	MW-055 1610325-10 9/20/2016	PZ-30 1610325-16 9/20/2016
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.7	1.4	1.4	1.4	5.0 J	2.8 J	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		8.7	9.4	9.0	10	8.6	9.4	6.5	7.1	7.9	7.2	6.2	6.6	10.8	10.1
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.10 U	0.10 U	0.11 U	0.12 U	0.20 U	0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.071	0.071	0.078	0.085	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.52 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)															
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 UJ	110 U	100 U	100 U	120	100 U	100 UJ	100 UJ
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 UJ	220 U	200 U	200 U	740 J	200 UJ	200 U	200 U
Creosote Oil	500	100 U	100 U	100 U	100 U	100	130	100 UJ	110 U	280	230	230 J	100 UJ	121	153
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055		Dup of MW-055	
		MW-055 17C0014-14 2/28/2017	PZ-30 17C0014-15 2/28/2017	MW-055 17J0190-14 10/11/2017	PZ-30 17J0190-15 10/11/2017	MW-055 18C0203-02 3/8/2018	PZ-30 18C0203-03 3/8/2018	MW-055 18I0183-02 9/12/2018	PZ-30 18I0183-03 9/12/2018	MW-055 19C0223-02 3/11/2019	PZ-30 19C0223-03 3/11/2019	MW-055 19I0442-02 9/25/2019	PZ-30 19I0442-03 9/25/2019	MW-055 20C0265-02 3/19/2020	PZ-30 20C0265-03 3/19/2020
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	1.0 U	1.1	9.7	10.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		7.2	6.9	9.1	9.1	8.1	8.1	5.0	6.0	1.0 UJ	4.4 J	7.6	8.5	6.8	7.1
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1.04 J	0.25 UJ	0.25 U	0.25 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)															
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	100 U	100 U	200 U	200 U	200 U	200 U	377	263	200 U	200 U	200 U	200 U	200 U	200 U
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	Dup of MW-055		Dup of MW-055		MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D
		MW-055 2010229-02 9/17/2020	PZ-30 2010229-03 9/17/2020	MW-055 21C0181-08 3/10/2021	PZ-30 21C0181-09 3/10/2021	MW-01D 10/7/1998	MW-01D 2006030261-02 3/21/2006	MW-01D 2006110251-02 11/15/2006	MW-01D LS10H 10/1/2007	MW-01D MO07E 3/19/2008	MW-01D NH92D 7/29/2008	MW-01D OH25D 1/9/2009	MW-01D PJ99E 8/10/2009	MW-01D QF84I 1/15/2010	MW-01D RS33O 10/19/2010	MW-01D SO90J 3/25/2011	MW-01D TI17F 8/9/2011
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	1.0 U	7.5	7.3	91	NA	1.24	1.0 U	1.0 U	2.2	0.7 J	1.8	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		7.6	6.6	5.7	5.8	58	NA	0.48	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	30	NA	0.31	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10.0 U	10.0 U	10.0 UJ	10.0 UJ	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	56	NA	1.42	1.0 U	1.0 U	1.0 U	0.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	8.7	NA	0.39	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	9.4	NA	0.89	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	7.6	NA	0.39	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	1.0	0.10 U	0.10 U	0.11	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	1.2	0.10 U	0.10 U	0.11	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	0.3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	0.3	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.2 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.12 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.2 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.12 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.2 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.12 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.1	1.2	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.12 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	0.172	ND	ND	0.0121	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.076	0.292	0.076	0.076	0.082	0.076	0.076	0.076	0.076	0.083	0.071	0.071	0.085
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 UJ	0.25 UJ	0.25 UJ	0.25 U	18	0.10 U	0.10 U	0.2 UJ	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	100 U	100 U	100 U	100 U	NA	50 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	100 U	2,500	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	2,800	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	200 U	200 U	200 U
Creosote Oil	500	200 U	200 U	200 U	200 U	NA	106	NA	NA	250 U	500 U	250 U	250 U	250 U	100 U	200 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	MW-01D	
		UL56I 3/8/2012	VP53C 10/25/2012	WF72E 2/28/2013	XC89A 8/29/2013	YA02I 2/19/2014	ZB62N 9/24/2014	ZZ61O 3/10/2015	ANH7O 9/25/2015	AWDOM 2/17/2016	16I0325-05 9/21/2016	17C0014-03 3/1/2017	17J0190-03 10/12/2017	18C0203-15 3/9/2018	18I0183-15 9/13/2018	19C0223-15 3/12/2019	19I0442-15 9/26/2019	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																		
EPA Method SW8270D,E / SW8270D,E-SIM																		
Naphthalene	4,900	1.0 U	1.0 U	1.8	1.1	1.2	1.9	2.7	1.2	2.5	1.3	1.0 U	1.0 U	1.7	1.1	1.0 U	2.2	
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pentachlorophenol	3	5.0 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbazole		1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Total Benzofluoranthenes		0.10 U	0.20 U	0.20 U	0.20 U	0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.071	0.076	0.076	0.076	0.071	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	
PENTACHLOROPHENOL (µg/L)																		
EPA Method SW8041A																		
Pentachlorophenol	3	0.85	0.25 U	2.0	0.28 U	0.25 U	0.25 U	1.7	51	0.25 U	0.31	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	
PETROLEUM HYDROCARBONS																		
Method NWTPH-Gx (µg/L)																		
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Method NWTPH-Dx (µg/L)																		
Diesel	500	100 U	100 U	100 U	100 U	100 U	100 U	110 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	400	330	200 U	210 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	
Creosote Oil	500	200 U	100 U	160	100 U	100 U	290	140	110	110 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	
BTEX (µg/L)																		
Method SW8021B/SW021B MOD																		
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-01D	MW-01D	MW-01D	MW-02D	MW-02D	MW-02D	MW-02D	Dup of MW-02D		MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D
		20C0265-15 3/19/2020	20I0229-15 9/18/2020	21C0181-14 3/11/2021	10/7/1998	2006030294-02 3/22/2006	2006110251-05 11/15/2006	LS21B 10/2/2007	PZ30 LS21F 10/2/2007	MO26I 3/19/2008	NH92H 7/29/2008	OH25A 1/9/2009	PK28D 8/11/2009	QG15A 1/18/2010	RS33F 10/18/2010	SO90G 3/25/2011	TI17D 8/9/2011
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.4	1.5	1.0 U	600	NA	143	680 J	500 J	380	1.1 U	210	230	180	1.0 U	76	110
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	NA	NA	NA	120	85	94	1.1 U	26	38	36	1.0 U	13	9.4
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0	NA	0.95	1.6	1.3	1.2	1.1 U	1.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	54	NA	96	86 J	67 J	70	1.1 U	26	35	34	8.8	21	18
Dibenzofuran		1.0 U	1.0 U	1.0 U	NA	NA	NA	35	26	30	1.1 U	8.1	12	14	3.0	7.9	6.1
Fluorene		1.0 U	1.0 U	1.0 U	18	NA	40	37 J	28 J	30	1.1 U	9.3	12	15	11	8.4	5.8
Pentachlorophenol	3	10.0 U	10.0 U	10.0 U	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	7.1	NA	27	23 J	18 J	22	1.1 U	6.0	7.2	9.1	5.0	5.1	3.9
Carbazole		1.0 U	1.0 U	1.0 U	NA	NA	NA	23	16	21	1.5	8.0	9.0	9.1	8.3 J	5.7	4.9
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	NA	0.50	1.0 U	1.0 U	1.0	1.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	2.0	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.7	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	NA	NA	NA	77	68	66	1.1 U	22	32	30	1.0 U	15	13
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	ND	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.071	0.071	0.071
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	5.0 U	0.10 U	10 U	0.23 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U	0.25 U	0.26 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	100 U	100 U	100 U	NA	495	830	3,100	2,900	1,700	980	760	790	600	420	620	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	1,800	100 U	100 U	290	280	540	250 U	250 U	250 U	250 U	100 U	120 U	140
Motor Oil	500	200 U	200 U	200 U	5,200	500 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	500 U	200 U	230 U	200 U
Creosote Oil	500	200 U	200 U	200 U	NA	790	1,710	NA	NA	4,200	500 U	990	600	700	270	280	440
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	MW-02D	
		UL56A 3/8/2012	VP10A 10/24/2012	WF72A 2/28/2013	XC81B 8/28/2013	YA02D 2/18/2014	ZB62I 9/23/2014	ZZ61M 3/10/2015	ANH7D 9/24/2015	AWD0F 2/16/2016	16I0325-07 9/20/2016	17C0014-04 2/28/2017	17J0190-04 10/11/2017	18C0203-11 3/8/2018	18I0183-11 9/13/2018	19C0223-11 3/12/2019	MW-02D 19I0442-11 9/25/2019	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																		
EPA Method SW8270D,E / SW8270D,E-SIM																		
Naphthalene	4,900	19	43	1.0	1.0 U	1.0 U	1.0 U	6	1.0 U	1.0 U	1.7	1.0 U	75.0	5.6	37.6	4.3	8.2	
2-Methylnaphthalene		1.5	11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	11.0	1.6	6.7	1.3	1.6	
Acenaphthylene		1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	2.3	1.0 U	1.0 U	3.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Acenaphthene		9.3	26	7.2	4.7	6.6	3.8	3.8	2.2	1.0 U	1.0 U	4.7	17.2	4.6	12.7	3.6	4.5	
Dibenzofuran		3.2	11	2.8	1.0	2.3	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.3	5.2	1.3	3.8	1.2	1.2	
Fluorene		3.8	13	4.7	3.3	3.2	1.0	1.9	1.5	1.0 U	1.0 U	2.1	5.4	1.6	4.1	1.3	1.4	
Pentachlorophenol	3	5.0 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	
Phenanthrene		2.3	8.3	2.2	1.0 U	2.0	1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.5	4.4	1.4	4.9	1.2	1.1	
Carbazole		1.4	9.0	NA	NA	NA	4.0	1.0 U	1.6	1.0 U	1.1	1.0 U	5.3	1.0 U	2.8	1.0 UJ	1.2	
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1-Methylnaphthalene		5.1	19	1.9	1.0 U	2.1	1.0 U	1.2	1.0 U	1.0 U	1.6	12.7	1.8	7.7	1.5	1.8		
Total Benzofluoranthenes		0.10 U	0.20 U	0.20 U	0.20 U	0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.071	0.076	0.076	0.076	0.071	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	
PENTACHLOROPHENOL (µg/L)																		
EPA Method SW8041A																		
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.37	0.25 U	0.25 U	0.25 U	0.25 U	0.31 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	
PETROLEUM HYDROCARBONS																		
Method NWTPH-Gx (µg/L)																		
Gasoline	1,000	250 U	510	250 U	620	250 U	250 U	250 U	250 U	100 U	140	100 U	188	100 U	131	100 U	100 U	
Method NWTPH-Dx (µg/L)																		
Diesel	500	100 U	130	100 U	160	100 U	100 U	120 U	100 U	100 U	100 UJ	100 U	100 U	100 U	109	100 U	100 U	
Motor Oil	500	210	200 U	200 U	470	200 U	200 U	230 U	200 U	210 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	
Creosote Oil	500	200 U	910	270	530	100 U	130	120 U	140	110 U	100 U	100 U	299	100 U	694	200 U	200 U	
BTEX (µg/L)																		
Method SW8021B/SW021B MOD																		
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-02D	MW-02D	MW-02D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW05D	MW-05D
		20C0265-11 3/19/2020	20I0229-11 9/17/2020	21C0181-02 3/10/2021	10/7/1998	2006030294-06 3/22/2006	2006110275-02 11/16/2006	LS21D 10/2/2007	MO26F 3/20/2008	NH92G 7/29/2008	OH25B 1/9/2009	PK28G 8/11/2009	QF84A 1/14/2010	RS33K 10/19/2010	SO90D 3/25/2011	T117I 8/9/2011	UL56C 3/8/2012
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	2.9	23.9	2.7	4.0	NA	21.0	28	27	2.2	1.2	3.4	1.0 U	1.0 U	1.0 U	2.1	1.0 U
2-Methylnaphthalene		1.0 U	3.8	1.0 U	NA	NA	NA	3.0	3.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	4.1	NA	0.10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		3.0	7.7	3.5	15	NA	6.39	5.8	6.7	3.9	0.6 J	3.7	1.0 U	4.2	1.3	2.6	3.3
Dibenzofuran		1.0 U	2.2	1.0 U	NA	NA	NA	2.2	2.5	1.4	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	2.5	1.0	5.0	NA	2.60	1.8	2.3	1.0	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.2	1.0 U
Pentachlorophenol	3	10.0 U	10.0 U	10.0 U	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenanthrene		1.0 U	1.9	1.0 U	8.5	NA	0.89	1.1	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	2.4	1.0 U	NA	NA	NA	1.5	1.6	1.4	1.0 U	1.5	1.0 U	1.6 J	1.0 U	1.0 U	1.1
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	NA	0.25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	8.5	NA	0.60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	7.0	NA	0.27	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.11 U
Chrysene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.11 U
Benzo(b)Fluoranthene		NA	NA	NA	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.11 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.11 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12 U	0.11 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	NA	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	4.5	1.0	NA	NA	NA	2.8	3.1	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 U	0.12 U	0.11 U	0.10 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	ND	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.078	0.071
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	5.0 U	0.10 U	0.10 U	0.22 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	100 U	100 U	100 U	NA	50 U	50 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	440	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	110 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	520	500 U	500 U	500 U	500 U	500 U	500 U	250 U	500 U	200 U	220 U	200 U	200 U
Creosote Oil	500	200 U	235	200 U	NA	NA	NA	NA	370	500 U	250 U	500 U	250 U	100 U	220 U	200 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D	MW-05D
		VP53E 10/25/2012	WF57D 2/27/2013	XC81A 8/28/2013	YA02G 2/19/2014	ZB62J 9/23/2014	ZZ61F 3/9/2015	ANH7F 9/24/2015	AWD0B 2/16/2016	16I0325-09 9/20/2016	17C0014-05 2/28/2017	17J0190-05 10/11/2017	18C0203-07 3/8/2018	18I0183-07 9/12/2018	19C0223-07 3/11/2019	19I0442-07 9/25/2019	20C0265-07 3/19/2020
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.3	2.9	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		5.6	4.0	5.5	1.0 U	2.5	1.0 U	3.2	1.0 U	3.2	1.0 U	7.0	1.0 U	4.6	1.0 U	3.4	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluorene		1.3	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		2.2	NA	NA	NA	1.0 U	1.0 U	1.7	1.0 U	1.0 U	1.0 U	3.0	1.0 U	1.6	1.0 UJ	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	0.20 U	0.10 U	0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.076	0.071	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	2.2	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	100 U	100 U	110 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	200 U	200 U	200 U	220 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	100 U	210	100 U	100 U	100 U	110 U	130	100 U	100 U	100 U	200 U	200 U	200 U	200 U	200 U	200 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	MW-05D	MW-05D	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13
		2010229-07 9/17/2020	21C0181-07 3/10/2021	2006110275-04 11/16/2006	LS22A 10/2/2007	MO26D 3/20/2008	NH70F 7/28/2008	PK28F 8/11/2009	QF84D 1/14/2010	RS33G 10/19/2010	SO90K 3/25/2011	TI17H 8/9/2011	UL56B 3/8/2012	VP53B 10/25/2012	WF57C 2/27/2013	XC81C 8/28/2013	YA02C 2/18/2014
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)																	
EPA Method SW8270D,E / SW8270D,E-SIM																	
Naphthalene	4,900	1.0 U	1.0 U	1.54	8.7	11	30	4.8	1.0 U	1.0 U	1.0 U	5.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	0.48	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	50.0	64	44	51	25	1.0 U	5.4	1.0 U	4.3	1.0 U	5.2	1.0 U	1.5	1.0 U
Dibenzofuran		1.0 U	1.0 U	NA	19	15	18	7.6	1.0 U	1.5	1.0 U	1.0 U	1.0 U	2.5	1.0 U	1.0 U	1.0 U
Fluorene		1.0 U	1.0 U	20.7	25	16	21	8.7	1.0 U	2.4	1.0 U	1.0 U	1.0 U	2.0	1.0 U	1.0 U	1.0 U
Pentachlorophenol	3	10.0 U	10.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	10 U	10 U
Phenanthrene		1.0 U	1.0 U	34.5	31	14	21	8.2	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	NA	14	11	13	3.0	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	NA	NA	NA
Anthracene		1.0 U	1.0 U	4.38	3.3	1.8	2.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	5.47	5.9	1.8	3.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	2.44	2.2	1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.10 U	0.10 U	0.37	0.24	0.14	0.13	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.10 U	0.10 U	0.25	0.24	0.10	0.12	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	0.10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	NA	34	27	34	12	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Benzofluoranthenes		0.20 U	0.20 U	NA	NA	NA	NA	NA	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.20 U	0.22 U	0.10 U
cPAH TEQ (a)	0.1 (b)	ND	ND	0.040	0.0264	0.015	0.014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.076	0.076	0.110	0.096	0.085	0.084	0.076	0.076	0.071	0.071	0.071	0.071	0.076	0.076	0.083	0.071
PENTACHLOROPHENOL (µg/L)																	
EPA Method SW8041A																	
Pentachlorophenol	3	0.25 U	0.25 U	0.10 U	0.22 U	0.25 U	2.9	0.26 U	0.25 U	0.25 U	0.25 U	1.0	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
PETROLEUM HYDROCARBONS																	
Method NWTPH-Gx (µg/L)																	
Gasoline	1,000	162	100 U	83	750	630	1,000	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Method NWTPH-Dx (µg/L)																	
Diesel	500	100 U	100 U	100 U	250 U	290	270	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Motor Oil	500	200 U	200 U	500 U	500 U	500 U	500 U	250 U	500 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	200 U	200 U	471	NA	1,100	960	500 U	250 U	100 U	200 U	200 U	200 U	100 U	110	100 U	100 U
BTEX (µg/L)																	
Method SW8021B/SW021B MOD																	
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

	Cleanup Screening Levels for Groundwater	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13	CW-13
		ZB62H 9/23/2014	ZZ61E 3/9/2015	ANH7K 9/25/2015	AWD0C 2/16/2016	16I0325-02 9/20/2016	17C0014-02 2/28/2017	17I0190-02 10/11/2017	18C0203-06 3/8/2018	18I0183-06 9/12/2018	19C0223-06 3/11/2019	19I0442-06 9/25/2019	20C0265-06 3/19/2020	20I0229-06 9/17/2020	21C0181-06 3/10/2021
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (µg/L)															
EPA Method SW8270D,E / SW8270D,E-SIM															
Naphthalene	4,900	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	24.4	117	1.0 U	1.2	1.0 U
2-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acenaphthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	9.8	43.2	1.0 U	4.8	1.0 U
Dibenzofuran		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.7	12.8	1.0 U	2.3	1.0 U
Fluorene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.8	19.3	1.0 U	1.0	1.0 U
Pentachlorophenol	3	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ
Phenanthrene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.8	9.9	1.0 U	1.0 U	1.0 U
Carbazole		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2 J	8.8	1.0 U	1.0 U	1.0 U
Anthracene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U
Fluoranthene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pyrene	2,600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Benzo(a)Anthracene		0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chrysene		0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(b)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)Fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)Pyrene		0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Indeno(1,2,3-cd)Pyrene		0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibenz(a,h)Anthracene		0.11 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Benzo(g,h,i)Perylene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1-Methylnaphthalene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.9	22.5	1.0 U	1.0	1.0 U
Total Benzofluoranthenes		0.11 U	0.20 U	0.10 U	0.10 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cPAH TEQ (a)	0.1 (b)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cPAH TEQ (a) (Using 1/2 RL for ND)	0.1 (b)	0.078	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076
PENTACHLOROPHENOL (µg/L)															
EPA Method SW8041A															
Pentachlorophenol	3	0.25 U	0.25 U	0.25 U	0.25 U	0.88 J	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U
PETROLEUM HYDROCARBONS															
Method NWTPH-Gx (µg/L)															
Gasoline	1,000	250 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U	100 U	280	1,230	100 U	100 U	100 U
Method NWTPH-Dx (µg/L)															
Diesel	500	100 U	100 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	195	100 U	100 U	100 U
Motor Oil	500	200 U	210 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Creosote Oil	500	100 U	100 U	100 U	100 U	100 U	100 U	200 U	200 U	200 U	200 U	750	200 U	200 U	200 U
BTEX (µg/L)															
Method SW8021B/SW021B MOD															
Benzene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE A-1
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER COMPLIANCE MONITORING
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

BTEX = benzene, toluene, ethylbenzene, and xylenes
cPAH = carcinogenic polycyclic aromatic hydrocarbon
µg/L = micrograms per liter
EPA = US Environmental Protection Agency
MTCA = Model Toxics Control Act
NA = not analyzed
ND = Not Detected.
NWTPH-Dx = total petroleum hydrocarbons diesel range
NWTPH-Gx = TPH gasoline range
PCP = pentachlorophenol
RL = reporting limit
SIM = select ion monitoring
WAC = Washington Administrative Code

U = Indicates the compound was undetected at the given reporting limit.

J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

E = The reported concentration is an estimate; the result exceeded the instrument calibration range.

Box indicates detected compound. **Box** indicates exceedance of screening levels.

Box indicates exceedance of screening level.

(a) Toxicity equivalency factor (TEQ) as described in WAC 173-340-708 (8).

(b) cPAH cleanup screening levels based on practical quantitation limit (PQL) for individual cPAHs.

(c) The gasoline-range hydrocarbon result for this sample consisted of a solitary peak, identified by GCMS as toluene.

(d) The sample contains gasoline-range hydrocarbons, which do not appear to be automotive gasoline.

(e) Verification sample analyzed using SW8270-SIM.

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
1	11/8/2006	PZ-13	4.67	19.50	14.83	--		
	11/8/2006	PZ-12	4.02	19.00	14.98	15.50	No	
	12/31/2006	PZ-13	5.56	19.50	13.94	--		
	12/31/2006	PZ-12	3.91	19.00	15.09	15.50	No	
	3/2/2007	PZ-13	6.06	19.50	13.44	--		
	3/2/2007	PZ-12	4.04	19.00	14.96	15.50	No	
	3/31/2007	PZ-13	6.39	19.50	13.11	--		
	3/31/2007	PZ-12	4.03	19.00	14.97	15.50	No	
	4/23/2007	PZ-13	6.58	19.50	12.92	--		
	4/23/2007	PZ-12	4.42	19.00	14.58	15.50	No	
	5/28/2007	PZ-13	7.36	19.50	12.14	--		
	5/28/2007	PZ-12	4.88	19.00	14.12	15.50	No	
	6/30/2007	PZ-13	7.33	19.50	12.17	--		
	6/30/2007	PZ-12	5.11	19.00	13.89	15.50	No	
	8/1/2007	PZ-13	7.19	19.50	12.31	--		
	8/1/2007	PZ-12	5.10	19.00	13.90	15.50	No	
	9/29/2007	PZ-13	7.32	19.50	12.18	--		
	9/29/2007	PZ-12	5.63	19.00	13.37	15.50	No	
	11/22/2007	PZ-13	6.91	19.50	12.59	--		
	11/22/2007	PZ-12	5.27	19.00	13.73	15.50	No	
	1/26/2008	PZ-13	5.99	19.50	13.51	--		
	1/26/2008	PZ-12	3.93	19.00	15.07	15.50	No	
	2/28/2008	PZ-13	6.44	19.50	13.06	--		
	2/28/2008	PZ-12	3.69	19.00	15.31	15.50	No	
	3/19/2008	PZ-13	6.71	19.50	12.79	--		
	3/19/2008	PZ-12	3.84	19.00	15.16	15.50	No	
	4/28/2008	PZ-13	7.19	19.50	12.31	--		
	4/28/2008	PZ-12	4.00	19.00	15.00	15.50	No	
	5/31/2008	PZ-13	7.39	19.50	12.11	--		
	5/31/2008	PZ-12	4.43	19.00	14.57	15.50	No	
6/30/2008	PZ-13	7.26	19.50	12.24	--			
6/30/2008	PZ-12	4.58	19.00	14.42	15.50	No		
7/12/2008	PZ-13	7.36	19.50	12.14	--			
7/12/2008	PZ-12	4.72	19.00	14.28	15.50	No		
8/28/2008	PZ-13	7.34	19.50	12.16	--			
8/28/2008	PZ-12	5.23	19.00	13.77	15.50	No		
9/20/2008	PZ-13	7.32	19.50	12.18	--			
9/20/2008	PZ-12	5.39	19.00	13.61	15.50	No		
10/12/2008	PZ-13	8.36	19.50	11.14	--			
10/12/2008	PZ-12	5.51	19.00	13.49	15.50	No		
11/30/2008	PZ-13	6.42	19.50	13.08	--			
11/30/2008	PZ-12	4.83	19.00	14.17	15.50	No		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	12/31/2008	PZ-13	6.42	19.50	13.08	--		
	12/31/2008	PZ-12	4.83	19.00	14.17	15.50	No	
	1/31/2009	PZ-13	6.57	19.50	12.93	--		
	1/31/2009	PZ-12	4.39	19.00	14.61	15.50	No	
	2/23/2009	PZ-13	6.95	19.50	12.55	--		
	2/23/2009	PZ-12	4.59	19.00	14.41	15.50	No	
	3/29/2009	PZ-13	6.68	19.50	12.82	--		
	3/29/2009	PZ-12	4.28	19.00	14.72	15.50	No	
	4/18/2009	PZ-13	7.61	19.50	11.89	--		
	4/18/2009	PZ-12	4.31	19.00	14.69	15.50	No	
	5/16/2009	PZ-13	6.62	19.50	12.88	--		
	5/16/2009	PZ-12	4.10	19.00	14.90	15.50	No	
	6/21/2009	PZ-13	7.03	19.50	12.47	--		
	6/21/2009	PZ-12	4.58	19.00	14.42	15.50	No	
	7/20/2009	PZ-13	7.09	19.50	12.41	--		
	7/20/2009	PZ-12	4.94	19.00	14.06	15.50	No	
	8/10/2009	PZ-13	7.31	19.50	12.19	--		
	8/10/2009	PZ-12	5.18	19.00	13.82	15.50	No	
	9/7/2009	PZ-13	7.91	19.50	11.59	--		
	9/7/2009	PZ-12	5.33	19.00	13.67	15.50	No	
	10/10/2009	PZ-13	7.45	19.50	12.05	--		
	10/10/2009	PZ-12	5.85	19.00	13.15	15.50	No	
	11/28/2009	PZ-13	5.99	19.50	13.51	--		
	11/28/2009	PZ-12	4.74	19.00	14.26	15.50	No	
	12/31/2009	PZ-13	6.06	19.50	13.44	--		
	12/31/2009	PZ-12	4.70	19.00	14.30	15.50	No	
	1/14/2010	PZ-13	5.20	19.50	14.30	--		
	1/14/2010	PZ-12	4.16	19.00	14.84	15.50	No	
	2/21/2010	PZ-13	6.04	19.50	13.46	--		
	2/21/2010	PZ-12	4.01	19.00	14.99	15.50	No	
	3/17/2010	PZ-13	6.40	19.50	13.10	--		
	3/17/2010	PZ-12	3.98	19.00	15.02	15.50	No	
	4/25/2010	PZ-13	6.65	19.50	12.85	--		
	4/25/2010	PZ-12	4.06	19.00	14.94	15.50	No	
	5/16/2010	PZ-13	6.99	19.50	12.51	--		
	5/16/2010	PZ-12	4.15	19.00	14.85	15.50	No	
	6/26/2010	PZ-13	6.83	19.50	12.67	--		
	6/26/2010	PZ-12	4.47	19.00	14.53	15.50	No	
	7/23/2010	PZ-13	7.33	19.50	12.17	--		
	7/23/2010	PZ-12	4.91	19.00	14.09	15.50	No	
	8/30/2010	PZ-13	7.49	19.50	12.01	--		
	8/30/2010	PZ-12	5.17	19.00	13.83	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	9/30/2010	PZ-13	6.98	19.50	12.52	--		
	9/30/2010	PZ-12	5.17	19.00	13.83	15.50	No	
	10/18/2010	PZ-13	7.11	19.50	12.39	--		
	10/18/2010	PZ-12	4.91	19.00	14.09	15.50	No	
	11/29/2010	PZ-13	6.23	19.50	13.27	--		
	11/29/2010	PZ-12	4.40	19.00	14.60	15.50	No	
	12/25/2010	PZ-13	5.21	19.50	14.29	--		
	12/25/2010	PZ-12	4.08	19.00	14.92	15.50	No	
	1/29/2011	PZ-13	6.01	19.50	13.49	--		
	1/29/2011	PZ-12	4.18	19.00	14.82	15.50	No	
	2/20/2011	PZ-13	6.13	19.50	13.37	--		
	2/20/2011	PZ-12	4.28	19.00	14.72	15.50	No	
	3/24/2011	PZ-13	5.23	19.50	14.27	--		
	3/24/2011	PZ-12	3.72	19.00	15.28	15.50	No	
	4/23/2011	PZ-13	6.18	19.50	13.32	--		
	4/23/2011	PZ-12	3.84	19.00	15.16	15.50	No	
	5/30/2011	PZ-13	6.75	19.50	12.75	--		
	5/30/2011	PZ-12	4.25	19.00	14.75	15.50	No	
	6/26/2011	PZ-13	7.21	19.50	12.29	--		
	6/26/2011	PZ-12	4.78	19.00	14.22	15.50	No	
	7/30/2011	PZ-13	7.26	19.50	12.24	--		
	7/30/2011	PZ-12	5.00	19.00	14.00	15.50	No	
	8/8/2011	PZ-13	7.17	19.50	12.33	--		
	8/8/2011	PZ-12	4.96	19.00	14.04	15.50	No	
	9/24/2011	PZ-13	7.61	19.50	11.89	--		
	9/24/2011	PZ-12	5.31	19.00	13.69	15.50	No	
	10/29/2011	PZ-13	6.85	19.50	12.65	--		
	10/29/2011	PZ-12	5.45	19.00	13.55	15.50	No	
	11/26/2011	PZ-13	4.98	19.50	14.52	--		
	11/26/2011	PZ-12	4.05	19.00	14.95	15.50	No	
	12/26/2011	PZ-13	6.87	19.50	12.63	--		
	12/26/2011	PZ-12	5.27	19.00	13.73	15.50	No	
	1/28/2012	PZ-13	4.60	19.50	14.90	--		
	1/28/2012	PZ-12	3.55	19.00	15.45	15.50	No	
	2/26/2012	PZ-13	5.77	19.50	13.73	--		
	2/26/2012	PZ-12	3.95	19.00	15.05	15.50	No	
	3/7/2012	PZ-13	6.64	19.50	12.86	--		
	3/7/2012	PZ-12	4.20	19.00	14.80	15.50	No	
	4/21/2012	PZ-13	6.15	19.50	13.35	--		
	4/21/2012	PZ-12	4.09	19.00	14.91	15.50	No	
	5/19/2012	PZ-13	6.83	19.50	12.67	--		
	5/19/2012	PZ-12	4.32	19.00	14.68	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/30/2012	PZ-13	6.89	19.50	12.61	--		
	6/30/2012	PZ-12	4.12	19.00	14.88	15.50	No	
	7/27/2012	PZ-13	7.15	19.50	12.35	--		
	7/27/2012	PZ-12	4.05	19.00	14.95	15.50	No	
	8/12/2012	PZ-13	7.29	19.50	12.21	--		
	8/12/2012	PZ-12	3.93	19.00	15.07	15.50	No	
	9/30/2012	PZ-13	7.22	19.50	12.28	--		
	9/30/2012	PZ-12	3.97	19.00	15.03	15.50	No	
	10/24/2012	PZ-13	6.81	19.50	12.69	--		
	10/24/2012	PZ-12	4.13	19.00	14.87	15.50	No	
	11/24/2012	PZ-13	5.04	19.50	14.46	--		
	11/24/2012	PZ-12	3.52	19.00	15.48	15.50	No	
	12/30/2012	PZ-13	5.15	19.50	14.35	--		
	12/30/2012	PZ-12	3.56	19.00	15.44	15.50	No	
	1/25/2013	PZ-13	6.57	19.50	12.93	--		
	1/25/2013	PZ-12	4.11	19.00	14.89	15.50	No	
	2/9/2013	PZ-13	6.68	19.50	12.82	--		
	2/9/2013	PZ-12	4.38	19.00	14.62	15.50	No	
	3/31/2013	PZ-13	6.85	19.50	12.65	--		
	3/31/2013	PZ-12	NA	19.00	NA	15.50	--	covered with railcar
	4/29/2013	PZ-13	6.90	19.50	12.60	--		
	4/29/2013	PZ-12	NA	19.00	NA	15.50	--	rail cars over well
	5/31/2013	PZ-13	6.96	19.50	12.54	--		
	5/31/2013	PZ-12	5.09	19.00	13.91	15.50	No	
	6/9/2013	PZ-13	7.17	19.50	12.33	--		
	6/9/2013	PZ-12	5.16	19.00	13.84	15.50	No	
	7/21/2013	PZ-13	7.07	19.50	12.43	--		
	7/21/2013	PZ-12	5.47	19.00	13.53	15.50	No	
	8/29/2013	PZ-13	7.37	19.50	12.13	--		
	8/29/2013	PZ-12	5.76	19.00	13.24	15.50	No	
	9/21/2013	PZ-13	7.00	19.50	12.50	--		
	9/21/2013	PZ-12	5.71	19.00	13.29	15.50	No	
	10/6/2013	PZ-13	5.69	19.50	13.81	--		
	10/6/2013	PZ-12	4.85	19.00	14.15	15.50	No	
	11/10/2013	PZ-13	6.67	19.50	12.83	--		
	11/10/2013	PZ-12	5.69	19.00	13.31	15.50	No	
	12/15/2013	PZ-13	7.05	19.50	12.45	--		
	12/15/2013	PZ-12	5.90	19.00	13.10	15.50	No	
	1/5/2014	PZ-13	7.03	19.50	12.47	--		
	1/5/2014	PZ-12	6.05	19.00	12.95	15.50	No	
	2/1/2014	PZ-13	6.53	19.50	12.97	--		
	2/1/2014	PZ-12	5.69	19.00	13.31	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/1/2014	PZ-13	5.59	19.50	13.91	--		
	3/1/2014	PZ-12	5.03	19.00	13.97	15.50	No	
	4/6/2014	PZ-13	6.08	19.50	13.42	--		
	4/6/2014	PZ-12	4.90	19.00	14.10	15.50	No	
	5/17/2014	PZ-13	6.49	19.50	13.01	--		
	5/17/2014	PZ-12	4.88	19.00	14.12	15.50	No	
	6/22/2014	PZ-13	7.19	19.50	12.31	--		
	6/22/2014	PZ-12	5.41	19.00	13.59	15.50	No	
	7/5/2014	PZ-13	7.34	19.50	12.16	--		
	7/5/2014	PZ-12	5.57	19.00	13.43	15.50	No	
	8/12/2014	PZ-13	7.19	19.50	12.31	--		
	8/12/2014	PZ-12	5.97	19.00	13.03	15.50	No	
	9/23/2014	PZ-13	7.32	19.50	12.18	--		
	9/23/2014	PZ-12	6.20	19.00	12.80	15.50	No	
	10/11/2014	PZ-13	6.83	19.50	12.67	--		
	10/11/2014	PZ-12	6.20	19.00	12.80	15.50	No	
	11/9/2014	PZ-13	5.79	19.50	13.71	--		
	11/9/2014	PZ-12	5.71	19.00	13.29	15.50	No	
	12/7/2014	PZ-13	5.93	19.50	13.57	--		
	12/7/2014	PZ-12	5.56	19.00	13.44	15.50	No	
	1/3/2015	PZ-13	6.17	19.50	13.33	--		
	1/3/2015	PZ-12	5.34	19.00	13.66	15.50	No	
	2/14/2015	PZ-13	5.90	19.50	13.60	--		
	2/14/2015	PZ-12	5.05	19.00	13.95	15.50	No	
	3/9/2015	PZ-13	7.01	19.50	12.49	--		
	3/9/2015	PZ-12	5.46	19.00	13.54	15.50	No	
	4/5/2015	PZ-13	6.74	19.50	12.76	--		
	4/5/2015	PZ-12	5.18	19.00	13.82	15.50	No	
	5/16/2015	PZ-13	7.21	19.50	12.29	--		
	5/16/2015	PZ-12	5.71	19.00	13.29	15.50	No	
	6/7/2015	PZ-13	7.21	19.50	12.29	--		
	6/7/2015	PZ-12	5.90	19.00	13.10	15.50	No	
	7/7/2015	PZ-13	7.02	19.50	12.48	--		
	7/7/2015	PZ-12	6.16	19.00	12.84	15.50	No	
	8/1/2015	PZ-13	7.23	19.50	12.27	--		
	8/1/2015	PZ-12	6.38	19.00	12.62	15.50	No	
	9/24/2015	PZ-13	7.49	19.50	12.01	--		
	9/24/2015	PZ-12	6.76	19.00	12.24	15.50	No	
	10/16/2015	PZ-13	7.08	19.50	12.42	--		
	10/16/2015	PZ-12	6.64	19.00	12.36	15.50	No	
	11/3/2015	PZ-13	6.41	19.50	13.09	--		
	11/3/2015	PZ-12	6.22	19.00	12.78	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	12/4/2015	PZ-13	5.77	19.50	13.73	--		
	12/4/2015	PZ-12	5.41	19.00	13.59	15.50	No	
	1/15/2016	PZ-13	5.71	19.50	13.79	--		
	1/15/2016	PZ-12	4.84	19.00	14.16	15.50	No	
	2/16/2016	PZ-13	5.30	19.50	14.20	--		
	2/16/2016	PZ-12	5.35	19.00	13.65	15.50	No	
	3/19/2016	PZ-13	5.00	19.50	14.50	--		
	3/19/2016	PZ-12	3.81	19.00	15.19	15.50	No	
	4/3/2016	PZ-13	6.31	19.50	13.19	--		
	4/3/2016	PZ-12	4.01	19.00	14.99	15.50	No	
	5/14/2016	PZ-13	7.04	19.50	12.46	--		
	5/14/2016	PZ-12	4.64	19.00	14.36	15.50	No	
	6/12/2016	PZ-13	7.07	19.50	12.43	--		
	6/12/2016	PZ-12	4.70	19.00	14.30	15.50	No	
	7/5/2016	PZ-13	7.11	19.50	12.39	--		
	7/5/2016	PZ-12	4.87	19.00	14.13	15.50	No	
	8/6/2016	PZ-13	7.30	19.50	12.20	--		
	8/6/2016	PZ-12	5.02	19.00	13.98	15.50	No	
	9/4/2016	PZ-13	7.32	19.50	12.18	--		
	9/4/2016	PZ-12	5.14	19.00	13.86	15.50	No	
	10/1/2016	PZ-13	7.27	19.50	12.23	--		
	10/1/2016	PZ-12	5.26	19.00	13.74	15.50	No	Downpour of rain from 1155-1225 halted work.
	11/6/2016	PZ-13	7.43	19.50	12.07	--		
	11/6/2016	PZ-12	4.11	19.00	14.89	15.50	No	
	12/17/2016	PZ-13	5.44	19.50	14.06	--		
	12/17/2016	PZ-12	4.02	19.00	14.98	15.50	No	
	1/21/2017	PZ-13	5.34	19.50	14.16	--		
	1/21/2017	PZ-12	3.65	19.00	15.35	15.50	No	
	2/2/2017	PZ-13	5.94	19.50	13.56	--		
	2/2/2017	PZ-12	4.06	19.00	14.94	15.50	No	
	2/28/2017	PZ-13	5.36	19.50	14.14	--		
	2/28/2017	PZ-12	3.69	19.00	15.31	15.50	No	
	3/30/2017	PZ-13	4.34	19.50	15.16	--		
	3/30/2017	PZ-12	3.14	19.00	15.86	15.50	Yes	
	4/30/2017	PZ-13	5.69	19.50	13.81	--		
	4/30/2017	PZ-12	3.50	19.00	15.50	15.50	Yes	
	5/21/2017	PZ-13	6.27	19.50	13.23	--		
	5/21/2017	PZ-12	3.64	19.00	15.36	15.50	No	
	6/6/2017	PZ-13	6.64	19.50	12.86	--		
	6/6/2017	PZ-12	3.87	19.00	15.13	15.50	No	
	7/8/2017	PZ-13	7.06	19.50	12.44	--		
	7/8/2017	PZ-12	4.17	19.00	14.83	15.50	No	
	8/4/2017	PZ-13	7.18	19.50	12.32	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/4/2017	PZ-12	4.43	19.00	14.57	15.50	No	
	9/9/2017	PZ-13	7.12	19.50	12.38	--		
	9/9/2017	PZ-12	4.77	19.00	14.23	15.50	No	
	10/11/2017	PZ-13	7.32	19.50	12.18	--		
	10/11/2017	PZ-12	5.04	19.00	13.96	15.50	No	
	11/12/2017	PZ-13	6.01	19.50	13.49	--		
	11/12/2017	PZ-12	4.15	19.00	14.85	15.50	No	
	12/16/2017	PZ-13	6.34	19.50	13.16	--		
	12/16/2017	PZ-12	4.07	19.00	14.93	15.50	No	
	1/1/2018	PZ-13	5.12	19.50	14.38	--		
	1/1/2018	PZ-12	3.62	19.00	15.38	15.50	No	
	2/10/2018	PZ-13	5.73	19.50	13.77	--		
	2/10/2018	PZ-12	3.61	19.00	15.39	15.50	No	
	3/8/2018	PZ-13	6.19	19.50	13.31	--		
	3/8/2018	PZ-12	3.61	19.00	15.39	15.50	No	
	4/27/2018	PZ-13	5.99	19.50	13.51	--		
	4/27/2018	PZ-12	3.65	19.00	15.35	15.50	No	
	5/28/2018	PZ-13	6.93	19.50	12.57	--		
	5/28/2018	PZ-12	4.06	19.00	14.94	15.50	No	
	6/29/2018	PZ-13	7.15	19.50	12.35	--		
	6/29/2018	PZ-12	4.31	19.00	14.69	15.50	No	
	7/15/2018	PZ-13	6.93	19.50	12.57	--		
	7/15/2018	PZ-12	4.34	19.00	14.66	15.50	No	
	8/12/2018	PZ-13	6.94	19.50	12.56	--		
	8/12/2018	PZ-12	4.58	19.00	14.42	15.50	No	
	9/12/2018	PZ-13	7.06	19.50	12.44	--		
	9/12/2018	PZ-12	4.74	19.00	14.26	15.50	No	
	10/6/2018	PZ-13	7.12	19.50	12.38	--		
	10/6/2018	PZ-12	4.77	19.00	14.23	15.50	No	
	11/4/2018	PZ-13	6.63	19.50	12.87	--		
	11/4/2018	PZ-12	4.44	19.00	14.56	15.50	No	
	12/2/2018	PZ-13	5.72	19.50	13.78	--		
	12/2/2018	PZ-12	4.38	19.00	14.62	15.50	No	
	1/1/2019	PZ-13	5.44	19.50	14.06	--		
	1/1/2019	PZ-12	4.12	19.00	14.88	15.50	No	
	2/2/2019	PZ-13	5.89	19.50	13.61	--		
	2/2/2019	PZ-12	4.02	19.00	14.98	15.50	No	
	3/11/2019	PZ-13	6.45	19.50	13.05	--		
	3/11/2019	PZ-12	4.10	19.00	14.90	15.50	No	
	4/7/2019	PZ-13	6.57	19.50	12.93	--		
	4/7/2019	PZ-12	4.05	19.00	14.95	15.50	No	
	5/19/2019	PZ-13	6.80	19.50	12.70	--		
	5/19/2019	PZ-12	4.50	19.00	14.50	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/9/2019	PZ-13	7.23	19.50	12.27	--		
	6/9/2019	PZ-12	4.71	19.00	14.29	15.50	No	
	7/30/2019	PZ-13	7.44	19.50	12.06	--		
	7/30/2019	PZ-12	4.95	19.00	14.05	15.50	No	
	8/27/2019	PZ-13	7.60	19.50	11.90	--		
	8/27/2019	PZ-12	5.10	19.00	13.90	15.50	No	
	9/25/2019	PZ-13	7.37	19.50	12.13	--		
	9/25/2019	PZ-12	5.02	19.00	13.98	15.50	No	
	10/22/2019	PZ-13	6.70	19.50	12.80	--		
	10/22/2019	PZ-12	4.45	19.00	14.55	15.50	No	
	11/8/2019	PZ-13	7.28	19.50	12.22	--		
	11/8/2019	PZ-12	4.92	19.00	14.08	15.50	No	
	12/8/2019	PZ-13	6.92	19.50	12.58	--		
	12/8/2019	PZ-12	5.17	19.00	13.83	15.50	No	
	1/5/2020	PZ-13	5.50	19.50	14.00	--		
	1/5/2020	PZ-12	4.17	19.00	14.83	15.50	No	
	2/21/2020	PZ-13	6.24	19.50	13.26	--		
	2/21/2020	PZ-12	3.81	19.00	15.19	15.50	No	
	3/19/2020	PZ-13	6.79	19.50	12.71	--		
	3/19/2020	PZ-12	4.30	19.00	14.70	15.50	No	
	4/5/2020	PZ-13	6.62	19.50	12.88	--		
	4/5/2020	PZ-12	3.90	19.00	15.10	15.50	No	
	5/10/2020	PZ-13	6.59	19.50	12.91	--		
	5/10/2020	PZ-12	4.04	19.00	14.96	15.50	No	
	6/13/2020	PZ-13	6.83	19.50	12.67	--		
	6/13/2020	PZ-12	4.10	19.00	14.90	15.50	No	
	7/4/2020	PZ-13	6.90	19.50	12.60	--		
	7/4/2020	PZ-12	4.21	19.00	14.79	15.50	No	
	8/9/2020	PZ-13	7.26	19.50	12.24	--		
	8/9/2020	PZ-12	4.44	19.00	14.56	15.50	No	
	9/17/2020	PZ-13	7.17	19.50	12.33	--		
	9/17/2020	PZ-12	4.57	19.00	14.43	15.50	No	
	10/22/2020	PZ-13	6.37	19.50	13.13	--		
	10/22/2020	PZ-12	4.12	19.00	14.88	15.50	No	
	11/14/2020	PZ-13	5.85	19.50	13.65	--		
	11/14/2020	PZ-12	3.57	19.00	15.43	15.50	No	
	12/12/2020	PZ-13	6.49	19.50	13.01	--		
	12/12/2020	PZ-12	3.82	19.00	15.18	15.50	No	
	1/16/2021	PZ-13	3.74	19.50	15.76	--		
	1/16/2021	PZ-12	2.82	19.00	16.18	15.50	Yes	
	2/6/2021	PZ-13	4.61	19.50	14.89	--		
	2/6/2021	PZ-12	2.82	19.00	16.18	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/10/2021	PZ-13	5.54	19.50	13.96	--		
	3/10/2021	PZ-12	2.97	19.00	16.03	15.50	Yes	
2	11/8/2006	PZ-17	7.58	20.48	12.90	--		
	11/8/2006	LW-3	5.62	20.36	14.74	15.50	No	
	12/31/2006	PZ-17	6.98	20.48	13.50	--		
	12/31/2006	LW-3	4.97	20.36	15.39	15.50	No	
	3/2/2007	PZ-17	6.94	20.48	13.54	--		
	3/2/2007	LW-3	4.97	20.36	15.39	15.50	No	
	3/31/2007	PZ-17	6.87	20.48	13.61	--		
	3/31/2007	LW-3	4.79	20.36	15.57	15.50	Yes	
	4/23/2007	PZ-17	7.05	20.48	13.43	--		
	4/23/2007	LW-3	4.84	20.36	15.52	15.50	Yes	
	5/28/2007	PZ-17	7.31	20.48	13.17	--		
	5/28/2007	LW-3	5.43	20.36	14.93	15.50	No	
	6/30/2007	PZ-17	7.48	20.48	13.00	--		
	6/30/2007	LW-3	5.35	20.36	15.01	15.50	No	
	8/1/2007	PZ-17	7.73	20.48	12.75	--		
	8/1/2007	LW-3	5.78	20.36	14.58	15.50	No	
	9/29/2007	PZ-17	7.83	20.48	12.65	--		
	9/29/2007	LW-3	6.38	20.36	13.98	15.50	No	
	11/22/2007	PZ-17	7.89	20.48	12.59	--		
	11/22/2007	LW-3	6.18	20.36	14.18	15.50	No	
	1/26/2008	PZ-17	6.87	20.48	13.61	--		
	1/26/2008	LW-3	4.70	20.36	15.66	15.50	Yes	
	2/28/2008	PZ-17	6.69	20.48	13.79	--		
	2/28/2008	LW-3	4.47	20.36	15.89	15.50	Yes	
	3/19/2008	PZ-17	6.84	20.48	13.64	--		
	3/19/2008	LW-3	4.58	20.36	15.78	15.50	Yes	
	4/28/2008	PZ-17	7.13	20.48	13.35	--		
	4/28/2008	LW-3	4.63	20.36	15.73	15.50	Yes	
	5/31/2008	PZ-17	7.68	20.48	12.80	--		
	5/31/2008	LW-3	5.34	20.36	15.02	15.50	No	
	6/30/2008	PZ-17	7.57	20.48	12.91	--		
	6/30/2008	LW-3	5.54	20.36	14.82	15.50	No	
	7/12/2008	PZ-17	7.63	20.48	12.85	--		
	7/12/2008	LW-3	5.70	20.36	14.66	15.50	No	
	8/28/2008	PZ-17	7.91	20.48	12.57	--		
	8/28/2008	LW-3	5.31	20.36	15.05	15.50	No	
	9/20/2008	PZ-17	7.99	20.48	12.49	--		
	9/20/2008	LW-3	6.37	20.36	13.99	15.50	No	
	10/12/2008	PZ-17	8.21	20.48	12.27	--		
	10/12/2008	LW-3	6.59	20.36	13.77	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/30/2008	PZ-17	8.01	20.48	12.47	--		
	11/30/2008	LW-3	5.73	20.36	14.63	15.50	No	
	12/31/2008	PZ-17	7.95	20.48	12.53	--		
	12/31/2008	LW-3	NM	20.36	--	15.50	--	
	1/31/2009	PZ-17	7.77	20.48	12.71	--		
	1/31/2009	LW-3	5.07	20.03	(c) 14.96	15.50	No	
	2/23/2009	PZ-17	7.71	20.48	12.77	--		
	2/23/2009	LW-3	5.58	20.03	(c) 14.45	15.50	No	
	3/29/2009	PZ-17	NM	20.48	--	--		
	3/29/2009	LW-3	6.62	20.03	(c) 13.41	15.50	--	
	4/18/2009	PZ-17	7.73	20.48	12.75	--		
	4/18/2009	LW-3	6.63	20.03	(c) 13.40	15.50	No	
	5/16/2009	PZ-17	7.60	20.48	12.88	--		
	5/16/2009	LW-3	5.05	20.03	(c) 14.98	15.50	No	
	6/21/2009	PZ-17	7.61	20.48	12.87	--		
	6/21/2009	LW-3	7.28	20.03	(c) 12.75	15.50	No	
	7/20/2009	PZ-17	7.79	20.48	12.69	--		
	7/20/2009	LW-3	6.07	20.03	(c) 13.96	15.50	No	
	8/10/2009	PZ-17	7.86	20.48	12.62	--		
	8/10/2009	LW-3	6.55	20.03	(c) 13.48	15.50	No	
	9/7/2009	PZ-17	8.04	20.48	12.44	--		
	9/7/2009	LW-3	6.69	20.03	(c) 13.34	15.50	No	
	10/10/2009	PZ-17	8.13	20.48	12.35	--		
	10/10/2009	LW-3	7.01	20.03	(c) 13.02	15.50	No	
	11/28/2009	PZ-17	7.77	20.48	12.71	--		
	11/28/2009	LW-3	7.26	20.03	(c) 12.77	15.50	No	
	12/31/2009	PZ-17	7.61	20.48	12.87	--		
	12/31/2009	LW-3	7.06	20.03	(c) 12.97	15.50	No	
	1/14/2010	PZ-17	7.46	20.48	13.02	--		
	1/14/2010	LW-3	6.81	20.03	(c) 13.22	15.50	No	
	2/21/2010	PZ-17	7.17	20.48	13.31	--		
	2/21/2010	LW-3	6.94	20.03	(c) 13.09	15.50	No	
	3/17/2010	PZ-17	7.22	20.48	13.26	--		
	3/17/2010	LW-3	6.37	20.03	(c) 13.66	15.50	--	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	4/25/2010	PZ-17	7.04	20.48	13.44	--		
	4/25/2010	LW-3	6.18	20.03	(c) 13.85	15.50	No	
	5/16/2010	PZ-17	7.14	20.48	13.34	--		
	5/16/2010	LW-3	6.22	20.03	(c) 13.81	15.50	No	
	6/26/2010	PZ-17	7.21	20.48	13.27	--		
	6/26/2010	LW-3	6.87	20.03	(c) 13.16	15.50	No	
	7/23/2010	PZ-17	7.35	20.48	13.13	--		
	7/23/2010	LW-3	6.26	20.03	(c) 13.77	15.50	No	
	8/30/2010	PZ-17	7.61	20.48	12.87	--		
	8/30/2010	LW-3	NA	19.83	(c) NA	15.50	--	
	9/30/2010	PZ-17	7.64	20.48	12.84	--		
	9/30/2010	LW-3	6.63	19.83	(c) 13.20	15.50	No	
	10/18/2010	PZ-17	7.76	20.48	12.72	--		
	10/18/2010	LW-3	5.90	19.83	(c) 13.93	15.50	No	
	11/29/2010	PZ-17	7.50	20.48	12.98	--		
	11/29/2010	LW-3	NA	19.83	(c) NA	15.50	--	
	12/25/2010	PZ-17	7.00	20.48	13.48	--		
	12/25/2010	LW-3	6.63	19.83	(c) 13.20	15.50	No	
	1/29/2011	PZ-17	7.00	20.48	13.48	--		
	1/29/2011	LW-3	6.13	19.83	(c) 13.70	15.50	No	
	2/20/2011	PZ-17	7.02	20.48	13.46	--		
	2/20/2011	LW-3	5.96	19.83	(c) 13.87	15.50	No	
	3/24/2011	PZ-17	6.55	20.48	13.93	--		
	3/24/2011	LW-3	5.72	19.83	(c) 14.11	15.50	No	
	4/23/2011	PZ-17	6.54	20.48	13.94	--		
	4/23/2011	LW-3	6.04	19.83	(c) 13.79	15.50	No	
	5/30/2011	PZ-17	6.70	20.48	13.78	--		
	5/30/2011	LW-3	5.79	19.83	(c) 14.04	15.50	No	
	6/26/2011	PZ-17	6.95	20.48	13.53	--		
	6/26/2011	LW-3	6.16	19.83	(c) 13.67	15.50	No	
	7/30/2011	PZ-17	7.16	20.48	13.32	--		
	7/30/2011	LW-3	5.30	19.83	(c) 14.53	15.50	No	
	8/8/2011	PZ-17	7.24	20.48	13.24	--		
	8/8/2011	LW-3	5.51	19.83	(c) 14.32	15.50	No	
	9/24/2011	PZ-17	7.45	20.48	13.03	--		
	9/24/2011	LW-3	5.85	19.83	(c) 13.98	15.50	No	
	10/29/2011	PZ-17	7.63	20.48	12.85	--		
	10/29/2011	LW-3	5.98	19.83	(c) 13.85	15.50	No	
	11/26/2011	PZ-17	7.04	20.48	13.44	--		
	11/26/2011	LW-3	6.83	19.83	(c) 13.00	15.50	No	
	12/26/2011	PZ-17	7.63	20.48	12.85	--		
	12/26/2011	LW-3	6.10	19.83	(c) 13.73	15.50	No	Lid stuck.

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/28/2012	PZ-17	7.14	20.48	13.34	--		
	1/28/2012	LW-3	5.18	19.83	(c) 14.65	15.50	No	Well covered.
	2/26/2012	PZ-17	7.09	20.48	13.39	--		
	2/26/2012	LW-3	4.70	19.83	(c) 15.13	15.50	No	
	3/7/2012	PZ-17	7.22	20.48	13.26	--		
	3/7/2012	LW-3	5.17	19.83	(c) 14.66	15.50	No	
	4/21/2012	PZ-17	6.72	20.48	13.76	--		
	4/21/2012	LW-3	5.63	19.83	(c) 14.20	15.50	No	
	5/19/2012	PZ-17	6.88	20.48	13.60	--		
	5/19/2012	LW-3	5.12	19.83	(c) 14.71	15.50	No	
	6/30/2012	PZ-17	7.08	20.48	13.40	--		
	6/30/2012	LW-3	NA	19.83	(c) NA	15.50	--	
	7/27/2012	PZ-17	7.20	20.48	13.28	--		
	7/27/2012	LW-3	NA	19.83	(c) NA	15.50	--	
	8/12/2012	PZ-17	7.21	20.48	13.27	--		
	8/12/2012	LW-3	5.22	19.83	(c) 14.61	15.50	No	
	9/30/2012	PZ-17	7.57	20.48	12.91	--		
	9/30/2012	LW-3	NA	19.83	(c) NA	15.50	--	
	10/24/2012	PZ-17	7.62	20.48	12.86	--		
	10/24/2012	LW-3	4.06	19.83	(c) 15.77	15.50	Yes	
	11/24/2012	PZ-17	7.21	20.48	13.27	--		
	11/24/2012	LW-3	5.88	19.83	(c) 13.95	15.50	No	
	12/30/2012	PZ-17	6.64	20.48	13.84	--		
	12/30/2012	LW-3	5.51	19.83	(c) 14.32	15.50	No	
	1/25/2013	PZ-17	6.79	20.48	13.69	--		
	1/25/2013	LW-3	5.61	19.83	(c) 14.22	15.50	No	
	2/9/2013	PZ-17	7.02	20.48	13.46	--		
	2/9/2013	LW-3	5.80	19.83	(c) 14.03	15.50	No	
	3/31/2013	PZ-17	7.07	20.48	13.41	--		
	3/31/2013	LW-3	5.81	19.83	(c) 14.02	15.50	No	
	4/29/2013	PZ-17	7.13	20.48	13.35	--		
	4/29/2013	LW-3	6.01	19.83	13.82	15.50	No	
	5/31/2013	PZ-17	NA	20.48	NA	--		
	5/31/2013	LW-3	6.24	19.83	13.59	15.50	--	
	6/9/2013	PZ-17	7.23	20.48	13.25	--		
	6/9/2013	LW-3	6.18	19.83	13.65	15.50	No	
	7/21/2013	PZ-17	7.31	20.48	13.17	--		
	7/21/2013	LW-3	6.26	19.83	13.57	15.50	No	
	8/29/2013	PZ-17	7.52	20.48	12.96	--		
	8/29/2013	LW-3	6.35	19.83	13.48	15.50	No	
	9/21/2013	PZ-17	7.52	20.48	12.96	--		
	9/21/2013	LW-3	6.44	19.83	13.39	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	10/6/2013	PZ-17	7.17	20.48	13.31	--		
	10/6/2013	LW-3	6.37	19.83	13.46	15.50	No	
	11/10/2013	PZ-17	7.49	20.48	12.99	--		
	11/10/2013	LW-3	6.30	19.83	13.53	15.50	No	
	12/15/2013	PZ-17	7.71	20.48	12.77	--		Covered with log bunks
	12/15/2013	LW-3	6.54	19.83	13.29	15.50	No	
	1/5/2014	PZ-17	7.76	20.48	12.72	--		
	1/5/2014	LW-3	6.54	19.83	13.29	15.50	No	
	2/1/2014	PZ-17	7.62	20.48	12.86	--		
	2/1/2014	LW-3	6.42	19.83	13.41	15.50	No	
	3/1/2014	PZ-17	7.20	20.48	13.28	--		
	3/1/2014	LW-3	6.18	19.83	13.65	15.50	No	
	4/6/2014	PZ-17	6.88	20.48	13.60	--		
	4/6/2014	LW-3	5.95	19.83	13.88	15.50	No	
	5/17/2014	PZ-17	6.55	20.48	13.93	--		
	5/17/2014	LW-3	4.98	19.83	14.85	15.50	No	
	6/22/2014	PZ-17	NA	20.48	NA	--		
	6/22/2014	LW-3	6.12	19.83	13.71	15.50	--	
	7/5/2014	PZ-17	7.96	20.48	12.52	--		
	7/5/2014	LW-3	6.14	19.83	13.69	15.50	No	
	8/12/2014	PZ-17	9.11	20.48	11.37	--		
	8/12/2014	LW-3	6.53	19.83	13.30	15.50	No	
	9/23/2014	PZ-17	9.38	20.48	11.10	--		
	9/23/2014	LW-3	6.71	19.83	13.12	15.50	No	
	10/11/2014	PZ-17	8.77	20.48	11.71	--		
	10/11/2014	LW-3	7.03	19.83	12.80	15.50	No	
	11/9/2014	PZ-17	7.87	20.48	12.61	--		
	11/10/2014	LW-3	6.73	19.83	13.10	15.50	No	
	12/7/2014	PZ-17	7.77	20.48	12.71	--		
	12/7/2014	LW-3	6.46	19.83	13.37	15.50	No	
	1/3/2015	PZ-17	7.96	20.48	12.52	--		
	1/3/2015	LW-3	6.36	19.83	13.47	15.50	No	
	2/14/2015	PZ-17	8.04	20.48	12.44	--		
	2/14/2015	LW-3	6.07	19.83	13.76	15.50	No	
	3/9/2015	PZ-17	8.51	20.48	11.97	--		
	3/9/2015	LW-3	6.07	19.83	13.76	15.50	No	
	4/5/2015	PZ-17	NA	20.48	NA	--		
	4/5/2015	LW-3	6.02	19.83	13.81	15.50	No	
	5/16/2015	PZ-17	9.04	20.48	11.44	--		
	5/16/2015	LW-3	6.35	19.83	13.48	15.50	No	
	6/7/2015	PZ-17	9.05	20.48	11.43	--		
	6/7/2015	LW-3	6.52	19.83	13.31	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	7/7/2015	PZ-17	9.08	20.48	11.40	--		
	7/7/2015	LW-3	6.73	19.83	13.10	15.50	No	
	8/1/2015	PZ-17	9.17	20.48	11.31	--		
	8/1/2015	LW-3	6.61	19.83	13.22	15.50	No	
	9/24/2015	PZ-17	8.60	20.48	11.88	--		
	9/24/2015	LW-3	7.10	19.83	12.73	15.50	No	
	10/16/2015	PZ-17	8.14	20.48	12.34	--		
	10/16/2015	LW-3	7.32	19.83	12.51	15.50	No	
	11/3/2015	PZ-17	7.92	20.48	12.56	--		
	11/3/2015	LW-3	7.29	19.83	12.54	15.50	No	
	12/4/2015	PZ-17	7.44	20.48	13.04	--		
	12/4/2015	LW-3	6.81	19.83	13.02	15.50	No	
	1/15/2016	PZ-17	6.86	20.48	13.62	--		
	1/15/2016	LW-3	5.97	19.83	13.86	15.50	No	
	2/16/2016	PZ-17	6.32	20.48	14.16	--		
	2/16/2016	LW-3	5.40	19.83	14.43	15.50	No	
	3/19/2016	PZ-17	6.19	20.48	14.29	--		
	3/19/2016	LW-3	4.74	19.83	15.09	15.50	No	
	4/3/2016	PZ-17	6.32	20.48	14.16	--		
	4/3/2016	LW-3	4.58	19.83	15.25	15.50	No	
	5/14/2016	PZ-17	6.84	20.48	13.64	--		
	5/14/2016	LW-3	5.27	19.83	14.56	15.50	No	
	6/12/2016	PZ-17	7.04	20.48	13.44	--		
	6/12/2016	LW-3	5.47	19.83	14.36	15.50	No	
	7/5/2016	PZ-17	7.21	20.48	13.27	--		
	7/5/2016	LW-3	5.61	19.83	14.22	15.50	No	
	8/6/2016	PZ-17	7.39	20.48	13.09	--		
	8/6/2016	LW-3	5.70	19.83	14.13	15.50	No	
	9/4/2016	PZ-17	7.37	20.48	13.11	--		
	9/4/2016	LW-3	5.88	19.83	13.95	15.50	No	
	10/1/2016	PZ-17	7.34	20.48	13.14	--		
	10/1/2016	LW-3	5.97	19.83	13.86	15.50	No	
	11/6/2016	PZ-17	6.87	20.48	13.61	--		
	11/6/2016	LW-3	5.36	19.83	14.47	15.50	No	
	12/17/2016	PZ-17	6.65	20.48	13.83	--		
	12/17/2016	LW-3	4.81	19.83	15.02	15.50	No	
	1/21/2017	PZ-17	6.46	20.48	14.02	--		
	1/21/2017	LW-3	4.78	19.83	15.05	15.50	No	
	2/2/2017	PZ-17	6.43	20.48	14.05	--		
	2/2/2017	LW-3	4.73	19.83	15.10	15.50	No	
	2/28/2017	PZ-17	6.18	20.48	14.30	--		
	2/28/2017	LW-3	4.60	19.83	15.23	15.50	No	
	3/30/2017	PZ-17	5.67	20.48	14.81	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/30/2017	LW-3	4.32	19.83	15.51	15.50	Yes	
	4/30/2017	PZ-17	5.62	20.48	14.86	--		
	4/30/2017	LW-3	3.73	19.83	16.10	15.50	Yes	
	5/21/2017	PZ-17	5.73	20.48	14.75	--		
	5/21/2017	LW-3	3.78	19.83	16.05	15.50	Yes	
	6/6/2017	PZ-17	5.80	20.48	14.68	--		
	6/6/2017	LW-3	3.85	19.83	15.98	15.50	Yes	
	7/8/2017	PZ-17	6.09	20.48	14.39	--		
	7/8/2017	LW-3	4.77	19.83	15.06	15.50	No	
	8/4/2017	PZ-17	6.42	20.48	14.06	--		
	8/4/2017	LW-3	4.92	19.83	14.91	15.50	No	
	9/9/2017	PZ-17	6.81	20.48	13.67	--		
	9/9/2017	LW-3	5.47	19.83	14.36	15.50	No	
	10/11/2017	PZ-17	7.04	20.48	13.44	--		
	10/11/2017	LW-3	5.55	19.83	14.28	15.50	No	
	11/12/2017	PZ-17	6.34	20.48	14.14	--		
	11/12/2017	LW-3	5.31	19.83	14.52	15.50	No	
	12/16/2017	PZ-17	6.04	20.48	14.44	--		
	12/16/2017	LW-3	5.07	19.83	14.76	15.50	No	
	1/1/2018	PZ-17	5.98	20.48	14.50	--		
	1/1/2018	LW-3	4.71	19.83	15.12	15.50	No	
	2/10/2018	PZ-17	5.60	20.48	14.88	--		
	2/10/2018	LW-3	4.50	19.83	15.33	15.50	No	
	3/8/2018	PZ-17	8.19	20.48	12.29	--		
	3/8/2018	LW-3	3.99	19.83	15.84	15.50	Yes	
	4/27/2018	PZ-17	5.83	20.48	14.65	--		
	4/27/2018	LW-3	4.57	19.83	15.26	15.50	No	
	5/28/2018	PZ-17	6.22	20.48	14.26	--		
	5/28/2018	LW-3	4.61	19.83	15.22	15.50	No	
	6/29/2018	PZ-17	6.57	20.48	13.91	--		
	6/29/2018	LW-3	5.06	19.83	14.77	15.50	No	
	7/15/2018	PZ-17	6.57	20.48	13.91	--		
	7/15/2018	LW-3	4.95	19.83	14.88	15.50	No	
	8/12/2018	PZ-17	6.77	20.48	13.71	--		
	8/12/2018	LW-3	5.09	19.83	14.74	15.50	No	
	9/12/2018	PZ-17	6.99	20.48	13.49	--		
	9/12/2018	LW-3	5.48	19.83	14.35	15.50	No	
	10/6/2018	PZ-17	7.15	20.48	13.33	--		
	10/6/2018	LW-3	5.53	19.83	14.30	15.50	No	
	11/4/2018	PZ-17	7.12	20.48	13.36	--		
	11/4/2018	LW-3	5.43	19.83	14.40	15.50	No	
	12/2/2018	PZ-17	7.08	20.48	13.40	--		
	12/2/2018	LW-3	5.70	19.83	14.13	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/1/2019	PZ-17	6.47	20.48	14.01	--		
	1/1/2019	LW-3	5.21	19.83	14.62	15.50	No	
	2/2/2019	PZ-17	ND	20.48	--	--		Inaccessible. Log bunk.
	2/2/2019	LW-3	4.87	19.83	14.96	15.50	No	
	3/11/2019	PZ-17	5.99	20.48	14.49	--		
	3/11/2019	LW-3	4.73	19.83	15.10	15.50	No	
	4/7/2019	PZ-17	6.23	20.48	14.25	--		
	4/7/2019	LW-3	4.59	19.83	15.24	15.50	No	
	5/19/2019	PZ-17	6.46	20.48	14.02	--		
	5/19/2019	LW-3	4.88	19.83	14.95	15.50	No	
	6/9/2019	PZ-17	6.68	20.48	13.80	--		
	6/9/2019	LW-3	5.22	19.83	14.61	15.50	No	
	7/30/2019	PZ-17	6.90	20.48	13.58	--		
	7/30/2019	LW-3	5.50	19.83	14.33	15.50	No	
	8/27/2019	PZ-17	7.00	20.48	13.48	--		
	8/27/2019	LW-3	5.60	19.83	14.23	15.50	No	
	9/25/2019	PZ-17	7.26	20.48	13.22	--		
	9/25/2019	LW-3	5.84	19.83	13.99	15.50	No	
	10/22/2019	PZ-17	7.35	20.48	13.13	--		
	10/22/2019	LW-3	5.85	19.83	13.98	15.50	No	
	11/8/2019	PZ-17	6.30	20.48	14.18	--		
	11/8/2019	LW-3	5.48	19.83	14.35	15.50	No	
	12/8/2019	PZ-17	7.33	20.48	13.15	--		
	12/8/2019	LW-3	NA	19.83	--	15.50	--	Well cap pulled off before measurement
	1/5/2020	PZ-17	NA	20.48	--	--		Covered by log pile
	1/5/2020	LW-3	5.54	19.83	14.29	15.50	No	
	2/21/2020	PZ-17	NA	20.48	--	--		Covered by log pile
	2/21/2020	LW-3	4.75	19.83	15.08	15.50	No	
	3/19/2020	PZ-17	6.35	20.48	14.13	--		
	3/19/2020	LW-3	4.98	19.83	14.85	15.50	No	
	4/5/2020	PZ-17	6.28	20.48	14.20	--		
	4/5/2020	LW-3	4.50	19.83	15.33	15.50	No	
	5/10/2020	PZ-17	NA	20.48	--	--		Covered by logs
	5/10/2020	LW-3	5.04	19.83	14.79	15.50	No	
	6/13/2020	PZ-17	6.73	20.48	13.75	--		
	6/13/2020	LW-3	5.32	19.83	14.51	15.50	No	
	7/4/2020	PZ-17	NA	20.48	--	--		Covered by log deck
	7/4/2020	LW-3	5.42	19.83	14.41	15.50	No	
	8/9/2020	PZ-17	6.90	20.48	13.58	--		
	8/9/2020	LW-3	5.51	19.83	14.32	15.50	No	
	9/17/2020	PZ-17	7.18	20.48	13.30	--		
	9/17/2020	LW-3	5.53	19.83	14.30	15.50	No	
	10/22/2020	PZ-17	NA	20.48	--	--		Covered with logs

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	10/22/2020	LW-3	5.33	19.83	14.50	15.50	No	
	11/14/2020	PZ-17	6.81	20.48	13.67	--		
	11/14/2020	LW-3	5.14	19.83	14.69	15.50	No	
	12/12/2020	PZ-17	6.58	20.48	13.90	--		
	12/12/2020	LW-3	4.96	19.83	14.87	15.50	No	
	1/16/2021	PZ-17	5.69	20.48	14.79	--		
	1/16/2021	LW-3	4.46	19.83	15.37	15.50	No	
	2/6/2021	PZ-17	5.65	20.48	14.83	--		
	2/6/2021	LW-3	3.84	19.83	15.99	15.50	Yes	
	3/10/2021	PZ-17	NA	20.48	--	--		
	3/10/2021	LW-3	4.61	19.83	15.22	15.50	No	
3	11/8/2006	PZ-18	6.31	21.20	14.89	--		
	11/8/2006	LW-4R	7.73	22.02	14.29	15.50	No	
	12/31/2006	PZ-18	7.95	21.20	13.25	--		
	12/31/2006	LW-4R	6.77	22.02	15.25	15.50	No	
	3/2/2007	PZ-18	7.28	21.20	13.92	--		
	3/2/2007	LW-4R	4.91	22.02	17.11	15.50	Yes	
	3/31/2007	PZ-18	9.47	21.20	11.73	--		
	3/31/2007	LW-4R	6.07	22.02	15.95	15.50	Yes	
	4/23/2007	PZ-18	4.31	21.20	16.89	--		
	4/23/2007	LW-4R	5.32	22.02	16.70	15.50	Yes	
	5/28/2007	PZ-18	9.82	21.20	11.38	--		
	5/28/2007	LW-4R	8.12	22.02	13.90	15.50	No	
	6/30/2007	PZ-18	8.85	21.20	12.35	--		
	6/30/2007	LW-4R	6.07	22.02	15.95	15.50	Yes	
	8/1/2007	PZ-18	5.16	21.20	16.04	--		
	8/1/2007	LW-4R	5.21	22.02	16.81	15.50	Yes	
	9/29/2007	PZ-18	4.84	21.20	16.36	--		
	9/29/2007	LW-4R	5.66	22.02	16.36	15.50	Yes	
	11/22/2007	PZ-18	5.87	21.20	15.33	--		
	11/22/2007	LW-4R	6.25	22.02	15.77	15.50	Yes	
	1/26/2008	PZ-18	6.42	21.20	14.78	--		
	1/26/2008	LW-4R	4.74	22.02	17.28	15.50	Yes	
	2/28/2008	PZ-18	6.86	21.20	14.34	--		
	2/28/2008	LW-4R	4.92	22.02	17.10	15.50	Yes	
	3/19/2008	PZ-18	7.58	21.20	13.62	--		
	3/19/2008	LW-4R	7.70	22.02	14.32	15.50	No	
	4/28/2008	PZ-18	6.72	21.20	14.48	--		
	4/28/2008	LW-4R	4.85	22.02	17.17	15.50	Yes	
	5/31/2008	PZ-18	7.46	21.20	13.74	--		
	5/31/2008	LW-4R	5.26	22.02	16.76	15.50	Yes	
	6/30/2008	PZ-18	7.44	21.20	16.36	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/30/2008	LW-4R	5.24	22.02	16.36	15.50	Yes	
	7/12/2008	PZ-18	6.52	21.20	14.68	--		
	7/12/2008	LW-4R	5.33	22.02	16.69	15.50	Yes	
	8/28/2008	PZ-18	6.55	21.20	14.65	--		
	8/28/2008	LW-4R	5.67	22.02	16.35	15.50	Yes	
	9/20/2008	PZ-18	6.53	21.20	14.67	--		
	9/20/2008	LW-4R	5.63	22.02	16.39	15.50	Yes	
	10/12/2008	PZ-18	7.83	21.20	13.37	--		
	10/12/2008	LW-4R	6.11	22.02	15.91	15.50	Yes	
	11/30/2008	PZ-18	6.52	21.20	14.68	--		
	11/30/2008	LW-4R	6.18	22.02	15.84	15.50	Yes	
	12/31/2008	PZ-18	7.01	21.20	14.19	--		
	12/31/2008	LW-4R	6.44	22.02	15.58	15.50	Yes	
	1/31/2009	PZ-18	6.46	21.20	14.74	--		
	1/31/2009	LW-4R	6.17	22.02	15.85	15.50	Yes	
	2/23/2009	PZ-18	6.26	21.20	14.94	--		
	2/23/2009	LW-4R	6.35	22.02	15.67	15.50	Yes	
	3/29/2009	PZ-18	6.29	21.20	14.91	--		
	3/29/2009	LW-4R	6.42	22.02	15.60	15.50	Yes	
	4/18/2009	PZ-18	6.28	21.20	14.92	--		
	4/18/2009	LW-4R	6.35	22.02	15.67	15.50	Yes	
	5/16/2009	PZ-18	6.21	21.20	14.99	--		
	5/16/2009	LW-4R	6.18	22.02	15.84	15.50	Yes	
	6/21/2009	PZ-18	6.66	21.20	14.54	--		
	6/21/2009	LW-4R	6.23	22.02	15.79	15.50	Yes	
	7/20/2009	PZ-18	9.93	21.20	11.27	--		
	7/20/2009	LW-4R	5.81	22.02	16.21	15.50	Yes	
	8/10/2009	PZ-18	6.55	21.20	14.65	--		
	8/10/2009	LW-4R	7.47	22.02	14.55	15.50	No	
	9/7/2009	PZ-18	8.77	21.20	12.43	--		
	9/7/2009	LW-4R	6.10	22.02	15.92	15.50	Yes	
	10/10/2009	PZ-18	6.88	21.20	14.32	--		
	10/10/2009	LW-4R	6.09	22.02	15.93	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/28/2009	PZ-18	9.25	21.20	11.95	--		
	11/28/2009	LW-4R	7.31	22.02	14.71	15.50	No	
	12/31/2009	PZ-18	7.61	21.20	13.59	--		
	12/31/2009	LW-4R	NM	22.02	--	15.50	--	
	1/14/2010	PZ-18	9.21	21.20	11.99	--		
	1/14/2010	LW-4R	7.46	22.02	14.56	15.50	No	
	2/21/2010	PZ-18	6.50	21.20	14.70	--		
	2/21/2010	LW-4R	6.66	22.02	15.36	15.50	No	
	3/17/2010	PZ-18	6.40	21.20	14.80	--		
	3/17/2010	LW-4R	7.07	22.02	14.95	15.50	No	
	4/25/2010	PZ-18	9.57	21.20	11.63	--		
	4/25/2010	LW-4R	NA	22.02	NA	15.50	--	
	5/16/2010	PZ-18	NA	21.20	NA	--		
	5/16/2010	LW-4R	6.30	22.02	15.72	15.50	--	
	6/26/2010	PZ-18	9.35	21.20	11.85	--		
	6/26/2010	LW-4R	6.68	22.02	15.34	15.50	No	
	7/23/2010	PZ-18	9.62	21.20	11.58	--		
	7/23/2010	LW-4R	6.73	22.02	15.29	15.50	No	
	8/30/2010	PZ-18	9.43	21.20	11.77	--		
	8/30/2010	LW-4R	6.57	22.02	15.45	15.50	No	
	9/30/2010	PZ-18	8.62	21.20	12.58	--		
	9/30/2010	LW-4R	6.24	22.02	15.78	15.50	Yes	
	10/18/2010	PZ-18	7.37	21.20	13.83	--		
	10/18/2010	LW-4R	6.36	22.02	15.66	15.50	Yes	
	11/29/2010	PZ-18	9.77	21.20	11.43	--		
	11/29/2010	LW-4R	7.06	22.02	14.96	15.50	No	
	12/25/2010	PZ-18	NA	21.20	NA	--		
	12/25/2010	LW-4R	7.11	22.02	14.91	15.50	--	
	1/29/2011	PZ-18	10.14	21.20	11.06	--		
	1/29/2011	LW-4R	NA	22.02	NA	15.50	--	
	2/20/2011	PZ-18	9.44	21.20	11.76	--		
	2/20/2011	LW-4R	NA	22.02	NA	15.50	--	
	3/24/2011	PZ-18	10.24	21.20	10.96	--		
	3/24/2011	LW-4R	6.45	22.02	15.57	15.50	Yes	
	4/23/2011	PZ-18	9.44	21.20	11.76	--		
	4/23/2011	LW-4R	6.62	22.02	15.40	15.50	No	
	5/30/2011	PZ-18	6.86	21.20	14.34	--		
	5/30/2011	LW-4R	6.37	22.02	15.65	15.50	Yes	
	6/26/2011	PZ-18	6.01	21.20	15.19	--		
	6/26/2011	LW-4R	NA	22.02	NA	15.50	--	Covered in bark pile.
	7/30/2011	PZ-18	6.43	21.20	14.77	--		
	7/30/2011	LW-4R	6.91	22.02	15.11	15.50	No	Well covered. Pressure on opening. Left open for +5 minutes before :

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/8/2011	PZ-18	6.11	21.20	15.09	--		
	8/8/2011	LW-4R	6.56	22.02	15.46	15.50	No	Pressure on opening. Left open for +5 minutes before s
	9/24/2011	PZ-18	NA	21.20	NA	--		
	9/24/2011	LW-4R	6.75	22.02	15.27	15.50	--	
	10/29/2011	PZ-18	NA	21.20	NA	--		
	10/29/2011	LW-4R	NA	22.02	NA	15.50	--	
	11/26/2011	PZ-18	NA	21.20	NA	--		
	11/26/2011	LW-4R	NA	22.02	NA	15.50	--	Lid stuck Bark pile
	12/26/2011	PZ-18	7.21	21.20	13.99	--		
	12/26/2011	LW-4R	NA	22.02	NA	15.50	--	Bark pile
	1/28/2012	PZ-18	5.91	21.20	15.29	--		
	1/28/2012	LW-4R	8.35	22.02	13.67	15.50	No	
	2/26/2012	PZ-18	NA	21.20	NA	--		
	2/26/2012	LW-4R	NA	22.02	NA	15.50	--	
	3/7/2012	PZ-18	6.34	21.20	14.86	--		
	3/7/2012	LW-4R	8.40	22.02	13.62	15.50	No	logs over well
	4/21/2012	PZ-18	NA	21.20	NA	--		
	4/21/2012	LW-4R	8.16	22.02	13.86	15.50	--	logs over well
	5/19/2012	PZ-18	NA	21.20	NA	--		
	5/19/2012	LW-4R	8.02	22.02	14.00	15.50	--	logs over well
	6/30/2012	PZ-18	9.62	21.20	11.58	--		
	6/30/2012	LW-4R	NA	22.02	NA	15.50	--	
	7/27/2012	PZ-18	9.62	21.20	11.58	--		
	7/27/2012	LW-4R	6.95	22.02	15.07	15.50	No	log deck bark pile
	8/12/2012	PZ-18	9.78	21.20	11.42	--		
	8/12/2012	LW-4R	NA	22.02	NA	15.50	--	bark muck
	9/30/2012	PZ-18	NA	21.20	NA	--		
	9/30/2012	LW-4R	NA	22.02	NA	15.50	--	
	10/24/2012	PZ-18	6.90	21.20	14.30	--		
	10/24/2012	LW-4R	6.99	22.02	15.03	15.50	No	bark pile
	11/24/2012	PZ-18	NA	21.20	NA	--		
	11/24/2012	LW-4R	NA	22.02	NA	15.50	--	
	12/30/2012	PZ-18	8.03	21.20	13.17	--		
	12/30/2012	LW-4R	NA	22.02	NA	15.50	--	
	1/25/2013	PZ-18	7.25	21.20	13.95	--		
	1/25/2013	LW-4R	7.82	22.02	14.20	15.50	No	
	2/9/2013	PZ-18	8.34	21.20	12.86	--		
	2/9/2013	LW-4R	8.26	22.02	13.76	15.50	No	obstructed
	3/31/2013	PZ-18	NA	21.20	NA	--		
	3/31/2013	LW-4R	8.26	22.02	13.76	15.50	--	
	4/29/2013	PZ-18	NA	21.20	NA	--		
	4/29/2013	LW-4R	8.37	22.02	13.65	15.50	--	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	5/31/2013	PZ-18	NA	21.20	NA	--		
	5/31/2013	LW-4R	8.53	22.02	13.49	15.50	--	Covered with log bunks
	6/9/2013	PZ-18	10.11	21.20	11.09	--		
	6/9/2013	LW-4R	NA	22.02	NA	15.50	--	
	7/21/2013	PZ-18	NA	21.20	NA	--		
	7/21/2013	LW-4R	NA	22.02	NA	15.50	--	
	8/29/2013	PZ-18	8.91	21.20	12.29	--		
	8/29/2013	LW-4R	6.57	22.02	15.45	15.50	No	
	9/21/2013	PZ-18	9.30	21.20	11.90	--		
	9/21/2013	LW-4R	6.97	22.02	15.05	15.50	No	
	10/6/2013	PZ-18	8.04	21.20	13.16	--		
	10/6/2013	LW-4R	NA	22.02	NA	15.50	--	
	11/10/2013	PZ-18	8.40	21.20	12.80	--		
	11/10/2013	LW-4R	7.28	22.02	14.74	15.50	No	
	12/15/2013	PZ-18	8.26	21.20	12.94	--		
	12/15/2013	LW-4R	7.72	22.02	14.30	15.50	No	
	1/5/2014	PZ-18	10.28	21.20	10.92	--		
	1/5/2014	LW-4R	7.87	22.02	14.15	15.50	No	
	2/1/2014	PZ-18	NA	21.20	NA	--		
	2/1/2014	LW-4R	7.81	22.02	14.21	15.50	No	
	3/1/2014	PZ-18	10.11	21.20	11.09	--		
	3/1/2014	LW-4R	7.39	22.02	14.63	15.50	No	
	4/6/2014	PZ-18	10.11	21.20	11.09	--		
	4/6/2014	LW-4R	7.39	22.02	14.63	15.50	No	
	5/17/2014	PZ-18	7.53	21.20	NA	--		
	5/17/2014	LW-4R	6.61	22.02	15.41	15.50	--	
	6/22/2014	PZ-18	NA	21.20	NA	--		
	6/22/2014	LW-4R	7.35	22.02	14.67	15.50	--	
	7/5/2014	PZ-18	10.29	21.20	10.91	--		
	7/5/2014	LW-4R	6.92	22.02	15.10	15.50	No	
	8/12/2014	PZ-18	6.25	21.20	14.95	--		
	8/12/2014	LW-4R	6.56	22.02	15.46	15.50	No	
	9/23/2014	PZ-18	7.23	21.20	13.97	--		
	9/23/2014	LW-4R	6.65	22.02	15.37	15.50	No	
	10/11/2014	PZ-18	9.74	21.20	11.46	--		
	10/11/2014	LW-4R	6.68	22.02	15.34	15.50	No	
	11/9/2014	PZ-18	7.86	21.20	13.34	--		
	11/9/2014	LW-4R	6.9	22.02	15.12	15.50	No	
	12/7/2014	PZ-18	7.84	21.20	13.36	--		
	12/7/2014	LW-4R	NA	22.02	NA	15.50	--	
	1/3/2015	PZ-18	7.75	21.20	13.45	--		
	1/3/2015	LW-4R	7.16	22.02	14.86	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	2/14/2015	PZ-18	7.81	21.20	13.39	--		
	2/14/2015	LW-4R	7.4	22.02	14.62	15.50	No	
	3/9/2015	PZ-18	7.73	21.20	13.47	--		
	3/9/2015	LW-4R	6.89	22.02	15.13	15.50	No	
	4/5/2015	PZ-18	8.61	21.20	12.59	--		
	4/5/2015	LW-4R	6.85	22.02	15.17	15.50	No	
	5/16/2015	PZ-18	6.59	21.20	14.61	--		
	5/16/2015	LW-4R	6.74	22.02	15.28	15.50	No	
	6/7/2015	PZ-18	6.25	21.20	14.95	--		
	6/7/2015	LW-4R	6.34	22.02	15.68	15.50	Yes	
	7/7/2015	PZ-18	6.24	21.20	14.96	--		
	7/7/2015	LW-4R	6.47	22.02	15.55	15.50	Yes	
	8/1/2015	PZ-18	6.28	21.20	14.92	--		
	8/1/2015	LW-4R	6.31	22.02	15.71	15.50	Yes	
	9/24/2015	PZ-18	6.55	21.20	14.65	--		
	9/24/2015	LW-4R	6.70	22.02	15.32	15.50	No	
	10/16/2015	PZ-18	6.27	21.20	14.93	--		
	10/16/2015	LW-4R	6.94	22.02	15.08	15.50	No	
	11/3/2015	PZ-18	7.08	21.20	14.12	--		
	11/3/2015	LW-4R	7.81	22.02	14.21	15.50	No	
	12/4/2015	PZ-18	7.38	21.20	13.82	--		
	12/4/2015	LW-4R	7.61	22.02	14.41	15.50	No	
	1/15/2016	PZ-18	7.57	21.20	13.63	--		
	1/15/2016	LW-4R	7.54	22.02	14.48	15.50	No	
	2/16/2016	PZ-18	8.31	21.20	12.89	--		
	2/16/2016	LW-4R	7.35	22.02	14.67	15.50	No	
	3/19/2016	PZ-18	6.47	21.20	14.73	--		
	3/19/2016	LW-4R	7.18	22.02	14.84	15.50	No	
	4/3/2016	PZ-18	6.54	21.20	14.66	--		
	4/3/2016	LW-4R	6.40	22.02	15.62	15.50	Yes	
	5/14/2016	PZ-18	6.99	21.20	14.21	--		
	5/14/2016	LW-4R	6.74	22.02	15.28	15.50	No	
	6/12/2016	PZ-18	6.26	21.20	14.94	--		
	6/12/2016	LW-4R	7.33	22.02	14.69	15.50	No	
	7/5/2016	PZ-18	6.16	21.20	15.04	--		
	7/5/2016	LW-4R	6.11	22.02	15.91	15.50	Yes	
	8/6/2016	PZ-18	6.18	21.20	15.02	--		
	8/6/2016	LW-4R	6.02	22.02	16.00	15.50	Yes	
	9/4/2016	PZ-18	6.28	21.20	14.92	--		
	9/4/2016	LW-4R	6.23	22.02	15.79	15.50	Yes	
	10/1/2016	PZ-18	6.41	21.20	14.79	--		
	10/1/2016	LW-4R	6.17	22.02	15.85	15.50	Yes	
	11/6/2016	PZ-18	6.48	21.20	14.72	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/6/2016	LW-4R	7.12	22.02	14.90	15.50	No	
	12/17/2016	PZ-18	6.70	21.20	14.50	--		
	12/17/2016	LW-4R	7.03	22.02	14.99	15.50	No	
	1/21/2017	PZ-18	9.96	21.20	11.24	--		
	1/21/2017	LW-4R	6.67	22.02	15.35	15.50	No	
	2/2/2017	PZ-18	6.53	21.20	14.67	--		
	2/2/2017	LW-4R	6.41	22.02	15.61	15.50	Yes	
	2/28/2017	PZ-18	6.83	21.20	14.37	--		
	2/28/2017	LW-4R	7.55	22.02	14.47	15.50	No	
	3/30/2017	PZ-18	6.18	21.20	15.02	--		
	3/30/2017	LW-4R	6.22	22.02	15.80	15.50	Yes	
	4/30/2017	PZ-18	6.33	21.20	14.87	--		
	4/30/2017	LW-4R	6.14	22.02	15.88	15.50	Yes	
	5/21/2017	PZ-18	6.26	21.20	14.94	--		
	5/21/2017	LW-4R	5.68	22.02	16.34	15.50	Yes	
	6/6/2017	PZ-18	5.84	21.20	15.36	--		
	6/6/2017	LW-4R	5.71	22.02	16.31	15.50	Yes	
	7/8/2017	PZ-18	6.68	21.20	14.52	--		
	7/8/2017	LW-4R	5.24	22.02	16.78	15.50	Yes	
	8/4/2017	PZ-18	6.09	21.20	15.11	--		
	8/4/2017	LW-4R	5.27	22.02	16.75	15.50	Yes	
	9/9/2017	PZ-18	6.41	21.20	14.79	--		
	9/9/2017	LW-4R	5.77	22.02	16.25	15.50	Yes	
	10/11/2017	PZ-18	6.89	21.20	14.31	--		
	10/11/2017	LW-4R	6.06	22.02	15.96	15.50	Yes	
	11/12/2017	PZ-18	6.66	21.20	14.54	--		
	11/12/2017	LW-4R	NA	22.02	NA	15.50	--	
	12/16/2017	PZ-18	7.37	21.20	13.83	--		
	12/16/2017	LW-4R	6.36	22.02	15.66	15.50	Yes	
	1/1/2018	PZ-18	NA	21.20	NA	--		
	1/1/2018	LW-4R	6.38	22.02	15.64	15.50	Yes	
	2/10/2018	PZ-18	NA	21.20	NA	--		
	2/10/2018	LW-4R	6.86	22.02	15.16	15.50	No	
	3/8/2018	PZ-18	5.75	21.20	15.45	--		
	3/8/2018	LW-4R	6.46	22.02	15.56	15.50	Yes	
	4/27/2018	PZ-18	ND	21.20	--	--		inaccessible; covered with logs
	4/27/2018	LW-4R	6.01	22.02	16.01	15.50	Yes	
	5/28/2018	PZ-18	ND	21.20	--	--		inaccessible; covered with logs
	5/28/2018	LW-4R	ND	22.02	--	15.50	Yes	inaccessible; covered with logs
	6/29/2018	PZ-18	9.32	21.20	11.88	--		
	6/29/2018	LW-4R	5.51	22.02	16.51	15.50	Yes	
	7/15/2018	PZ-18	6.07	21.20	15.13	--		
	7/15/2018	LW-4R	ND	22.02	--	15.50	Yes	inaccessible; bark pile over well

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/12/2018	PZ-18	ND	21.20	--	--		inaccessible; covered with logs
	8/12/2018	LW-4R	5.49	22.02	16.53	15.50	Yes	
	9/12/2018	PZ-18	6.90	21.20	14.30	--		
	9/12/2018	LW-4R	5.93	22.02	16.09	15.50	Yes	
	10/6/2018	PZ-18	7.10	21.20	14.10	--		
	10/6/2018	LW-4R	6.04	22.02	15.98	15.50	Yes	
	11/4/2018	PZ-18	6.62	21.20	14.58	--		Well covered in water and bark
	11/4/2018	LW-4R	--	22.02	--	15.50	Yes	
	12/2/2018	PZ-18	6.61	21.20	14.59	--		
	12/2/2018	LW-4R	7.17	22.02	14.85	15.50	No	
	1/1/2019	PZ-18	6.86	21.20	14.34	--		
	1/1/2019	LW-4R	7.51	22.02	14.51	15.50	No	
	2/2/2019	PZ-18	7.08	21.20	14.12	--		
	2/2/2019	LW-4R	6.53	22.02	15.49	15.50	No	
	3/11/2019	PZ-18	7.80	21.20	13.40	--		
	3/11/2019	LW-4R	6.87	22.02	15.15	15.50	No	
	4/7/2019	PZ-18	5.72	21.20	15.48	--		
	4/7/2019	LW-4R	6.67	22.02	15.35	15.50	No	
	5/19/2019	PZ-18	6.98	21.20	14.22	--		Covered
	5/19/2019	LW-4R	--	22.02	--	15.50	--	
	6/9/2019	PZ-18	7.24	21.20	13.96	--		Yes
	6/9/2019	LW-4R	6.42	22.02	15.60	15.50	Yes	
	7/30/2019	PZ-18	10.93	21.20	10.27	--		Yes
	7/30/2019	LW-4R	6.27	22.02	15.75	15.50	Yes	
	8/27/2019	PZ-18	10.40	21.20	10.80	--		Yes
	8/27/2019	LW-4R	4.90	22.02	17.12	15.50	Yes	
	9/25/2019	PZ-18	8.75	21.20	12.45	--		Yes
	9/25/2019	LW-4R	6.27	22.02	15.75	15.50	Yes	
	10/22/2019	PZ-18	6.90	21.20	14.30	--		No
	10/22/2019	LW-4R	6.80	22.02	15.22	15.50	No	
	11/8/2019	PZ-18	NA	21.20	--	--		Covered with log deck
	11/8/2019	LW-4R	6.25	22.02	15.77	15.50	Yes	
	12/8/2019	PZ-18	6.98	21.20	14.22	--		No
	12/8/2019	LW-4R	7.24	22.02	14.78	15.50	No	
	1/5/2020	PZ-18	6.54	21.20	14.66	--		No
	1/5/2020	LW-4R	7.32	22.02	14.70	15.50	No	
	2/21/2020	PZ-18	6.58	21.20	14.62	--		No
	2/21/2020	LW-4R	6.81	22.02	15.21	15.50	No	
	3/19/2020	PZ-18	6.66	21.20	14.54	--		Yes
	3/19/2020	LW-4R	6.43	22.02	15.59	15.50	Yes	
	4/5/2020	PZ-18	NA	21.20	--	--		Covered by logs
	4/5/2020	LW-4R	6.27	22.02	15.75	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	5/10/2020	PZ-18	6.12	21.20	15.08	--		
	5/10/2020	LW-4R	6.76	22.02	15.26	15.50	No	
	6/13/2020	PZ-18	6.67	21.20	14.53	--		
	6/13/2020	LW-4R	7.01	22.02	15.01	15.50	No	
	7/4/2020	PZ-18	6.58	21.20	14.62	--		
	7/4/2020	LW-4R	8.59	22.02	13.43	15.50	No	
	8/9/2020	PZ-18	6.31	21.20	14.89	--		
	8/9/2020	LW-4R	6.17	22.02	15.85	15.50	Yes	
	9/17/2020	PZ-18	6.42	21.20	14.78	--		
	9/17/2020	LW-4R	8.75	22.02	13.27	15.50	No	
	10/22/2020	PZ-18	6.82	21.20	14.38	--		
	10/22/2020	LW-4R	6.38	22.02	15.64	15.50	Yes	
	11/14/2020	PZ-18	6.56	21.20	14.64	--		
	11/14/2020	LW-4R	8.43	22.02	13.59	15.50	No	
	12/12/2020	PZ-18	6.49	21.20	14.71	--		
	12/12/2020	LW-4R	9.37	22.02	12.65	15.50	No	
	1/16/2021	PZ-18	6.17	21.20	15.03	--		
	1/16/2021	LW-4R	8.76	22.02	13.26	15.50	No	
	2/6/2021	PZ-18	6.47	21.20	14.73	--		
	2/6/2021	LW-4R	9.13	22.02	12.89	15.50	No	
	3/10/2021	PZ-18	6.52	21.20	14.68	--		
	3/10/2021	LW-4R	6.26	22.02	15.76	15.50	Yes	
4	11/8/2006	PZ-19	12.64	23.67	11.03	--		
	11/8/2006	MW-02S	12.71	30.47	17.76	15.50	Yes	
	12/31/2006	PZ-19	11.22	23.67	12.45	--		
	12/31/2006	MW-02S	11.96	30.47	18.51	15.50	Yes	
	3/2/2007	PZ-19	13.81	23.67	9.86	--		
	3/2/2007	MW-02S	13.04	30.47	17.43	15.50	Yes	
	3/31/2007	PZ-19	14.79	23.67	8.88	--		
	3/31/2007	MW-02S	12.93	30.47	17.54	15.50	Yes	
	4/23/2007	PZ-19	12.72	23.67	10.95	--		
	4/23/2007	MW-02S	14.42	30.47	16.05	15.50	Yes	
	5/28/2007	PZ-19	16.43	23.67	7.24	--		
	5/28/2007	MW-02S	15.51	30.47	14.96	15.50	No	
	6/30/2007	PZ-19	16.80	23.67	6.87	--		
	6/30/2007	MW-02S	15.92	30.47	14.55	15.50	No	
	8/1/2007	PZ-19	14.85	23.67	8.82	--		
	8/1/2007	MW-02S	16.02	30.47	14.45	15.50	No	
	9/29/2007	PZ-19	14.17	23.67	9.50	--		
	9/29/2007	MW-02S	16.89	30.47	13.58	15.50	No	
	11/22/2007	PZ-19	13.95	23.67	9.72	--		
	11/22/2007	MW-02S	15.13	30.47	15.34	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/26/2008	PZ-19	12.86	23.67	10.81	--		
	1/26/2008	MW-02S	13.68	30.47	16.79	15.50	Yes	
	2/28/2008	PZ-19	14.95	23.67	8.72	--		
	2/28/2008	MW-02S	13.56	30.47	16.91	15.50	Yes	
	3/19/2008	PZ-19	13.33	23.67	10.34	--		
	3/19/2008	MW-02S	13.92	30.47	16.55	15.50	Yes	
	4/28/2008	PZ-19	14.03	23.67	9.64	--		
	4/28/2008	MW-02S	14.54	30.47	15.93	15.50	Yes	
	5/31/2008	PZ-19	14.13	23.67	9.54	--		
	5/31/2008	MW-02S	15.12	30.47	15.35	15.50	No	
	6/30/2008	PZ-19	13.22	23.67	9.50	--		
	6/30/2008	MW-02S	15.60	30.47	13.58	15.50	No	
	7/12/2008	PZ-19	16.34	23.67	7.33	--		
	7/12/2008	MW-02S	15.73	30.47	14.74	15.50	No	
	8/28/2008	PZ-19	15.77	23.67	7.90	--		
	8/28/2008	MW-02S	16.43	30.47	14.04	15.50	No	
	9/20/2008	PZ-19	13.78	23.67	9.89	--		
	9/20/2008	MW-02S	NM	30.47	--	15.50	--	
	10/12/2008	PZ-19	14.42	23.67	9.25	--		
	10/12/2008	MW-02S	NM	30.47	--	15.50	--	
	11/30/2008	PZ-19	13.42	23.67	10.25	--		
	11/30/2008	MW-02S	NM	30.47	--	15.50	--	
	12/31/2008	PZ-19	12.70	23.67	10.97	--		
	12/31/2008	MW-02S	NM	30.47	--	15.50	--	
	1/31/2009	PZ-19	15.00	23.67	8.67	--		
	1/31/2009	MW-02S	16.81	32.46	15.65	15.50	Yes	
	2/23/2009	PZ-19	13.63	23.67	10.04	--		
	2/23/2009	MW-02S	17.22	32.46	15.24	15.50	No	
	3/29/2009	PZ-19	16.13	23.67	7.54	--		
	3/29/2009	MW-02S	17.20	32.46	15.26	15.50	No	
	4/18/2009	PZ-19	14.78	23.67	8.89	--		
	4/18/2009	MW-02S	17.13	32.46	15.33	15.50	No	
	5/16/2009	PZ-19	14.16	23.67	9.51	--		
	5/16/2009	MW-02S	16.79	32.46	15.67	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/21/2009	PZ-19	14.53	23.67	9.14	--		
	6/21/2009	MW-02S	17.65	32.46	14.81	15.50	No	
	7/20/2009	PZ-19	12.42	23.67	11.25	--		
	7/20/2009	MW-02S	18.00	32.46	14.46	15.50	No	
	8/10/2009	PZ-19	13.47	23.67	10.20	--		
	8/10/2009	MW-02S	18.37	32.46	14.09	15.50	No	
	9/7/2009	PZ-19	13.74	23.67	9.93	--		
	9/7/2009	MW-02S	18.85	32.46	13.61	15.50	No	
	10/10/2009	PZ-19	13.67	23.67	10.00	--		
	10/10/2009	MW-02S	19.26	32.46	13.20	15.50	No	
	11/28/2009	PZ-19	14.26	23.67	9.41	--		
	11/28/2009	MW-02S	18.17	32.46	14.29	15.50	No	
	12/31/2009	PZ-19	11.39	23.67	12.28	--		
	12/31/2009	MW-02S	18.02	32.46	14.44	15.50	No	
	1/14/2010	PZ-19	11.61	23.67	12.06	--		
	1/14/2010	MW-02S	17.27	32.46	15.19	15.50	No	
	2/21/2010	PZ-19	11.51	23.67	12.16	--		
	2/21/2010	MW-02S	16.79	32.46	15.67	15.50	Yes	
	3/17/2010	PZ-19	14.65	23.67	9.02	--		
	3/17/2010	MW-02S	16.39	32.46	16.07	15.50	Yes	
	4/25/2010	PZ-19	13.67	23.67	10.00	--		
	4/25/2010	MW-02S	17.23	32.46	15.23	15.50	No	
	5/16/2010	PZ-19	16.69	23.67	6.98	--		
	5/16/2010	MW-02S	17.59	32.46	14.87	15.50	No	
	6/26/2010	PZ-19	13.67	23.67	10.00	--		
	6/26/2010	MW-02S	18.16	32.46	14.30	15.50	No	
	7/23/2010	PZ-19	16.86	23.67	6.81	--		
	7/23/2010	MW-02S	18.51	32.46	13.95	15.50	No	
	8/30/2010	PZ-19	14.23	23.67	9.44	--		
	8/30/2010	MW-02S	18.04	32.46	14.42	15.50	No	
	9/30/2010	PZ-19	13.67	23.67	10.00	--		
	9/30/2010	MW-02S	17.27	32.46	15.19	15.50	No	
	10/18/2010	PZ-19	15.84	23.67	7.83	--		
	10/18/2010	MW-02S	17.72	32.46	14.74	15.50	No	
	11/29/2010	PZ-19	12.89	23.67	10.78	--		
	11/29/2010	MW-02S	17.13	32.46	15.33	15.50	No	
	12/25/2010	PZ-19	10.81	23.67	12.86	--		
	12/25/2010	MW-02S	15.90	32.46	16.56	15.50	Yes	
	1/29/2011	PZ-19	11.97	23.67	11.70	--		
	1/29/2011	MW-02S	16.18	32.46	16.28	15.50	Yes	
	2/20/2011	PZ-19	15.01	23.67	8.66	--		
	2/20/2011	MW-02S	16.99	32.46	15.47	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/24/2011	PZ-19	10.93	23.67	12.74	--		
	3/24/2011	MW-02S	15.15	32.46	17.31	15.50	Yes	
	4/23/2011	PZ-19	15.81	23.67	7.86	--		
	4/23/2011	MW-02S	15.62	32.46	16.84	15.50	Yes	
	5/30/2011	PZ-19	15.07	23.67	8.60	--		
	5/30/2011	MW-02S	16.23	32.46	16.23	15.50	Yes	
	6/26/2011	PZ-19	13.87	23.67	9.80	--		
	6/26/2011	MW-02S	16.88	32.46	15.58	15.50	Yes	
	7/30/2011	PZ-19	15.93	23.67	7.74	--		
	7/30/2011	MW-02S	17.08	32.46	15.38	15.50	No	
	8/8/2011	PZ-19	16.19	23.67	7.48	--		
	8/8/2011	MW-02S	17.26	32.46	15.20	15.50	No	
	9/24/2011	PZ-19	15.34	23.67	8.33	--		
	9/24/2011	MW-02S	17.52	31.96	(e) 14.44	15.50	No	
	10/29/2011	PZ-19	13.66	23.67	10.01	--		
	10/29/2011	MW-02S	17.77	31.96	(e) 14.19	15.50	No	
	11/26/2011	PZ-19	11.91	23.67	11.76	--		
	11/26/2011	MW-02S	16.08	31.96	(e) 15.88	15.50	Yes	
	12/26/2011	PZ-19	13.50	23.67	10.17	--		
	12/26/2011	MW-02S	17.45	31.96	(e) 14.51	15.50	No	
	1/28/2012	PZ-19	12.50	23.67	11.17	--		
	1/28/2012	MW-02S	15.33	31.96	(e) 16.63	15.50	Yes	
	2/26/2012	PZ-19	15.09	23.67	8.58	--		
	2/26/2012	MW-02S	15.75	31.96	(e) 16.21	15.50	Yes	
	3/7/2012	PZ-19	14.88	23.67	8.79	--		
	3/7/2012	MW-02S	16.28	31.96	(e) 15.68	15.50	Yes	
	4/21/2012	PZ-19	15.35	23.67	8.32	--		
	4/21/2012	MW-02S	15.85	31.96	(e) 16.11	15.50	Yes	
	5/19/2012	PZ-19	13.37	23.67	10.30	--		
	5/19/2012	MW-02S	16.37	31.96	(e) 15.59	15.50	Yes	
	6/30/2012	PZ-19	14.11	23.67	9.56	--		
	6/30/2012	MW-02S	16.13	31.96	(e) 15.83	15.50	Yes	
	7/27/2012	PZ-19	14.18	23.67	9.49	--		
	7/27/2012	MW-02S	16.02	31.96	(e) 15.94	15.50	Yes	
	8/12/2012	PZ-19	14.71	23.67	8.96	--		
	8/12/2012	MW-02S	15.80	31.96	(e) 16.16	15.50	Yes	
	9/30/2012	PZ-19	14.64	23.67	9.03	--		
	9/30/2012	MW-02S	16.09	31.96	(e) 15.87	15.50	Yes	
	10/24/2012	PZ-19	15.59	23.67	8.08	--		
	10/24/2012	MW-02S	16.50	31.96	(e) 15.46	15.50	No	
	11/24/2012	PZ-19	12.3	23.67	11.37	--		
	11/24/2012	MW-02S	14.72	31.96	(e) 17.24	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	12/30/2012	PZ-19	13.21	23.67	10.46	--		
	12/30/2012	MW-02S	15.19	31.96	(e) 16.77	15.50	Yes	
	1/25/2013	PZ-19	12.46	23.67	11.21	--		
	1/25/2013	MW-02S	16.61	31.96	(e) 15.35	15.50	No	
	2/9/2013	PZ-19	12.81	23.67	10.86	--		
	2/9/2013	MW-02S	16.57	31.96	(e) 15.39	15.50	No	
	3/31/2013	PZ-19	15.91	23.67	7.76	--		
	3/31/2013	MW-02S	16.57	31.96	(e) 15.39	15.50	No	
	4/29/2013	PZ-19	16.38	23.67	7.29	--		
	4/29/2013	MW-02S	16.71	31.96	15.25	15.50	No	
	5/31/2013	PZ-19	16.38	23.67	7.29	--		
	5/31/2013	MW-02S	17.48	31.96	14.48	15.50	No	
	6/9/2013	PZ-19	16.24	23.67	7.43	--		
	6/9/2013	MW-02S	17.48	31.96	14.48	15.50	No	
	7/21/2013	PZ-19	15.27	23.67	8.40	--		
	7/21/2013	MW-02S	18.11	31.96	13.85	15.50	No	
	8/29/2013	PZ-19	15.83	23.67	7.84	--		
	8/29/2013	MW-02S	17.89	31.96	14.07	15.50	No	
	9/21/2013	PZ-19	14.94	23.67	8.73	--		
	9/21/2013	MW-02S	17.63	31.96	14.33	15.50	No	
	10/6/2013	PZ-19	14.58	23.67	9.09	--		
	10/6/2013	MW-02S	16.03	31.96	15.93	15.50	Yes	
	11/10/2013	PZ-19	12.74	23.67	10.93	--		
	11/10/2013	MW-02S	17.11	31.96	14.85	15.50	No	
	12/15/2013	PZ-19	13.08	23.67	10.59	--		
	12/15/2013	MW-02S	17.50	31.96	14.46	15.50	No	
	1/5/2014	PZ-19	14.24	23.67	9.43	--		
	1/5/2014	MW-02S	17.67	31.96	14.29	15.50	No	
	2/1/2014	PZ-19	14.13	23.67	9.54	--		
	2/1/2014	MW-02S	17.21	31.96	14.75	15.50	No	
	3/1/2014	PZ-19	13.53	23.67	10.14	--		
	3/1/2014	MW-02S	15.96	31.96	16.00	15.50	Yes	
	4/6/2014	PZ-19	13.46	23.67	10.21	--		
	4/6/2014	MW-02S	16.15	31.96	15.81	15.50	Yes	
	5/17/2014	PZ-19	15.88	23.67	7.79	--		
	5/17/2014	MW-02S	16.14	31.96	15.82	15.50	Yes	
	6/22/2014	PZ-19	14.82	23.67	8.85	--		
	6/22/2014	MW-02S	16.94	31.96	15.02	15.50	No	
	7/5/2014	PZ-19	14.13	23.67	9.54	--		
	7/5/2014	MW-02S	17.16	31.96	14.80	15.50	No	
	8/12/2014	PZ-19	15.96	23.67	7.71	--		
	8/12/2014	MW-02S	17.39	31.96	14.57	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	9/23/2014	PZ-19	13.34	23.67	10.33	--		
	9/23/2014	MW-02S	17.69	31.96	14.27	15.50	No	
	10/11/2014	PZ-19	13.57	23.67	10.10	--	--	
	10/11/2014	MW-02S	17.84	31.96	14.12	15.50	No	
	11/9/2014	PZ-19	13.31	23.67	10.36	--		
	11/9/2014	MW-02S	16.84	31.96	15.12	15.50	No	
	12/7/2014	PZ-19	12.72	23.67	10.95	--		
	12/7/2014	MW-02S	16.71	31.96	15.25	15.50	No	
	1/3/2015	PZ-19	11.98	23.67	11.69	--		
	1/3/2015	MW-02S	16.46	31.96	15.50	15.50	No	
	2/14/2015	PZ-19	12.33	23.67	11.34	--		
	2/14/2015	MW-02S	16.02	31.96	15.94	15.50	Yes	
	3/9/2015	PZ-19	12.81	23.67	10.86	--		
	3/9/2015	MW-02S	16.71	31.96	15.25	15.50	No	
	4/5/2015	PZ-19	14.61	23.67	9.06	--		
	4/5/2015	MW-02S	17.03	31.96	14.93	15.50	No	
	5/16/2015	PZ-19	15.88	23.67	7.79	--		
	5/16/2015	MW-02S	17.28	31.96	14.68	15.50	No	
	6/7/2015	PZ-19	16.00	23.67	7.67	--		
	6/7/2015	MW-02S	17.44	31.96	14.52	15.50	No	
	7/7/2015	PZ-19	12.56	23.67	11.11	--		
	7/7/2015	MW-02S	17.73	31.96	14.23	15.50	No	
	8/1/2015	PZ-19	15.09	23.67	8.58	--		
	8/1/2015	MW-02S	17.88	31.96	14.08	15.50	No	
	9/24/2015	PZ-19	15.40	23.67	8.27	--		
	9/24/2015	MW-02S	18.22	31.96	13.74	15.50	No	
	10/16/2015	PZ-19	14.03	23.67	9.64	--		
	10/16/2015	MW-02S	18.34	31.96	13.62	15.50	No	
	11/3/2015	PZ-19	13.20	23.67	10.47	--		
	11/3/2015	MW-02S	17.88	31.96	14.08	15.50	No	
	12/4/2015	PZ-19	10.90	23.67	12.77	--		
	12/4/2015	MW-02S	16.99	31.96	14.97	15.50	No	
	1/15/2016	PZ-19	12.09	23.67	11.58	--		
	1/15/2016	MW-02S	16.09	31.96	15.87	15.50	Yes	
	2/16/2016	PZ-19	13.04	23.67	10.63	--		
	2/16/2016	MW-02S	14.93	31.96	17.03	15.50	Yes	
	3/19/2016	PZ-19	13.48	23.67	10.19	--		
	3/19/2016	MW-02S	14.44	31.96	17.52	15.50	Yes	
	4/3/2016	PZ-19	13.28	23.67	10.39	--		
	4/3/2016	MW-02S	14.98	31.96	16.98	15.50	Yes	
	5/14/2016	PZ-19	14.65	23.67	9.02	--		
	5/14/2016	MW-02S	16.12	31.96	15.84	15.50	Yes	
	6/12/2016	PZ-19	15.00	23.67	8.67	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/12/2016	MW-02S	16.51	31.96	15.45	15.50	No	
	7/5/2016	PZ-19	13.33	23.67	10.34	--		
	7/5/2016	MW-02S	16.68	31.96	15.28	15.50	No	
	8/6/2016	PZ-19	15.79	23.67	7.88	--		
	8/6/2016	MW-02S	16.83	31.96	15.13	15.50	No	
	9/4/2016	PZ-19	15.37	23.67	8.30	--		
	9/4/2016	MW-02S	17.09	31.96	14.87	15.50	No	
	10/1/2016	PZ-19	13.64	23.67	10.03	--		
	10/1/2016	MW-02S	17.16	31.96	14.80	15.50	No	
	11/6/2016	PZ-19	11.94	23.67	11.73	--		
	11/6/2016	MW-02S	15.33	31.96	16.63	15.50	Yes	
	12/17/2016	PZ-19	13.19	23.67	10.48	--		
	12/17/2016	MW-02S	15.18	31.96	16.78	15.50	Yes	
	1/21/2017	PZ-19	9.80	23.67	13.87	--		
	1/21/2017	MW-02S	14.44	31.96	17.52	15.50	Yes	
	2/2/2017	PZ-19	13.94	23.67	9.73	--		
	2/2/2017	MW-02S	15.28	31.96	16.68	15.50	Yes	
	2/28/2017	PZ-19	12.04	23.67	11.63	--		
	2/28/2017	MW-02S	14.26	31.96	17.70	15.50	Yes	
	3/30/2017	PZ-19	14.85	23.67	8.82	--		
	3/30/2017	MW-02S	13.02	31.96	18.94	15.50	Yes	
	4/30/2017	PZ-19	15.80	23.67	7.87	--		
	4/30/2017	MW-02S	14.18	31.96	17.78	15.50	Yes	
	5/21/2017	PZ-19	13.84	23.67	9.83	--		
	5/21/2017	MW-02S	14.27	31.96	17.69	15.50	Yes	
	6/6/2017	PZ-19	15.33	23.67	8.34	--		
	6/6/2017	MW-02S	14.77	31.96	17.19	15.50	Yes	
	7/8/2017	PZ-19	16.06	23.67	7.61	--		
	7/8/2017	MW-02S	15.54	31.96	16.42	15.50	Yes	
	8/4/2017	PZ-19	16.10	23.67	7.57	--		
	8/4/2017	MW-02S	15.94	31.96	16.02	15.50	Yes	
	9/9/2017	PZ-19	13.48	23.67	10.19	--		
	9/9/2017	MW-02S	16.43	31.96	15.53	15.50	Yes	
	10/11/2017	PZ-19	14.91	23.67	8.76	--		
	10/11/2017	MW-02S	16.64	31.96	15.32	15.50	No	
	11/12/2017	PZ-19	13.48	23.67	10.19	--		
	11/12/2017	MW-02S	15.59	31.96	16.37	15.50	Yes	
	12/16/2017	PZ-19	13.45	23.67	10.22	--		
	12/16/2017	MW-02S	15.20	31.96	16.76	15.50	Yes	
	1/1/2018	PZ-19	12.79	23.67	10.88	--		
	1/1/2018	MW-02S	14.12	31.96	17.84	15.50	Yes	
	2/10/2018	PZ-19	12.54	23.67	11.13	--		
	2/10/2018	MW-02S	14.25	31.96	17.71	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/8/2018	PZ-19	12.16	23.67	11.51	--		
	3/8/2018	MW-02S	14.24	31.96	17.72	15.50	Yes	
	4/27/2018	PZ-19	12.97	23.67	10.70	--		
	4/27/2018	MW-02S	14.26	31.96	17.70	15.50	Yes	
	5/28/2018	PZ-19	16.16	23.67	7.51	--		
	5/28/2018	MW-02S	15.53	31.96	16.43	15.50	Yes	
	6/29/2018	PZ-19	15.62	23.67	8.05	--		
	6/29/2018	MW-02S	15.93	31.96	16.03	15.50	Yes	
	7/15/2018	PZ-19	16.23	23.67	7.44	--		
	7/15/2018	MW-02S	15.96	31.96	16.00	15.50	Yes	
	8/12/2018	PZ-19	15.42	23.67	8.25	--		
	8/12/2018	MW-02S	16.26	31.96	15.70	15.50	Yes	
	9/12/2018	PZ-19	13.09	23.67	10.58	--		
	9/12/2018	MW-02S	16.47	31.96	15.49	15.50	No	
	10/6/2018	PZ-19	13.89	23.67	9.78	--		
	10/6/2018	MW-02S	16.73	31.96	15.23	15.50	No	
	11/4/2018	PZ-19	12.94	23.67	10.73	--		
	11/4/2018	MW-02S	16.62	31.96	15.34	15.50	No	
	12/2/2018	PZ-19	12.15	23.67	11.52	--		
	12/2/2018	MW-02S	16.16	31.96	15.80	15.50	Yes	
	1/1/2019	PZ-19	14.21	23.67	9.46	--		
	1/1/2019	MW-02S	15.13	31.96	16.83	15.50	Yes	
	2/2/2019	PZ-19	12.72	23.67	10.95	--		
	2/2/2019	MW-02S	15.11	31.96	16.85	15.50	Yes	
	3/11/2019	PZ-19	13.31	23.67	10.36	--		
	3/11/2019	MW-02S	15.32	31.96	16.64	15.50	Yes	
	4/7/2019	PZ-19	15.07	23.67	8.60	--		
	4/7/2019	MW-02S	16.01	31.96	15.95	15.50	Yes	
	5/19/2019	PZ-19	15.49	23.67	8.18	--		
	5/19/2019	MW-02S	16.13	31.96	15.83	15.50	Yes	
	6/9/2019	PZ-19	15.24	23.67	8.43	--		
	6/9/2019	MW-02S	17.03	31.96	14.93	15.50	No	
	7/30/2019	PZ-19	14.03	23.67	9.64	--		
	7/30/2019	MW-02S	17.07	31.96	14.89	15.50	No	
	8/27/2019	PZ-19	15.60	23.67	8.07	--		
	8/27/2019	MW-02S	16.90	31.96	15.06	15.50	No	
	9/25/2019	PZ-19	15.16	23.67	8.51	--		
	9/25/2019	MW-02S	16.98	31.96	14.98	15.50	No	
	10/22/2019	PZ-19	16.30	23.67	7.37	--		
	10/22/2019	MW-02S	16.65	31.96	15.31	15.50	No	
	11/8/2019	PZ-19	15.34	23.67	8.33	--		
	11/8/2019	MW-02S	16.63	31.96	15.33	15.50	No	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	12/8/2019	PZ-19	12.14	23.67	11.53	--		
	12/8/2019	MW-02S	17.30	31.96	14.66	15.50	No	
	1/5/2020	PZ-19	11.38	23.67	12.29	--		
	1/5/2020	MW-02S	16.19	31.96	15.77	15.50	Yes	
	2/21/2020	PZ-19	12.94	23.67	10.73	--		
	2/21/2020	MW-02S	15.83	31.96	16.13	15.50	Yes	
	3/19/2020	PZ-19	13.19	23.67	10.48	--		
	3/19/2020	MW-02S	16.68	31.96	15.28	15.50	No	
	4/5/2020	PZ-19	13.78	23.67	9.89	--		
	4/5/2020	MW-02S	16.60	31.96	15.36	15.50	No	
	5/10/2020	PZ-19	14.14	23.67	9.53	--		
	5/10/2020	MW-02S	17.41	31.96	14.55	15.50	No	
	6/13/2020	PZ-19	15.08	23.67	8.59	--		
	6/13/2020	MW-02S	17.88	31.96	14.08	15.50	No	
	7/4/2020	PZ-19	16.42	23.67	7.25	--		
	7/4/2020	MW-02S	18.03	31.96	13.93	15.50	No	
	8/9/2020	PZ-19	14.75	23.67	8.92	--		
	8/9/2020	MW-02S	20.08	31.96	11.88	15.50	No	
	9/17/2020	PZ-19	12.84	23.67	10.83	--		
	9/17/2020	MW-02S	17.93	31.96	14.03	15.50	No	
	10/22/2020	PZ-19	13.66	23.67	10.01	--		
	10/22/2020	MW-02S	17.81	31.96	14.15	15.50	No	
	11/14/2020	PZ-19	14.38	23.67	9.29	--		
	11/14/2020	MW-02S	17.69	31.96	14.27	15.50	No	
	12/12/2020	PZ-19	14.02	23.67	9.65	--		
	12/12/2020	MW-02S	16.91	31.96	15.05	15.50	No	
	1/16/2021	PZ-19	13.09	23.67	10.58	--		
	1/16/2021	MW-02S	13.91	31.96	18.05	15.50	Yes	
	2/6/2021	PZ-19	11.66	23.67	12.01	--		
	2/6/2021	MW-02S	14.34	31.96	17.62	15.50	Yes	
	3/10/2021	PZ-19	12.94	23.67	10.73	--		
	3/10/2021	MW-02S	14.99	31.96	16.97	15.50	Yes	
5	11/8/2006	MW-02S	12.74	30.47	17.76	--		
	11/8/2006	MW-02D	18.24	31.79	13.55	--		
	12/31/2006	MW-02S	11.96	30.47	18.51	--		
	12/31/2006	MW-02D	16.29	31.79	15.50	--		
	3/2/2007	MW-02S	13.04	30.47	17.43	--		
	3/2/2007	MW-02D	19.51	31.79	12.28	--		
	3/31/2007	MW-02S	12.93	30.47	17.54	--		
	3/31/2007	MW-02D	20.11	31.79	11.68	--		
	4/23/2007	MW-02S	14.42	30.47	16.05	--		
	4/23/2007	MW-02D	17.72	31.79	14.07	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	5/28/2007	MW-02S	15.51	30.47	14.96	--		
	5/28/2007	MW-02D	20.60	31.79	11.19	--		
	6/30/2007	MW-02S	15.92	30.47	14.55	--		
	6/30/2007	MW-02D	22.15	31.79	9.64	--		
	8/1/2007	MW-02S	16.02	30.47	14.45	--		
	8/1/2007	MW-02D	21.70	31.79	10.09	--		
	9/29/2007	MW-02S	16.89	30.47	13.58	--		
	9/29/2007	MW-02D	19.82	31.79	11.97	--		
						--		
	11/22/2007	MW-02S	15.13	30.47	15.34	--		
	11/22/2007	MW-02D	17.61	31.79	14.18	--		
						--		
	1/26/2008	MW-02S	13.68	30.47	16.79	--		
	1/26/2008	MW-02D	18.57	31.79	13.22	--		
						--		
	2/28/2008	MW-02S	13.56	30.47	16.91	--		
	2/28/2008	MW-02D	21.25	31.79	10.54	--		
						--		
	3/19/2008	MW-02S	13.92	30.47	16.55	--		
	3/19/2008	MW-02D	17.87	31.79	13.92	--		
						--		
	4/28/2008	MW-02S	14.54	30.47	15.93	--		
	4/28/2008	MW-02D	19.45	31.79	12.34	--		
						--		
	5/31/2008	MW-02S	15.12	30.47	15.35	--		
	5/31/2008	MW-02D	19.16	31.79	12.63	--		
						--		
	6/30/2008	MW-02S	15.60	30.47	13.58	--		
	6/30/2008	MW-02D	17.79	31.79	11.97	--		
						--		
	7/12/2008	MW-02S	15.73	30.47	14.74	--		
	7/12/2008	MW-02D	20.75	31.79	11.04	--		
						--		
	8/28/2008	MW-02S	16.43	30.47	14.04	--		
	8/28/2008	MW-02D	22.24	31.79	9.55	--		
						--		
	9/20/2008	MW-02S	NM	30.47	--	--		
	9/20/2008	MW-02D	NM	31.79	--	--		
						--		
	10/12/2008	MW-02S	NM	30.47	--	--		
	10/12/2008	MW-02D	NM	31.79	--	--		
						--		
	11/30/2008	MW-02S	NM	30.47	--	--		
	11/30/2008	MW-02D	NM	31.79	--	--		
						--		
	12/31/2008	MW-02S	NM	30.47	--	--		
	12/31/2008	MW-02D	NM	31.79	--	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/31/2009	MW-02S	16.81	32.46	(d) 15.65	--		
	1/31/2009	MW-02D	21.38	31.90	(d) 10.52	--		
	2/23/2009	MW-02S	17.22	32.46	15.24	--		
	2/23/2009	MW-02D	18.30	31.90	13.60	--		
	3/29/2009	MW-02S	17.20	32.46	15.26	--		
	3/29/2009	MW-02D	20.02	31.90	11.88	--		
	4/18/2009	MW-02S	17.13	32.46	15.33	--		
	4/18/2009	MW-02D	19.96	31.90	11.94	--		
	5/16/2009	MW-02S	16.79	32.46	15.67	--		
	5/16/2009	MW-02D	19.43	31.90	12.47	--		
	6/21/2009	MW-02S	17.65	32.46	14.81	--		
	6/21/2009	MW-02D	17.62	31.90	14.28	--		
	7/20/2009	MW-02S	18.00	32.46	14.46	--		
	7/20/2009	MW-02D	18.25	31.90	13.65	--		
	8/10/2009	MW-02S	18.37	32.46	14.09	--		
	8/10/2009	MW-02D	17.91	31.90	13.99	--		
	9/7/2009	MW-02S	18.85	32.46	13.61	--		
	9/7/2009	MW-02D	19.53	31.90	12.37	--		
	10/10/2009	MW-02S	19.26	32.46	13.20	--		
	10/10/2009	MW-02D	18.87	31.90	13.03	--		
	11/28/2009	MW-02S	18.17	32.46	14.29	--		
	11/28/2009	MW-02D	18.98	31.90	12.92	--		
	12/31/2009	MW-02S	18.02	32.46	14.44	--		
	12/31/2009	MW-02D	15.98	31.90	15.92	--		
	1/14/2010	MW-02S	17.27	32.46	15.19	--		
	1/14/2010	MW-02D	17.30	31.90	14.60	--		
	2/21/2010	MW-02S	16.79	32.46	15.67	--		
	2/21/2010	MW-02D	16.63	31.90	15.27	--		
	3/17/2010	MW-02S	16.39	32.46	16.07	--		
	3/17/2010	MW-02D	18.12	31.90	13.78	--		
	4/25/2010	MW-02S	17.23	32.46	15.23	--		
	4/25/2010	MW-02D	18.31	31.90	13.59	--		
	5/16/2010	MW-02S	17.59	32.46	14.87	--		
	5/16/2010	MW-02D	20.96	31.90	10.94	--		
	6/26/2010	MW-02S	18.16	32.46	14.30	--		
	6/26/2010	MW-02D	20.48	31.90	11.42	--		
	7/23/2010	MW-02S	18.51	32.46	13.95	--		
	7/23/2010	MW-02D	21.13	31.90	10.77	--		
	8/30/2010	MW-02S	18.04	32.46	14.42	--		
	8/30/2010	MW-02D	18.14	31.90	13.76	--		
	9/30/2010	MW-02S	17.27	32.46	15.19	--		
	9/30/2010	MW-02D	18.48	31.90	13.42	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	10/18/2010	MW-02S	17.72	32.46	14.74	--		
	10/18/2010	MW-02D	21.20	31.90	10.70	--		
	11/29/2010	MW-02S	17.13	32.46	15.33	--		
	11/29/2010	MW-02D	16.71	31.90	15.19	--		
	12/25/2010	MW-02S	15.90	32.46	16.56	--		
	12/25/2010	MW-02D	15.44	31.90	16.46	--		
	1/29/2011	MW-02S	16.18	32.46	16.28	--		
	1/29/2011	MW-02D	17.61	31.90	14.29	--		
	2/20/2011	MW-02S	16.99	32.46	15.47	--		
	2/20/2011	MW-02D	19.95	31.90	11.95	--		
	3/24/2011	MW-02S	15.15	32.46	17.31	--		
	3/24/2011	MW-02D	15.34	31.90	16.56	--		
	4/23/2011	MW-02S	15.62	32.46	16.84	--		
	4/23/2011	MW-02D	21.73	31.90	10.17	--		
	5/30/2011	MW-02S	16.23	32.46	16.23	--		
	5/30/2011	MW-02D	21.58	31.90	10.32	--		
	6/26/2011	MW-02S	16.88	32.46	15.58	--		
	6/26/2011	MW-02D	18.31	31.90	13.59	--		
	7/30/2011	MW-02S	17.08	32.46	15.38	--		
	7/30/2011	MW-02D	22.39	31.90	9.51	--		
	8/8/2011	MW-02S	17.26	32.46	15.20	--		
	8/8/2011	MW-02D	21.40	31.90	10.50	--		
	9/24/2011	MW-02S	17.52	31.96	(e) 14.44	--		
	9/24/2011	MW-02D	21.44	31.81	(e) 10.37	--		
	10/29/2011	MW-02S	17.77	31.96	(e) 14.19	--		
	10/29/2011	MW-02D	17.73	31.81	(e) 14.08	--		
	11/26/2011	MW-02S	16.08	31.96	(e) 15.88	--		
	11/26/2011	MW-02D	16.43	31.81	(e) 15.38	--		
	12/26/2011	MW-02S	17.45	31.96	(e) 14.51	--		
	12/26/2011	MW-02D	19.26	31.81	(e) 12.55	--		
	1/28/2012	MW-02S	15.33	31.96	(e) 16.63	--		
	1/28/2012	MW-02D	16.61	31.81	(e) 15.20	--		
	2/26/2012	MW-02S	15.75	31.96	(e) 16.21	--		
	2/26/2012	MW-02D	21.30	31.81	(e) 10.51	--		
	3/7/2012	MW-02S	16.28	31.96	(e) 15.68	--		
	3/7/2012	MW-02D	20.75	31.81	(e) 11.06	--		
	4/21/2012	MW-02S	15.85	31.96	(e) 16.11	--		
	4/21/2012	MW-02D	19.86	31.81	(e) 11.95	--		
	5/19/2012	MW-02S	16.37	31.96	(e) 15.59	--		
	5/19/2012	MW-02D	20.17	31.81	(e) 11.64	--		

DTWs for these two most likely switched on water level form. Data entered to be consistent with historical data.

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/30/2012	MW-02S	16.13	31.96	(e) 15.83	--		
	6/30/2012	MW-02D	17.29	31.81	(e) 14.52	--		
	7/27/2012	MW-02S	16.02	31.96	(e) 15.94	--		
	7/27/2012	MW-02D	18.81	31.81	(e) 13.00	--		
	8/12/2012	MW-02S	15.80	31.96	(e) 16.16	--		
	8/12/2012	MW-02D	17.99	31.81	(e) 13.82	--		
	9/30/2012	MW-02S	16.09	31.96	(e) 15.87	--		
	9/30/2012	MW-02D	17.80	31.81	(e) 14.01	--		
	10/24/2012	MW-02S	16.50	31.96	(e) 15.46	--		
	10/24/2012	MW-02D	20.12	31.81	(e) 11.69	--		
	11/24/2012	MW-02S	14.72	31.96	(e) 17.24	--		
	11/24/2012	MW-02D	16.49	31.81	(e) 15.32	--		
	12/30/2012	MW-02S	15.19	31.96	(e) 16.77	--		
	12/30/2012	MW-02D	17.87	31.81	(e) 13.94	--		
	1/25/2013	MW-02S	16.61	31.96	(e) 15.35	--		
	1/25/2013	MW-02D	16.00	31.81	(e) 15.81	--		
	2/9/2013	MW-02S	16.57	31.96	(e) 15.39	--		
	2/9/2013	MW-02D	16.54	31.81	(e) 15.27	--		
	3/31/2013	MW-02S	16.57	31.96	(e) 15.39	--		
	3/31/2013	MW-02D	21.87	31.81	(e) 9.94	--		
	4/29/2013	MW-02S	16.71	31.96	15.25	--		
	4/29/2013	MW-02D	20.14	31.81	11.67	--		
	5/31/2013	MW-02S	17.48	31.96	14.48	--		
	5/31/2013	MW-02D	20.56	31.81	11.25	--		
	6/9/2013	MW-02S	17.48	31.96	14.48	--		
	6/9/2013	MW-02D	21.93	31.81	9.88	--		
	7/21/2013	MW-02S	18.11	31.96	13.85	--		
	7/21/2013	MW-02D	17.62	31.81	14.19	--		
	8/29/2013	MW-02S	17.89	31.96	14.07	--		
	8/29/2013	MW-02D	20.27	31.81	11.54	--		
	9/21/2013	MW-02S	17.63	31.96	14.33	--		
	9/21/2013	MW-02D	19.31	31.81	12.50	--		
	10/6/2013	MW-02S	16.03	31.96	15.93	--		
	10/6/2013	MW-02D	18.53	31.81	13.28	--		
	11/10/2013	MW-02S	17.11	31.96	14.85	--		
	11/10/2013	MW-02D	17.69	31.81	14.12	--		
	12/15/2013	MW-02S	17.50	31.96	14.46	--		
	12/15/2013	MW-02D	17.11	31.81	14.70	--		
	1/5/2014	MW-02S	17.67	31.96	14.29	--		
	1/5/2014	MW-02D	20.33	31.81	11.48	--		
	2/1/2014	MW-02S	17.21	31.96	14.75	--		
	2/1/2014	MW-02D	18.08	31.81	13.73	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/1/2014	MW-02S	15.96	31.96	16.00	--		
	3/1/2014	MW-02D	17.19	31.81	14.62	--		
	4/6/2014	MW-02S	16.15	31.96	15.81	--		
	4/6/2014	MW-02D	19.32	31.81	12.49	--		
	5/17/2014	MW-02S	16.14	31.96	15.82	--		
	5/17/2014	MW-02D	19.21	31.81	12.60	--		
	6/22/2014	MW-02S	16.94	31.96	15.02	--		
	6/22/2014	MW-02D	18.15	31.81	13.66	--		
	7/5/2014	MW-02S	17.16	31.96	14.80	--		
	7/5/2014	MW-02D	18.99	31.81	12.82	--		
	8/12/2014	MW-02S	17.39	31.96	14.57	--		
	8/12/2014	MW-02D	21.06	31.81	10.75	--		
	9/23/2014	MW-02S	17.69	31.96	14.27	--		
	9/23/2014	MW-02D	19.11	31.81	12.70	--		
	10/11/2014	MW-02S	17.84	31.96	14.12	--		
	10/11/2014	MW-02D	19.21	31.81	12.60	--		
	11/9/2014	MW-02S	16.84	31.96	15.12	--		
	11/9/2014	MW-02D	18.71	31.81	13.10	--		
	12/7/2014	MW-02S	16.71	31.96	15.25	--		
	12/7/2014	MW-02D	17.29	31.81	14.52	--		
	1/3/2015	MW-02S	16.46	31.96	15.50	--		
	1/3/2015	MW-02D	16.3	31.81	15.51	--		
	2/14/2015	MW-02S	16.02	31.96	15.94	--		
	2/14/2015	MW-02D	18.19	31.81	13.62	--		
	3/9/2015	MW-02S	16.71	31.96	15.25	--		
	3/9/2015	MW-02D	17.39	31.81	14.42	--		
	4/5/2015	MW-02S	17.03	31.96	14.93	--		
	4/5/2015	MW-02D	17.64	31.81	14.17	--		
	5/16/2015	MW-02S	17.28	31.96	14.68	--		
	5/16/2015	MW-02D	21.17	31.81	10.64	--		
	6/7/2015	MW-02S	17.44	31.96	14.52	--		
	6/7/2015	MW-02D	21.99	31.81	9.82	--		Brown mush like substance on probe
	7/7/2015	MW-02S	17.73	31.96	14.23	--		
	7/7/2015	MW-02D	16.73	31.81	15.08	--		
	8/1/2015	MW-02S	17.88	31.96	14.08	--		
	8/1/2015	MW-02D	22.18	31.81	9.63	--		
	9/24/2015	MW-02S	18.22	31.96	13.74	--		
	9/24/2015	MW-02D	21.41	31.81	10.40	--		
	10/16/2015	MW-02S	18.34	31.96	13.62	--		
	10/16/2015	MW-02D	18.62	31.81	13.19	--		
	11/3/2015	MW-02S	17.88	31.96	14.08	--		
	11/3/2015	MW-02D	16.83	31.81	14.98	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	12/4/2015	MW-02S	16.99	31.96	14.97	--		
	12/4/2015	MW-02D	16.04	31.81	15.77	--		
	1/15/2016	MW-02S	16.09	31.96	15.87	--		
	1/15/2016	MW-02D	18.23	31.81	13.58	--		
	2/16/2016	MW-02S	14.93	31.96	17.03	--		
	2/16/2016	MW-02D	17.47	31.81	14.34	--		
	3/19/2016	MW-02S	14.44	31.96	17.52	--		
	3/19/2016	MW-02D	17.47	31.81	14.34	--		
	4/3/2016	MW-02S	14.98	31.96	16.98	15.50	Yes	
	4/3/2016	MW-02D	18.61	31.81	13.20	--		
	5/14/2016	MW-02S	16.12	31.96	15.84	15.50	Yes	
	5/14/2016	MW-02D	20.17	31.81	11.64	--		
	6/12/2016	MW-02S	16.51	31.96	15.45	15.50	No	
	6/12/2016	MW-02D	20.23	31.81	11.58	--		
	7/5/2016	MW-02S	16.68	31.96	15.28	15.50	No	
	7/5/2016	MW-02D	19.87	31.81	11.94	--		
	8/6/2016	MW-02S	16.83	31.96	15.13	15.50	No	
	8/6/2016	MW-02D	18.98	31.81	12.83	--		
	9/4/2016	MW-02S	17.09	31.96	14.87	15.50	No	
	9/4/2016	MW-02D	20.48	31.81	11.33	--		
	10/1/2016	MW-02S	17.16	31.96	14.80	15.50	No	
	10/1/2016	MW-02D	19.24	31.81	12.57	--		
	11/6/2016	MW-02S	15.33	31.96	16.63	15.50	Yes	
	11/6/2016	MW-02D	17.32	31.81	14.49	--		
	12/17/2016	MW-02S	15.18	31.96	16.78	15.50	Yes	
	12/17/2016	MW-02D	19.08	31.81	12.73	--		
	1/21/2017	MW-02S	14.44	31.96	17.52	15.50	Yes	
	1/21/2017	MW-02D	14.98	31.81	16.83	--		
	2/2/2017	MW-02S	15.28	31.96	16.68	15.50	Yes	
	2/2/2017	MW-02D	19.99	31.81	11.82	--		
	2/28/2017	MW-02S	14.26	31.96	17.70	15.50	Yes	
	2/28/2017	MW-02D	17.32	31.81	14.49	--		
	3/30/2017	MW-02S	13.02	31.96	18.94	15.50	Yes	
	3/30/2017	MW-02D	19.55	31.81	12.26	--		
	4/30/2017	MW-02S	14.18	31.96	17.78	15.50	Yes	
	4/30/2017	MW-02D	21.81	31.81	10.00	--		
	5/21/2017	MW-02S	14.27	31.96	17.69	15.50	Yes	
	5/21/2017	MW-02D	18.42	31.81	13.39	--		
	6/6/2017	MW-02S	14.77	31.96	17.19	15.50	Yes	
	6/6/2017	MW-02D	18.30	31.81	13.51	--		
	7/8/2017	MW-02S	15.54	31.96	16.42	15.50	Yes	
	7/8/2017	MW-02D	19.16	31.81	12.65	--		
	8/4/2017	MW-02S	15.94	31.96	16.02	15.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/4/2017	MW-02D	20.29	31.81	11.52	--		
	9/9/2017	MW-02S	16.43	31.96	15.53	15.50	Yes	
	9/9/2017	MW-02D	19.48	31.81	12.33	--		
	10/11/2017	MW-02S	16.64	31.96	15.32	15.50	No	
	10/11/2017	MW-02D	17.53	31.81	14.28	--		
	11/12/2017	MW-02S	15.59	31.96	16.37	15.50	Yes	
	11/12/2017	MW-02D	16.13	31.81	15.68	--		
	12/16/2017	MW-02S	15.20	31.96	16.76	15.50	Yes	
	12/16/2017	MW-02D	17.38	31.81	14.43	--		
	1/1/2018	MW-02S	14.12	31.96	17.84	15.50	Yes	
	1/1/2018	MW-02D	16.93	31.81	14.88	--		
	2/10/2018	MW-02S	14.25	31.96	17.71	15.50	Yes	
	2/10/2018	MW-02D	17.61	31.81	14.20	--		
	3/8/2018	MW-02S	14.24	31.96	17.72	15.50	Yes	
	3/8/2018	MW-02D	16.19	31.81	15.62	--		
	4/27/2018	MW-02S	14.26	31.96	17.70	15.50	Yes	
	4/27/2018	MW-02D	17.07	31.81	14.74	--		
	5/28/2018	MW-02S	15.53	31.96	16.43	15.50	Yes	
	5/28/2018	MW-02D	21.29	31.81	10.52	--		
	6/29/2018	MW-02S	15.93	31.96	16.03	15.50	Yes	
	6/29/2018	MW-02D	18.31	31.81	13.50	--		
	7/15/2018	MW-02S	15.96	31.96	16.00	15.50	Yes	
	7/15/2018	MW-02D	19.70	31.81	12.11	--		
	8/12/2018	MW-02S	16.26	31.96	15.70	15.50	Yes	
	8/12/2018	MW-02D	18.09	31.81	13.72	--		
	9/12/2018	MW-02S	16.47	31.96	15.49	15.50	No	
	9/12/2018	MW-02D	17.05	31.81	14.76	--		
	10/6/2018	MW-02S	16.73	31.96	15.23	15.50	No	
	10/6/2018	MW-02D	16.51	31.81	15.30	--		
	11/4/2018	MW-02S	16.62	31.96	15.34	15.50	No	
	11/4/2018	MW-02D	16.09	31.81	15.72	--		
	12/2/2018	MW-02S	16.16	31.96	15.80	15.50	Yes	
	12/2/2018	MW-02D	15.73	31.81	16.08	--		
	1/1/2019	MW-02S	15.13	31.96	16.83	15.50	Yes	
	1/1/2019	MW-02D	19.45	31.81	12.36	--		
	2/2/2019	MW-02S	15.11	31.96	16.85	15.50	Yes	
	2/2/2019	MW-02D	17.63	31.81	14.18	--		
	3/11/2019	MW-02S	15.32	31.96	16.64	15.50	Yes	
	3/11/2019	MW-02D	16.54	31.81	15.27	--		
	4/7/2019	MW-02S	16.01	31.96	15.95	15.50	Yes	
	4/7/2019	MW-02D	19.22	31.81	12.59	--		
	5/19/2019	MW-02S	16.31	31.96	15.65	15.50	Yes	
	5/19/2019	MW-02D	18.62	31.81	13.19	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/9/2019	MW-02S	17.03	31.96	14.93	15.50	No	
	6/9/2019	MW-02D	21.48	31.81	10.33	--		
	7/30/2019	MW-02S	17.07	31.96	14.89	15.50	No	
	7/30/2019	MW-02D	21.04	31.81	10.77	--		
	8/27/2019	MW-02S	16.90	31.96	15.06	15.50	No	
	8/27/2019	MW-02D	22.25	31.81	9.56	--		
	9/25/2019	MW-02S	16.98	31.96	14.98	15.50	No	
	9/25/2019	MW-02D	21.82	31.81	9.99	--		
	10/22/2019	MW-02S	16.65	31.96	15.31	15.50	No	
	10/22/2019	MW-02D	19.55	31.81	12.26	--		
	11/8/2019	MW-02S	16.63	31.96	15.33	15.50	No	
	11/8/2019	MW-02D	20.26	31.81	11.55	--		
	12/8/2019	MW-02S	17.30	31.96	14.66	15.50	No	
	12/8/2019	MW-02D	15.93	31.81	15.88	--		
	1/5/2020	MW-02S	16.19	31.96	15.77	15.50	Yes	
	1/5/2020	MW-02D	16.68	31.81	15.13	--		
	2/21/2020	MW-02S	15.83	31.96	16.13	15.50	Yes	
	2/21/2020	MW-02D	17.02	31.81	14.79	--		
	3/19/2020	MW-02S	16.68	31.96	15.28	15.50	No	
	3/19/2020	MW-02D	18.42	31.81	13.39	--		
	4/5/2020	MW-02S	16.60	31.96	15.36	15.50	No	
	4/5/2020	MW-02D	17.60	31.81	14.21	--		
	5/10/2020	MW-02S	17.41	31.96	14.55	15.50	No	
	5/10/2020	MW-02D	21.23	31.81	10.58	--		
	6/13/2020	MW-02S	17.88	31.96	14.08	15.50	No	
	6/13/2020	MW-02D	20.31	31.81	11.50	--		
	7/4/2020	MW-02S	18.03	31.96	13.93	15.50	No	
	7/4/2020	MW-02D	21.65	31.81	10.16	--		
	8/9/2020	MW-02S	18.35	31.96	13.61	15.50	No	
	8/9/2020	MW-02D	20.08	31.81	11.73	--		
	9/17/2020	MW-02S	17.93	31.96	14.03	15.50	No	
	9/17/2020	MW-02D	18.68	31.81	13.13	--		
	10/22/2020	MW-02S	17.81	31.96	14.15	15.50	No	
	10/22/2020	MW-02D	18.90	31.81	12.91	--		
	11/14/2020	MW-02S	17.69	31.96	14.27	15.50	No	
	11/14/2020	MW-02D	18.81	31.81	13.00	--		
	12/12/2020	MW-02S	16.91	31.96	15.05	15.50	No	
	12/12/2020	MW-02D	18.13	31.81	13.68	--		
	1/16/2021	MW-02S	13.91	31.96	18.05	15.50	Yes	
	1/16/2021	MW-02D	18.62	31.81	13.19	--		
	2/6/2021	MW-02S	14.34	31.96	17.62	15.50	Yes	
	2/6/2021	MW-02D	17.68	31.81	14.13	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/10/2021	MW-02S	14.99	31.96	16.97	15.50	Yes	
	3/10/2021	MW-02D	18.52	31.81	13.29	--		
6	11/8/2006	MW-01S	7.51	21.64	14.13	--		
	11/8/2006	MW-01D	7.94	21.87	13.93	--		
	12/31/2006	MW-01S	5.59	21.64	16.05	--		
	12/31/2006	MW-01D	6.78	21.87	15.09	--		
	3/2/2007	MW-01S	5.81	21.64	15.83	--		
	3/2/2007	MW-01D	8.92	21.87	12.95	--		
	3/31/2007	MW-01S	5.71	21.64	15.93	--		
	3/31/2007	MW-01D	9.51	21.87	12.36	--		
	4/23/2007	MW-01S	6.17	21.64	15.47	--		
	4/23/2007	MW-01D	7.89	21.87	13.98	--		
	5/28/2007	MW-01S	6.78	21.64	14.86	--		
	5/28/2007	MW-01D	11.02	21.87	10.85	--		
	6/30/2007	MW-01S	7.12	21.64	14.52	--		
	6/30/2007	MW-01D	11.74	21.87	10.13	--		
	8/1/2007	MW-01S	7.29	21.64	14.35	--		
	8/1/2007	MW-01D	9.57	21.87	12.30	--		
	9/29/2007	MW-01S	8.03	21.64	13.61	--		
	9/29/2007	MW-01D	8.83	21.87	13.04	--		
	11/22/2007	MW-01S	7.79	21.64	13.85	--		
	11/22/2007	MW-01D	8.89	21.87	12.98	--		
	1/26/2008	MW-01S	7.69	21.64	13.95	--		
	1/26/2008	MW-01D	5.63	21.87	16.24	--		
	2/28/2008	MW-01S	5.41	21.64	16.23	--		
	2/28/2008	MW-01D	9.87	21.87	12.00	--		
	3/19/2008	MW-01S	5.76	21.64	15.88	--		
	3/19/2008	MW-01D	9.62	21.87	12.25	--		
	4/28/2008	MW-01S	6.06	21.64	15.58	--		
	4/28/2008	MW-01D	8.65	21.87	13.22	--		
	5/31/2008	MW-01S	6.53	21.64	15.11	--		
	5/31/2008	MW-01D	8.72	21.87	13.15	--		
	6/30/2008	MW-01S	6.74	21.64	13.61	--		
	6/30/2008	MW-01D	7.94	21.87	13.04	--		
	7/12/2008	MW-01S	6.92	21.64	14.72	--		
	7/12/2008	MW-01D	10.94	21.87	10.93	--		
	8/28/2008	MW-01S	7.62	21.64	14.02	--		
	8/28/2008	MW-01D	11.03	21.87	10.84	--		
	9/20/2008	MW-01S	7.75	21.64	13.89	--		
	9/20/2008	MW-01D	8.58	21.87	13.29	--		
	10/12/2008	MW-01S	7.76	21.64	13.88	--		
	10/12/2008	MW-01D	8.59	21.87	13.28	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/30/2008	MW-01S	6.93	21.64	14.71	--		
	11/30/2008	MW-01D	8.44	21.87	13.43	--		
	12/31/2008	MW-01S	6.86	21.64	14.78	--		
	12/31/2008	MW-01D	7.81	21.87	14.06	--		
	1/31/2009	MW-01S	6.54	21.64	15.10	--		
	1/31/2009	MW-01D	9.94	21.87	11.93	--		
	2/23/2009	MW-01S	6.73	21.64	14.91	--		
	2/23/2009	MW-01D	9.27	21.87	12.60	--		
	3/29/2009	MW-01S	6.67	21.64	14.97	--		
	3/29/2009	MW-01D	11.20	21.87	10.67	--		
	4/18/2009	MW-01S	6.61	21.64	15.03	--		
	4/18/2009	MW-01D	10.30	21.87	11.57	--		
	5/16/2009	MW-01S	6.34	21.64	15.30	--		
	5/16/2009	MW-01D	9.21	21.87	12.66	--		
	6/21/2009	MW-01S	6.81	21.64	14.83	--		
	6/21/2009	MW-01D	8.52	21.87	13.35	--		
	7/20/2009	MW-01S	7.21	21.64	14.43	--		
	7/20/2009	MW-01D	7.12	21.87	14.75	--		
	8/10/2009	MW-01S	7.40	21.64	14.24	--		
	8/10/2009	MW-01D	8.36	21.87	13.51	--		
	9/7/2009	MW-01S	7.79	21.64	13.85	--		
	9/7/2009	MW-01D	9.28	21.87	12.59	--		
	10/10/2009	MW-01S	8.19	21.64	13.45	--		
	10/10/2009	MW-01D	8.67	21.87	13.20	--		
	11/28/2009	MW-01S	7.48	21.64	14.16	--		
	11/28/2009	MW-01D	8.76	21.87	13.11	--		
	12/31/2009	MW-01S	7.22	21.64	14.42	--		
	12/31/2009	MW-01D	6.35	21.87	15.52	--		
	1/14/2010	MW-01S	6.96	21.64	14.68	--		
	1/14/2010	MW-01D	6.94	21.87	14.93	--		
	2/21/2010	MW-01S	6.41	21.64	15.23	--		
	2/21/2010	MW-01D	7.15	21.87	14.72	--		
	3/17/2010	MW-01S	6.28	21.64	15.36	--		
	3/17/2010	MW-01D	8.24	21.87	13.63	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	4/25/2010	MW-01S	6.31	21.64	15.33	--		
	4/25/2010	MW-01D	8.61	21.87	13.26	--		
	5/16/2010	MW-01S	6.52	21.64	15.12	--		
	5/16/2010	MW-01D	10.69	21.87	11.18	--		
	6/26/2010	MW-01S	6.84	21.64	14.80	--		
	6/26/2010	MW-01D	10.04	21.87	11.83	--		
	7/23/2010	MW-01S	7.03	21.64	14.61	--		
	7/23/2010	MW-01D	10.75	21.87	11.12	--		
	8/30/2010	MW-01S	7.48	21.64	14.16	--		
	8/30/2010	MW-01D	8.82	21.87	13.05	--		
	9/30/2010	MW-01S	7.26	21.64	14.38	--		
	9/30/2010	MW-01D	8.00	21.87	13.87	--		
	10/18/2010	MW-01S	7.24	21.64	14.40	--		
	10/18/2010	MW-01D	12.53	21.87	9.34	--		
	11/29/2010	MW-01S	6.84	21.64	14.80	--		
	11/29/2010	MW-01D	9.66	21.87	12.21	--		
	12/25/2010	MW-01S	6.54	21.64	15.10	--		
	12/25/2010	MW-01D	6.41	21.87	15.46	--		
	1/29/2011	MW-01S	6.49	21.64	15.15	--		
	1/29/2011	MW-01D	7.72	21.87	14.15	--		
	2/20/2011	MW-01S	6.48	21.64	15.16	--		
	2/20/2011	MW-01D	9.40	21.87	12.47	--		
	3/24/2011	MW-01S	5.86	21.64	15.78	--		
	3/24/2011	MW-01D	5.93	21.87	15.94	--		
	4/23/2011	MW-01S	5.98	21.64	15.66	--		
	4/23/2011	MW-01D	10.67	21.87	11.20	--		
	5/30/2011	MW-01S	6.53	21.64	15.11	--		
	5/30/2011	MW-01D	10.63	21.87	11.24	--		
	6/26/2011	MW-01S	7.01	21.64	14.63	--		
	6/26/2011	MW-01D	8.44	21.87	13.43	--		
	7/30/2011	MW-01S	7.13	21.64	14.51	--		
	7/30/2011	MW-01D	10.85	21.87	11.02	--		
	8/8/2011	MW-01S	7.20	21.64	14.44	--		
	8/8/2011	MW-01D	10.94	21.87	10.93	--		minor amount of product on probe. No signal.
	9/24/2011	MW-01S	7.51	21.64	14.13	--		
	9/24/2011	MW-01D	10.65	21.87	11.22	--		
	10/29/2011	MW-01S	7.74	21.64	13.90	--		
	10/29/2011	MW-01D	7.90	21.87	13.97	--		
	11/26/2011	MW-01S	7.30	21.64	14.34	--		
	11/26/2011	MW-01D	6.53	21.87	15.34	--		
	12/26/2011	MW-01S	7.62	21.64	14.02	--		
	12/26/2011	MW-01D	8.70	21.72 (f)	13.02	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/28/2012	MW-01S	6.41	21.64	15.23	--		
	1/28/2012	MW-01D	7.24	21.72	(f) 14.48	--		
	2/26/2012	MW-01S	6.41	21.64	15.23	--		
	2/26/2012	MW-01D	10.20	21.72	(f) 11.52	--		
	3/7/2012	MW-01S	6.66	21.64	14.98	--		
	3/7/2012	MW-01D	9.18	21.72	(f) 12.54	--		
	4/21/2012	MW-01S	6.67	21.64	14.97	--		
	4/21/2012	MW-01D	8.87	21.72	(f) 12.85	--		
	5/19/2012	MW-01S	6.63	21.64	15.01	--		
	5/19/2012	MW-01D	9.50	21.72	(f) 12.22	--		
	6/30/2012	MW-01S	6.33	21.64	15.31	--		
	6/30/2012	MW-01D	7.94	21.72	(f) 13.78	--		
	7/27/2012	MW-01S	6.20	21.64	15.44	--		
	7/27/2012	MW-01D	8.26	21.72	(f) 13.46	--		
	8/12/2012	MW-01S	6.04	21.64	15.60	--		
	8/12/2012	MW-01D	8.32	21.72	(f) 13.40	--		
	9/30/2012	MW-01S	6.11	21.64	15.53	--		
	9/30/2012	MW-01D	8.21	21.72	(f) 13.51	--		
	10/24/2012	MW-01S	6.49	21.64	15.15	--		
	10/24/2012	MW-01D	9.30	21.72	(f) 12.42	--		
	11/24/2012	MW-01S	5.81	21.64	15.83	--		
	11/24/2012	MW-01D	7.09	21.72	(f) 14.63	--		
	12/30/2012	MW-01S	5.85	21.64	15.79	--		
	12/30/2012	MW-01D	7.58	21.72	(f) 14.14	--		
	1/25/2013	MW-01S	6.37	21.64	15.27	--		
	1/25/2013	MW-01D	7.00	21.72	(f) 14.72	--		
	2/9/2013	MW-01S	6.71	21.64	14.93	--		
	2/9/2013	MW-01D	7.17	21.72	(f) 14.55	--		
	3/31/2013	MW-01S	6.96	21.64	14.68	--		
	3/31/2013	MW-01D	10.61	21.72	(f) 11.11	--		
	4/29/2013	MW-01S	7.15	21.64	14.49	--		
	4/29/2013	MW-01D	10.88	21.72	10.84	--		
	5/31/2013	MW-01S	7.42	21.64	14.22	--		
	5/31/2013	MW-01D	10.17	21.72	11.55	--		
	6/9/2013	MW-01S	7.47	21.64	14.17	--		
	6/9/2013	MW-01D	10.86	21.72	10.86	--		
	7/21/2013	MW-01S	7.68	21.64	13.96	--		
	7/21/2013	MW-01D	8.57	21.72	13.15	--		
	8/29/2013	MW-01S	7.99	21.64	13.65	--		
	8/29/2013	MW-01D	10.11	21.72	11.61	--		
	9/21/2013	MW-01S	7.89	21.64	13.75	--		
	9/21/2013	MW-01D	7.99	21.72	13.73	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	10/6/2013	MW-01S	7.42	21.64	14.22	--		
	10/6/2013	MW-01D	8.36	21.72	13.36	--		
	11/10/2013	MW-01S	7.77	21.64	13.87	--		
	11/10/2013	MW-01D	7.70	21.72	14.02	--		
	12/15/2013	MW-01S	7.93	21.64	13.71	--		
	12/15/2013	MW-01D	7.38	21.72	14.34	--		
	1/5/2014	MW-01S	9.42	21.64	12.22	--		
	1/5/2014	MW-01D	8.13	21.72	13.59	--		
	2/1/2014	MW-01S	7.93	21.64	13.71	--		
	2/1/2014	MW-01D	7.79	21.72	13.93	--		
	3/1/2014	MW-01S	7.37	21.64	14.27	--		
	3/1/2014	MW-01D	7.36	21.72	14.36	--		
	4/6/2014	MW-01S	7.05	21.64	14.59	--		
	4/6/2014	MW-01D	8.86	21.72	12.86	--		
	5/17/2014	MW-01S	6.95	21.64	14.69	--		
	5/17/2014	MW-01D	8.97	21.72	12.75	--		
	6/22/2014	MW-01S	7.42	21.64	14.22	--		
	6/22/2014	MW-01D	8.54	21.72	13.18	--		
	7/5/2014	MW-01S	7.62	21.64	14.02	--		
	7/5/2014	MW-01D	8.80	21.72	12.92	--		
	8/12/2014	MW-01S	7.97	21.64	13.67	--		
	8/12/2014	MW-01D	10.29	21.72	11.43	--		
	9/23/2014	MW-01S	8.25	21.64	13.39	--		
	9/23/2014	MW-01D	7.88	21.72	13.84	--		
	10/11/2014	MW-01S	8.46	21.64	13.18	--		
	10/11/2014	MW-01D	8.63	21.72	13.09	--		
	11/9/2014	MW-01S	7.86	21.64	13.78	--		
	11/9/2014	MW-01D	7.67	21.72	14.05	--		
	12/7/2014	MW-01S	7.74	21.64	13.90	--		
	12/7/2014	MW-01D	7.36	21.72	14.36	--		
	1/3/2015	MW-01S	7.49	21.64	14.15	--		
	1/3/2015	MW-01D	6.87	21.72	14.85	--		
	2/14/2015	MW-01S	7.2	21.64	14.44	--		
	2/14/2015	MW-01D	7.79	21.72	13.93	--		
	3/9/2015	MW-01S	7.48	21.64	14.16	--		
	3/9/2015	MW-01D	7.02	21.72	14.70	--		
	4/5/2015	MW-01S	7.18	21.64	14.46	--		
	4/5/2015	MW-01D	8.12	21.72	13.60	--		
	5/16/2015	MW-01S	7.76	21.64	13.88	--		
	5/16/2015	MW-01D	10.39	21.72	11.33	--		
	6/7/2015	MW-01S	7.96	21.64	13.68	--		
	6/7/2015	MW-01D	10.71	21.72	11.01	--		Product signal at 7.93 ft BTC

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	7/7/2015	MW-01S	8.25	21.64	13.39	--		
	7/7/2015	MW-01D	7.27	21.72	14.45	--		
	8/1/2015	MW-01S	8.44	21.64	13.20	--		
	8/1/2015	MW-01D	10.65	21.72	11.07	--		
	9/24/2015	MW-01S	8.79	21.64	12.85	--		Product at 8.66 ft; H2O at 8.79
	9/24/2015	MW-01D	10.10	21.72	11.62	--		
	10/16/2015	MW-01S	8.78	21.64	12.86	--		Product signal at 8.72 ft BTC
	10/16/2015	MW-01D	8.17	21.72	13.55	--		
	11/3/2015	MW-01S	8.67	21.64	12.97	--		
	11/3/2015	MW-01D	7.48	21.72	14.24	--		
	12/4/2015	MW-01S	7.88	21.64	13.76	--		
	12/4/2015	MW-01D	6.37	21.72	15.35	--		
	1/15/2016	MW-01S	7.01	21.64	14.63	--		
	1/15/2016	MW-01D	7.67	21.72	14.05	--		
	2/16/2016	MW-01S	6.17	21.64	15.47	--		
	2/16/2016	MW-01D	7.55	21.72	14.17	--		
	3/19/2016	MW-01S	5.61	21.64	16.03	--		
	3/19/2016	MW-01D	7.52	21.72	14.20	--		
	4/3/2016	MW-01S	5.72	21.64	15.92	--		
	4/3/2016	MW-01D	8.10	21.72	13.62	--		
	5/14/2016	MW-01S	6.34	21.64	15.30	--		
	5/14/2016	MW-01D	9.32	21.72	12.40	--		
	6/12/2016	MW-01S	6.65	21.64	14.99	--		
	6/12/2016	MW-01D	9.48	21.72	12.24	--		
	7/5/2016	MW-01S	6.85	21.64	14.79	--		
	7/5/2016	MW-01D	8.87	21.72	12.85	--		
	8/6/2016	MW-01S	7.02	21.64	14.62	--		
	8/6/2016	MW-01D	9.21	21.72	12.51	--		
	9/4/2016	MW-01S	7.20	21.64	14.44	--		
	9/4/2016	MW-01D	9.68	21.72	12.04	--		
	10/1/2016	MW-01S	7.31	21.64	14.33	--		
	10/1/2016	MW-01D	8.92	21.72	12.80	--		
	11/6/2016	MW-01S	6.33	21.64	15.31	--		
	11/6/2016	MW-01D	7.07	21.72	14.65	--		
	12/17/2016	MW-01S	5.88	21.64	15.76	--		
	12/17/2016	MW-01D	8.43	21.72	13.29	--		
	1/21/2017	MW-01S	5.51	21.64	16.13	--		
	1/21/2017	MW-01D	5.42	21.72	16.30	--		
	2/2/2017	MW-01S	5.81	21.64	15.83	--		
	2/2/2017	MW-01D	8.93	21.72	12.79	--		
	2/28/2017	MW-01S	5.29	21.64	16.35	--		
	2/28/2017	MW-01D	7.13	21.72	14.59	--		
	3/30/2017	MW-01S	4.62	21.64	17.02	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	3/30/2017	MW-01D	9.25	21.72	12.47	--		
	4/30/2017	MW-01S	5.12	21.64	16.52	--		
	4/30/2017	MW-01D	10.72	21.72	11.00	--		
	5/21/2017	MW-01S	5.17	21.64	16.47	--		
	5/21/2017	MW-01D	8.33	21.72	13.39	--		
	6/6/2017	MW-01S	5.43	21.64	16.21	--		
	6/6/2017	MW-01D	8.20	21.72	13.52	--		
	7/8/2017	MW-01S	5.92	21.64	15.72	--		
	7/8/2017	MW-01D	9.39	21.72	12.33	--		
	8/4/2017	MW-01S	6.31	21.64	15.33	--		
	8/4/2017	MW-01D	10.01	21.72	11.71	--		
	9/9/2017	MW-01S	6.72	21.64	14.92	--		
	9/9/2017	MW-01D	8.69	21.72	13.03	--		
	10/11/2017	MW-01S	6.93	21.64	14.71	--		
	10/11/2017	MW-01D	8.11	21.72	13.61	--		
	11/12/2017	MW-01S	6.41	21.64	15.23	--		
	11/12/2017	MW-01D	6.92	21.72	14.80	--		
	12/16/2017	MW-01S	5.92	21.64	15.72	--		
	12/16/2017	MW-01D	7.67	21.72	14.05	--		
	1/1/2018	MW-01S	5.56	21.64	16.08	--		
	1/1/2018	MW-01D	7.15	21.72	14.57	--		
	2/10/2018	MW-01S	5.13	21.64	16.51	--		
	2/10/2018	MW-01D	7.48	21.72	14.24	--		
	3/8/2018	MW-01S	5.25	21.64	16.39	--		
	3/8/2018	MW-01D	6.71	21.72	15.01	--		
	4/27/2018	MW-01S	5.22	21.64	16.42	--		
	4/27/2018	MW-01D	6.52	21.72	15.20	--		
	5/28/2018	MW-01S	5.80	21.64	15.84	--		
	5/28/2018	MW-01D	10.51	21.72	11.21	--		
	6/29/2018	MW-01S	6.17	21.64	15.47	--		
	6/29/2018	MW-01D	8.75	21.72	12.97	--		
	7/15/2018	MW-01S	6.23	21.64	15.41	--		
	7/15/2018	MW-01D	9.93	21.72	11.79	--		
	8/12/2018	MW-01S	6.51	21.64	15.13	--		
	8/12/2018	MW-01D	8.80	21.72	12.92	--		
	9/12/2018	MW-01S	6.75	21.64	14.89	--		
	9/12/2018	MW-01D	7.83	21.72	13.89	--		
	10/6/2018	MW-01S	6.91	21.64	14.73	--		
	10/6/2018	MW-01D	7.32	21.72	14.40	--		
	11/4/2018	MW-01S	6.73	21.64	14.91	--		
	11/4/2018	MW-01D	6.92	21.72	14.80	--		
	12/2/2018	MW-01S	6.73	21.64	14.91	--		
	12/2/2018	MW-01D	6.52	21.72	15.20	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	1/1/2019	MW-01S	6.29	21.64	15.35	--		
	1/1/2019	MW-01D	8.96	21.72	12.76	--		
	2/2/2019	MW-01S	5.91	21.64	15.73	--		
	2/2/2019	MW-01D	7.30	21.72	14.42	--		
	3/11/2019	MW-01S	5.81	21.64	15.83	--		
	3/11/2019	MW-01D	7.26	21.72	14.46	--		
	4/7/2019	MW-01S	6.10	21.64	15.54	--		
	4/7/2019	MW-01D	8.85	21.72	12.87	--		
	5/19/2019	MW-01S	6.46	21.64	15.18	--		
	5/19/2019	MW-01D	8.93	21.72	12.79	--		
	6/9/2019	MW-01S	6.70	21.64	14.94	--		
	6/9/2019	MW-01D	10.35	21.72	11.37	--		
	7/30/2019	MW-01S	7.03	21.64	14.61	--		
	7/30/2019	MW-01D	8.52	21.72	13.20	--		
	8/27/2019	MW-01S	7.10	21.64	14.54	--		
	8/27/2019	MW-01D	9.85	21.72	11.87	--		
	9/25/2019	MW-01S	7.17	21.64	14.47	--		
	9/25/2019	MW-01D	10.76	21.72	10.96	--		
	10/22/2019	MW-01S	7.05	21.64	14.59	--		
	10/22/2019	MW-01D	9.75	21.72	11.97	--		
	11/8/2019	MW-01S	7.00	21.64	14.64	--		
	11/8/2019	MW-01D	9.55	21.72	12.17	--		
	12/8/2019	MW-01S	7.26	21.64	14.38	--		
	12/8/2019	MW-01D	6.72	21.72	15.00	--		
	1/5/2020	MW-01S	6.72	21.64	14.92	--		
	1/5/2020	MW-01D	6.88	21.72	14.84	--		
	2/21/2020	MW-01S	5.98	21.64	15.66	--		
	2/21/2020	MW-01D	7.32	21.72	14.40	--		
	3/19/2020	MW-01S	6.36	21.64	15.28	--		
	3/19/2020	MW-01D	8.14	21.72	13.58	--		
	4/5/2020	MW-01S	6.18	21.64	15.46	--		
	4/5/2020	MW-01D	7.72	21.72	14.00	--		
	5/10/2020	MW-01S	6.48	21.64	15.16	--		
	5/10/2020	MW-01D	9.87	21.72	11.85	--		
	6/13/2020	MW-01S	6.57	21.64	15.07	--		
	6/13/2020	MW-01D	9.47	21.72	12.25	--		
	7/4/2020	MW-01S	6.64	21.64	15.00	--		
	7/4/2020	MW-01D	10.96	21.72	10.76	--		
	8/9/2020	MW-01S	6.89	21.64	14.75	--		
	8/9/2020	MW-01D	9.48	21.72	12.24	--		
	9/17/2020	MW-01S	6.97	21.64	14.67	--		
	9/17/2020	MW-01D	8.83	21.72	12.89	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	10/22/2020	MW-01S	6.68	21.64	14.96	--		
	10/22/2020	MW-01D	8.48	21.72	13.24	--		
	11/14/2020	MW-01S	6.39	21.64	15.25	--		
	11/14/2020	MW-01D	8.60	21.72	13.12	--		
	12/12/2020	MW-01S	6.13	21.64	15.51	--		
	12/12/2020	MW-01D	8.14	21.72	13.58	--		
	1/16/2021	MW-01S	4.80	21.64	16.84	--		
	1/16/2021	MW-01D	8.13	21.72	13.59	--		
	2/6/2021	MW-01S	4.71	21.64	16.93	--		
	2/6/2021	MW-01D	7.28	21.72	14.44	--		
	3/10/2021	MW-01S	4.77	21.64	16.87	--		
	3/10/2021	MW-01D	8.04	21.72	13.68	--		
7	11/8/2006	MW-05S	12.29	29.25	16.96	16.50	Yes	
	11/8/2006	MW-05D	14.36	28.10	13.74	--		
	12/31/2006	MW-05S	11.07	29.25	18.18	16.50	Yes	
	12/31/2006	MW-05D	11.96	28.10	16.14	--		
	3/2/2007	MW-05S	12.53	29.25	16.72	16.50	Yes	
	3/2/2007	MW-05D	16.18	28.10	11.92	--		
	3/31/2007	MW-05S	12.19	29.25	17.06	16.50	Yes	
	3/31/2007	MW-05D	16.22	28.10	11.88	--		
	4/23/2007	MW-05S	13.63	29.25	15.62	16.50	No	
	4/23/2007	MW-05D	13.93	28.10	14.17	--		
	5/28/2007	MW-05S	15.03	29.25	14.22	16.50	No	
	5/28/2007	MW-05D	16.01	28.10	12.09	--		
	6/30/2007	MW-05S	15.12	29.25	14.13	16.50	No	
	6/30/2007	MW-05D	17.80	28.10	10.30	--		
	8/1/2007	MW-05S	15.15	29.25	14.10	16.50	No	
	8/1/2007	MW-05D	18.67	28.10	9.43	--		
	9/29/2007	MW-05S	16.55	29.25	12.70	16.50	No	
	9/29/2007	MW-05D	16.50	28.10	11.60	--		
	11/22/2007	MW-05S	15.04	29.25	14.21	16.50	No	
	11/22/2007	MW-05D	12.63	28.10	15.47	--		
	1/26/2008	MW-05S	13.25	29.25	16.00	16.50	No	
	1/26/2008	MW-05D	15.45	28.10	12.65	--		
	2/28/2008	MW-05S	12.56	29.25	16.69	16.50	Yes	
	2/28/2008	MW-05D	17.81	28.10	10.29	--		
	3/19/2008	MW-05S	13.44	29.25	15.81	16.50	No	
	3/19/2008	MW-05D	17.97	28.10	10.13	--		
	4/28/2008	MW-05S	13.79	29.25	15.46	16.50	No	
	4/28/2008	MW-05D	16.16	28.10	11.94	--		
	5/31/2008	MW-05S	14.08	29.25	15.17	16.50	No	
	5/31/2008	MW-05D	15.63	28.10	12.47	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	6/30/2008	MW-05S	15.02	29.25	12.70	16.50	No	
	6/30/2008	MW-05D	14.00	28.10	11.60	--		
	7/12/2008	MW-05S	15.22	29.25	14.03	16.50	No	
	7/12/2008	MW-05D	16.33	28.10	11.77	--		
	8/28/2008	MW-05S	16.03	29.25	13.22	16.50	No	
	8/28/2008	MW-05D	18.98	28.10	9.12	--		
	9/20/2008	MW-05S	NM	29.25	--	16.50	--	
	9/20/2008	MW-05D	NM	28.10	--	--		
	10/12/2008	MW-05S	NM	29.25	--	16.50	--	
	10/12/2008	MW-05D	NM	28.10	--	--		
	11/30/2008	MW-05S	NM	29.25	--	16.50	--	
	11/30/2008	MW-05D	NM	28.10	--	--		
	12/31/2008	MW-05S	NM	29.25	--	16.50	--	
	12/31/2008	MW-05D	NM	28.10	--	--		
	1/31/2009	MW-05S	15.38	29.45	(d) 14.07	16.50	No	
	1/31/2009	MW-05D	16.77	26.50	(d) 9.73	--		
	2/23/2009	MW-05S	15.85	29.45	(d) 13.60	16.50	No	
	2/23/2009	MW-05D	12.01	26.50	(d) 14.49	--		
	3/29/2009	MW-05S	15.17	29.45	(d) 14.28	16.50	No	
	3/29/2009	MW-05D	13.86	26.50	(d) 12.64	--		
	4/18/2009	MW-05S	15.63	29.45	(d) 13.82	16.50	No	
	4/18/2009	MW-05D	14.41	26.50	(d) 12.09	--		
	5/16/2009	MW-05S	15.09	29.45	(d) 14.36	16.50	No	
	5/16/2009	MW-05D	13.88	26.50	(d) 12.62	--		
	6/21/2009	MW-05S	16.38	29.45	(d) 13.07	16.50	No	
	6/21/2009	MW-05D	11.01	26.50	(d) 15.49	--		
	7/20/2009	MW-05S	16.95	29.45	(d) 12.50	16.50	No	
	7/20/2009	MW-05D	12.71	26.50	(d) 13.79	--		
	8/10/2009	MW-05S	16.82	29.45	(d) 12.63	16.50	No	
	8/10/2009	MW-05D	12.10	26.50	(d) 14.40	--		
	9/7/2009	MW-05S	18.33	29.45	(d) 11.12	16.50	No	
	9/7/2009	MW-05D	14.02	26.50	(d) 12.48	--		
	10/10/2009	MW-05S	19.16	29.45	(d) 10.29	16.50	No	
	10/10/2009	MW-05D	13.31	26.50	(d) 13.19	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/28/2009	MW-05S	17.31	29.45	(d) 12.14	16.50	No	
	11/28/2009	MW-05D	13.14	26.50	(d) 13.36	--		
	12/31/2009	MW-05S	16.66	29.45	(d) 12.79	16.50	No	
	12/31/2009	MW-05D	9.69	26.50	(d) 16.81	--		
	1/14/2010	MW-05S	14.89	29.45	(d) 14.56	16.50	No	
	1/14/2010	MW-05D	11.81	26.50	(d) 14.69	--		
	2/21/2010	MW-05S	14.71	29.45	(d) 14.74	16.50	No	
	2/21/2010	MW-05D	10.63	26.50	(d) 15.87	--		
	3/17/2010	MW-05S	13.53	29.45	(d) 15.92	16.50	No	
	3/17/2010	MW-05D	11.63	26.50	(d) 14.87	--		
	4/25/2010	MW-05S	16.11	29.45	(d) 13.34	16.50	No	
	4/25/2010	MW-05D	12.26	26.50	(d) 14.24	--		
	5/16/2010	MW-05S	16.14	29.45	(d) 13.31	16.50	No	
	5/16/2010	MW-05D	14.97	26.50	(d) 11.53	--		
	6/26/2010	MW-05S	17.07	29.45	(d) 12.38	16.50	No	
	6/26/2010	MW-05D	15.20	26.50	(d) 11.30	--		
	7/23/2010	MW-05S	17.73	29.45	(d) 11.72	16.50	No	
	7/23/2010	MW-05D	15.31	26.50	(d) 11.19	--		
	8/30/2010	MW-05S	15.58	29.45	(d) 13.87	16.50	No	
	8/30/2010	MW-05D	12.01	26.50	(d) 14.49	--		
	9/30/2010	MW-05S	14.32	29.45	(d) 15.13	16.50	No	
	9/30/2010	MW-05D	12.83	26.50	(d) 13.67	--		
	10/18/2010	MW-05S	15.52	29.45	(d) 13.93	16.50	No	
	10/18/2010	MW-05D	15.58	26.50	(d) 10.92	--		
	11/29/2010	MW-05S	15.14	29.45	(d) 14.31	16.50	No	
	11/29/2010	MW-05D	10.32	26.50	(d) 16.18	--		
	12/25/2010	MW-05S	13.03	29.45	(d) 16.42	16.50	No	
	12/25/2010	MW-05D	9.02	26.50	(d) 17.48	--		
	1/29/2011	MW-05S	13.29	29.45	(d) 16.16	16.50	No	
	1/29/2011	MW-05D	11.80	26.50	(d) 14.70	--		
	2/20/2011	MW-05S	13.22	29.45	(d) 16.23	16.50	No	
	2/20/2011	MW-05D	14.33	26.50	(d) 12.17	--		
	3/24/2011	MW-05S	13.15	29.45	(d) 16.30	16.50	No	
	3/24/2011	MW-05D	9.11	26.50	(d) 17.39	--		
	4/23/2011	MW-05S	12.78	29.45	(d) 16.67	16.50	Yes	
	4/23/2011	MW-05D	16.44	26.50	(d) 10.06	--		
	5/30/2011	MW-05S	13.40	29.45	(d) 16.05	16.50	No	
	5/30/2011	MW-05D	16.18	26.50	(d) 10.32	--		
	6/26/2011	MW-05S	13.94	29.45	(d) 15.51	16.50	No	
	6/26/2011	MW-05D	12.31	26.50	(d) 14.19	--		
	7/30/2011	MW-05S	14.08	29.45	(d) 15.37	16.50	No	
	7/30/2011	MW-05D	17.13	26.50	(d) 9.37	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/8/2011	MW-05S	14.27	29.45	(d)	15.18	16.50	No
	8/8/2011	MW-05D	15.50	26.50	(d)	11.00	--	
	9/24/2011	MW-05S	14.42	29.45	(d)	15.03	16.50	No
	9/24/2011	MW-05D	16.02	26.50	(d)	10.48	--	
	10/29/2011	MW-05S	14.62	29.45	(d)	14.83	16.50	No
	10/29/2011	MW-05D	11.59	26.50	(d)	14.91	--	
	11/26/2011	MW-05S	12.74	29.45	(d)	16.71	16.50	Yes
	11/26/2011	MW-05D	10.19	26.50	(d)	16.31	--	
	12/26/2011	MW-05S	14.43	29.45	(d)	15.02	16.50	No
	12/26/2011	MW-05D	13.68	26.50	(d)	12.82	--	
	1/28/2012	MW-05S	13.28	29.45	(d)	16.17	16.50	No
	1/28/2012	MW-05D	10.15	26.50	(d)	16.35	--	
	2/26/2012	MW-05S	12.81	29.45	(d)	16.64	16.50	Yes
	2/26/2012	MW-05D	15.87	26.50	(d)	10.63	--	
	3/7/2012	MW-05S	13.30	29.45	(d)	16.15	16.50	No
	3/7/2012	MW-05D	15.35	26.50	(d)	11.15	--	
	4/21/2012	MW-05S	12.79	29.45	(d)	16.66	16.50	Yes
	4/21/2012	MW-05D	12.84	26.50	(d)	13.66	--	
	5/19/2012	MW-05S	13.54	29.45	(d)	15.91	16.50	No
	5/19/2012	MW-05D	14.39	26.50	(d)	12.11	--	
	6/30/2012	MW-05S	13.20	29.45	(d)	16.25	16.50	No
	6/30/2012	MW-05D	10.74	26.50	(d)	15.76	--	
	7/27/2012	MW-05S	13.26	29.45	(d)	16.19	16.50	No
	7/27/2012	MW-05D	13.21	26.50	(d)	13.29	--	
	8/12/2012	MW-05S	11.66	29.45	(d)	17.79	16.50	Yes
	8/12/2012	MW-05D	12.99	26.50	(d)	13.51	--	
	9/30/2012	MW-05S	13.23	29.45	(d)	16.22	16.50	No
	9/30/2012	MW-05D	11.39	26.50	(d)	15.11	--	
	10/24/2012	MW-05S	13.45	29.45	(d)	16.00	16.50	No
	10/24/2012	MW-05D	14.10	26.50	(d)	12.40	--	
	11/24/2012	MW-05S	11.57	29.45	(d)	17.88	16.50	Yes
	11/24/2012	MW-05D	10.2	26.50	(d)	16.3	--	
	12/30/2012	MW-05S	12.23	29.45	(d)	17.22	16.50	Yes
	12/30/2012	MW-05D	12.05	26.50	(d)	14.45	--	
	1/25/2013	MW-05S	10.55	29.45	(d)	18.90	16.50	Yes
	1/25/2013	MW-05D	13.13	26.50	(d)	13.37	--	
	2/9/2013	MW-05S	10.16	29.45	(d)	19.29	16.50	Yes
	2/9/2013	MW-05D	13.60	26.50	(d)	12.90	--	
	3/31/2013	MW-05S	13.61	29.45	(d)	15.84	16.50	No
	3/31/2013	MW-05D	16.55	26.50	(d)	9.95	--	
	4/29/2013	MW-05S	13.84	29.45		15.61	16.50	No
	4/29/2013	MW-05D	14.19	26.50		12.31	--	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	5/31/2013	MW-05S	14.42	29.45	15.03	16.50	No	
	5/31/2013	MW-05D	14.81	26.50	11.69	--		
	6/9/2013	MW-05S	14.43	29.45	15.02	16.50	No	
	6/9/2013	MW-05D	16.60	26.50	9.90	--		
	7/21/2013	MW-05S	14.63	29.45	14.82	16.50	No	
	7/21/2013	MW-05D	11.63	26.50	14.87	--		
	8/29/2013	MW-05S	14.92	29.45	14.53	16.50	No	
	8/29/2013	MW-05D	14.51	26.50	11.99	--		
	9/21/2013	MW-05S	14.56	29.45	14.89	16.50	No	
	9/21/2013	MW-05D	13.68	26.50	12.82	--		
	10/6/2013	MW-05S	13.06	29.45	16.39	16.50	No	
	10/6/2013	MW-05D	12.61	26.50	13.89	--		
	11/10/2013	MW-05S	14.15	29.45	15.30	16.50	No	
	11/10/2013	MW-05D	11.59	26.50	14.91	--		
	12/15/2013	MW-05S	14.61	29.45	14.84	16.50	No	
	12/15/2013	MW-05D	10.91	26.50	15.59	--		
	1/5/2014	MW-05S	14.91	29.45	14.54	16.50	No	
	1/5/2014	MW-05D	14.88	26.50	11.62	--		
	2/1/2014	MW-05S	14.37	29.45	15.08	16.50	No	
	2/1/2014	MW-05D	12.02	26.50	14.48	--		
	3/1/2014	MW-05S	13.03	29.45	16.42	16.50	No	
	3/1/2014	MW-05D	10.92	26.50	15.58	--		
	4/6/2014	MW-05S	13.39	29.45	16.06	16.50	No	
	4/6/2014	MW-05D	13.64	26.50	12.86	--		
	5/17/2014	MW-05S	13.34	29.45	16.11	16.50	No	
	5/17/2014	MW-05D	12.97	26.50	13.53	--		
	6/22/2014	MW-05S	14.12	29.45	15.33	16.50	No	
	6/22/2014	MW-05D	11.81	26.50	14.69	--		
	7/5/2014	MW-05S	14.35	29.45	15.10	16.50	No	
	7/5/2014	MW-05D	13.17	26.50	13.33	--		
	8/12/2014	MW-05S	14.52	29.45	14.93	16.50	No	
	8/12/2014	MW-05D	15.60	26.50	10.90	--		
	9/23/2014	MW-05S	14.79	29.45	14.66	16.50	No	
	9/23/2014	MW-05D	13.18	26.50	13.32	--		
	10/11/2014	MW-05S	14.98	29.45	14.47	16.50	No	
	10/11/2014	MW-05D	13.23	26.50	13.27	--		
	11/9/2014	MW-05S	13.53	29.45	15.92	16.50	No	
	11/9/2014	MW-05D	13.27	26.50	13.23	--		
	12/7/2014	MW-05S	13.87	29.45	15.58	16.50	No	
	12/7/2014	MW-05D	11.53	26.50	14.97	--		
	1/3/2015	MW-05S	13.58	29.45	15.87	16.50	No	
	1/3/2015	MW-05D	10.05	26.50	16.45	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	2/14/2015	MW-05S	13.16	29.45	16.29	16.50	No	
	2/14/2015	MW-05D	11.99	26.50	14.51	--		
	3/9/2015	MW-05S	13.94	29.45	15.51	16.50	No	
	3/9/2015	MW-05D	10.95	26.50	15.55	--		
	4/5/2015	MW-05S	13.27	29.45	16.18	16.50	No	
	4/5/2015	MW-05D	11.33	26.50	15.17	--		
	5/16/2015	MW-05S	14.51	29.45	14.94	16.50	No	
	5/16/2015	MW-05D	15.81	26.50	10.69	--		
	6/7/2015	MW-05S	14.57	29.45	14.88	16.50	No	
	6/7/2015	MW-05D	16.58	26.50	9.92	--		
	7/7/2015	MW-05S	14.93	29.45	14.52	16.50	No	
	7/7/2015	MW-05D	10.44	26.50	16.06	--		
	8/1/2015	MW-05S	15.03	29.45	14.42	16.50	No	
	8/1/2015	MW-05D	16.34	26.50	10.16	--		
	9/24/2015	MW-05S	15.48	29.45	13.97	16.50	No	
	9/24/2015	MW-05D	15.74	26.50	10.76	--		
	10/16/2015	MW-05S	15.53	29.45	13.92	16.50	No	
	10/16/2015	MW-05D	13.21	26.50	13.29	--		
	11/3/2015	MW-05S	14.73	29.45	14.72	16.50	No	
	11/3/2015	MW-05D	10.53	26.50	15.97	--		
	12/4/2015	MW-05S	13.88	29.45	15.57	16.50	No	
	12/4/2015	MW-05D	9.68	26.50	16.82	--		
	1/15/2016	MW-05S	13.15	29.45	16.30	16.50	No	
	1/15/2016	MW-05D	12.31	26.50	14.19	--		
	2/16/2016	MW-05S	11.81	29.45	17.64	16.50	Yes	
	2/16/2016	MW-05D	11.52	26.50	14.98	--		
	3/19/2016	MW-05S	11.63	29.45	17.82	16.50	Yes	
	3/19/2016	MW-05D	11.54	26.50	14.96	--		
	4/3/2016	MW-05S	12.27	29.45	17.18	16.50	Yes	
	4/3/2016	MW-05D	12.63	26.50	13.87	--		
	5/14/2016	MW-05S	13.33	29.45	16.12	16.50	No	
	5/14/2016	MW-05D	14.48	26.50	12.02	--		
	6/12/2016	MW-05S	13.74	29.45	15.71	16.50	No	
	6/12/2016	MW-05D	14.56	26.50	11.94	--		
	7/5/2016	MW-05S	13.84	29.45	15.61	16.50	No	
	7/5/2016	MW-05D	14.05	26.50	12.45	--		
	8/6/2016	MW-05S	13.96	29.45	15.49	16.50	No	
	8/6/2016	MW-05D	12.88	26.50	13.62	--		
	9/4/2016	MW-05S	14.23	29.45	15.22	16.50	No	
	9/4/2016	MW-05D	15.18	26.50	11.32	--		
	10/1/2016	MW-05S	14.26	29.45	15.19	16.50	No	
	10/1/2016	MW-05D	13.13	26.50	13.37	--		
	11/6/2016	MW-05S	12.15	29.45	17.30	16.50	Yes	

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	11/6/2016	MW-05D	11.35	26.50	15.15	--		
	12/17/2016	MW-05S	12.34	29.45	17.11	16.50	Yes	
	12/17/2016	MW-05D	13.47	26.50	13.03	--		
	1/21/2017	MW-05S	11.43	29.45	18.02	16.50	Yes	
	1/21/2017	MW-05D	8.84	26.50	17.66	--		
	2/2/2017	MW-05S	12.48	29.45	16.97	16.50	Yes	
	2/2/2017	MW-05D	14.57	26.50	11.93	--		
	2/28/2017	MW-05S	11.65	29.45	17.80	16.50	Yes	
	2/28/2017	MW-05D	11.18	26.50	15.32	--		
	3/30/2017	MW-05S	10.32	29.45	19.13	16.50	Yes	
	3/30/2017	MW-05D	13.86	26.50	12.64	--		
	4/30/2017	MW-05S	11.59	29.45	17.86	16.50	Yes	
	4/30/2017	MW-05D	16.60	26.50	9.90	--		
	5/21/2017	MW-05S	11.55	29.45	17.90	16.50	Yes	
	5/21/2017	MW-05D	12.40	26.50	14.10	--		
	6/6/2017	MW-05S	12.14	29.45	17.31	16.50	Yes	
	6/6/2017	MW-05D	12.18	26.50	14.32	--		
	7/8/2017	MW-05S	12.88	29.45	16.57	16.50	Yes	
	7/8/2017	MW-05D	13.14	26.50	13.36	--		
	8/4/2017	MW-05S	13.25	29.45	16.20	16.50	No	
	8/4/2017	MW-05D	14.64	26.50	11.86	--		
	9/9/2017	MW-05S	13.73	29.45	15.72	16.50	No	
	9/9/2017	MW-05D	13.99	26.50	12.51	--		
	10/11/2017	MW-05S	13.89	29.45	15.56	16.50	No	
	10/11/2017	MW-05D	11.11	26.50	15.39	--		
	11/12/2017	MW-05S	12.65	29.45	16.80	16.50	Yes	
	11/12/2017	MW-05D	9.61	26.50	16.89	--		
	12/16/2017	MW-05S	12.44	29.45	17.01	16.50	Yes	
	12/16/2017	MW-05D	11.39	26.50	15.11	--		
	1/1/2018	MW-05S	11.22	29.45	18.23	16.50	Yes	
	1/1/2018	MW-05D	10.85	26.50	15.65	--		
	2/10/2018	MW-05S	11.61	29.45	17.84	16.50	Yes	
	2/10/2018	MW-05D	11.51	26.50	14.99	--		
	3/8/2018	MW-05S	11.56	29.45	17.89	16.50	Yes	
	3/8/2018	MW-05D	10.10	26.50	16.40	--		
	4/27/2018	MW-05S	11.64	29.45	17.81	16.50	Yes	
	4/27/2018	MW-05D	10.64	26.50	15.86	--		
	5/28/2018	MW-05S	12.91	29.45	16.54	16.50	Yes	
	5/28/2018	MW-05D	15.97	26.50	10.53	--		
	6/29/2018	MW-05S	13.23	29.45	16.22	16.50	No	
	6/29/2018	MW-05D	12.04	26.50	14.46	--		
	7/15/2018	MW-05S	13.23	29.45	16.22	16.50	No	
	7/15/2018	MW-05D	13.78	26.50	12.72	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	8/12/2018	MW-05S	13.48	29.45	15.97	16.50	No	
	8/12/2018	MW-05D	11.76	26.50	14.74	--		
	9/12/2018	MW-05S	13.70	29.45	15.75	16.50	No	
	9/12/2018	MW-05D	10.53	26.50	15.97	--		
	10/6/2018	MW-05S	13.99	29.45	15.46	16.50	No	
	10/6/2018	MW-05D	10.14	26.50	16.36	--		
	11/4/2018	MW-05S	13.96	29.45	15.49	16.50	No	
	11/4/2018	MW-05D	9.61	26.50	16.89	--		
	12/2/2018	MW-05S	13.31	29.45	16.14	16.50	No	
	12/2/2018	MW-05D	9.27	26.50	17.23	--		
	1/1/2019	MW-05S	12.33	29.45	17.12	16.50	Yes	
	1/1/2019	MW-05D	13.81	26.50	12.69	--		
	2/2/2019	MW-05S	12.76	29.45	16.69	16.50	Yes	
	2/2/2019	MW-05D	12.17	26.50	14.33	--		
	3/11/2019	MW-05S	12.91	29.45	16.54	16.50	Yes	
	3/11/2019	MW-05D	10.18	26.50	16.32	--		
	4/7/2019	MW-05S	13.58	29.45	15.87	16.50	No	
	4/7/2019	MW-05D	13.71	26.50	12.79	--		
	5/19/2019	MW-05S	14.27	29.45	15.18	16.50	No	
	5/19/2019	MW-05D	12.58	26.50	13.92	--		
	6/9/2019	MW-05S	15.73	29.45	13.72	16.50	No	
	6/9/2019	MW-05D	15.16	26.50	11.34	--		
	7/30/2019	MW-05S	14.48	29.45	14.97	16.50	No	
	7/30/2019	MW-05D	15.41	26.50	11.09	--		
	8/27/2019	MW-05S	14.15	29.45	15.30	16.50	No	
	8/27/2019	MW-05D	16.70	26.50	9.80	--		
	9/25/2019	MW-05S	14.21	29.45	15.24	16.50	No	
	9/25/2019	MW-05D	16.24	26.50	10.26	--		
	10/22/2019	MW-05S	13.65	29.45	15.80	16.50	No	
	10/22/2019	MW-05D	13.45	26.50	13.05	--		
	11/8/2019	MW-05S	14.18	29.45	15.27	16.50	No	
	11/8/2019	MW-05D	14.82	26.50	11.68	--		
	12/8/2019	MW-05S	16.01	29.45	13.44	16.50	No	
	12/8/2019	MW-05D	9.61	26.50	16.89	--		
	1/5/2020	MW-05S	13.89	29.45	15.56	16.50	No	
	1/5/2020	MW-05D	10.47	26.50	16.03	--		
	2/21/2020	MW-05S	14.42	29.45	15.03	16.50	No	
	2/21/2020	MW-05D	10.88	26.50	15.62	--		
	3/19/2020	MW-05S	15.91	29.45	13.54	16.50	No	
	3/19/2020	MW-05D	12.81	26.50	13.69	--		
	4/5/2020	MW-05S	16.14	29.45	13.31	16.50	No	
	4/5/2020	MW-05D	11.74	26.50	14.76	--		

**TABLE A-2
CUMULATIVE GROUNDWATER ELEVATIONS
CASCADE POLE SITE
PORT OF OLYMPIA, WASHINGTON**

Well Pair	Collection Date	Well ID	Depth to Groundwater (ft) (a)	Top of Well Casing Elevation (MLLW)	Groundwater Elevation (MLLW) (a)	Maximum Elevation Goal (b)	Goal Exceeded?	Notes
	5/10/2020	MW-05S	17.29	29.45	12.16	16.50	No	
	5/10/2020	MW-05D	15.18	26.50	11.32	--		
	6/13/2020	MW-05S	17.98	29.45	11.47	16.50	No	
	6/13/2020	MW-05D	14.33	26.50	12.17	--		
	7/4/2020	MW-05S	17.94	29.45	11.51	16.50	No	
	7/4/2020	MW-05D	16.41	26.50	10.09	--		
	8/9/2020	MW-05S	18.48	29.45	10.97	16.50	No	
	8/9/2020	MW-05D	13.77	26.50	12.73	--		
	9/17/2020	MW-05S	16.33	29.45	13.12	16.50	No	
	9/17/2020	MW-05D	11.73	26.50	14.77	--		
	10/22/2020	MW-05S	16.97	29.45	12.48	16.50	No	
	10/22/2020	MW-05D	12.82	26.50	13.68	--		
	11/14/2020	MW-05S	17.09	29.45	12.36	16.50	No	
	11/14/2020	MW-05D	13.29	26.50	13.21	--		
	12/12/2020	MW-05S	16.09	29.45	13.36	16.50	No	
	12/12/2020	MW-05D	12.48	26.50	14.02	--		
	1/16/2021	MW-05S	13.13	29.45	16.32	16.50	No	
	1/16/2021	MW-05D	13.12	26.50	13.38	--		
	2/6/2021	MW-05S	12.67	29.45	16.78	16.50	Yes	
	2/6/2021	MW-05D	11.13	26.50	15.37	--		
	3/10/2021	MW-05S	14.17	29.45	15.28	16.50	No	
	3/10/2021	MW-05D	12.22	26.50	14.28	--		

NM = Not measured.

NA = Not available.

MLLW = Mean low low water.

(a) Below top of PVC well casing.

(b) Short term hydraulic control goal is 15.5 ft along the majority of the cutoff wall alignment and 16.5 ft adjacent to Budd Inlet.

(c) Well LW-3 casing modified and re-surveyed January 2009. On 7/28/10 the well casing at LW-3 cut down 0.2 ft to make room for new well monument lid. Elevation was adjusted from 20.03 to 19.83.

(d) Wells MW-02s, MW-02d, MW-05s, and MW-05d were modified during construction activities and re-surveyed February 2009.

(e) MW-02D and MW-02S inner north rim elevations modified in September 2011.

(f) On 12/8/11 the inner well casing was cut down at MW-01D by 0.15'. Outer casing cut down corresponding amount. New MW-01D measuring point elevation is 21.72' MLLW.

Groundwater elevations determined by subtracting depth to groundwater below top of casing (ft) from top of well casing elevation (MLLW, ft).

Laboratory Analytical Results



Analytical Resources, Incorporated
Analytical Chemists and Consultants

07 April 2020

Christine Kimmel
Landau Associates, Inc.
130 2nd Avenue S.
Edmonds, WA 98020

RE: Cascade Pole

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
20C0265	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



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.





2020265
Chain-of-Custody Record

Seattle/Edmonds (425) 778-0907 Spokane (509) 327-9737
 Tacoma (253) 926-2493 Portland (503) 542-1080

Date 3/19/2020
 Page 1 of 1

Turnaround Time:
 Standard
 Accelerated

Project Name Port of Olympia Project No. 0021041, 010.020
 Project Location/Event Cascade Pole/Wet Season
 Sampler's Name Katie Gauglitz
 Project Contact Sierra Mott
 Send Results To S. Mott, D. Jorgensen, D. Bache

Testing Parameters

Special Handling Requirements:

Shipment Method:

Stored on ice: Yes No

NWTPH-6ix
 NWTPH-Dx + CROSOLIX
 PATTs
 CPATTs SIM
 PCP 8270
 PCP 8041

Observations/Comments

Sample I.D.	Date	Time	Matrix	No. of Containers
Trip Blank-20200319			Ag	2
MW-05S-20200319	3/19/20	1303		2
PZ-30-20200319	3/19/20	1306		
PZ-18-20200319	3/19/20	1753		
PZ-17-20200319	3/19/20	1652		
CW-13-20200319	3/19/20	1253		
MW-05D-20200319	3/19/20	1356		
LW-3-20200319	3/19/20	1650		
LW-4R-20200319	3/19/20	1750		
MW-02S-20200319	3/19/20	1428		
MW-02D-20200319	3/19/20	1503		
PZ-19-20200319	3/19/20	1520		
PZ-12-20200319	3/19/20	1035		
PZ-13-20200319	3/19/20	1042		
MW-01D-20200319	3/19/20	1857		
MW-01S-20200319	3/19/20	1852		

- Allow water samples to settle, collect aliquot from clear portion
- NWTPH-Dx - Acid wash cleanup
- Silica gel cleanup
- Dissolved metal samples were field filtered

Other Run all samples for PCP using 8270. if result = ND, then and only then, run PCP by 8041.

Relinquished by
 Signature Katie Gauglitz
 Printed Name Katie Gauglitz
 Company Landau Associates
 Date 3/20/2020 Time 1220

Received by
 Signature [Signature]
 Printed Name Erin Sallee
 Company ARI
 Date 3/20/2020 Time 1220

Relinquished by
 Signature _____
 Printed Name _____
 Company _____
 Date _____ Time _____

Received by
 Signature _____
 Printed Name _____
 Company _____
 Date _____ Time _____



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TripBlank-20200319	20C0265-01	Water	19-Mar-2020 10:35	20-Mar-2020 12:20
MW-05S-20200319	20C0265-02	Water	19-Mar-2020 13:03	20-Mar-2020 12:20
PZ-30-20200319	20C0265-03	Water	19-Mar-2020 13:06	20-Mar-2020 12:20
PZ-18-20200319	20C0265-04	Water	19-Mar-2020 17:53	20-Mar-2020 12:20
PZ-17-20200319	20C0265-05	Water	19-Mar-2020 16:52	20-Mar-2020 12:20
CW-13-20200319	20C0265-06	Water	19-Mar-2020 12:53	20-Mar-2020 12:20
MW-05D-20200319	20C0265-07	Water	19-Mar-2020 13:56	20-Mar-2020 12:20
LW-3-20200319	20C0265-08	Water	19-Mar-2020 16:50	20-Mar-2020 12:20
LW-4R-20200319	20C0265-09	Water	19-Mar-2020 17:50	20-Mar-2020 12:20
MW-02S-20200319	20C0265-10	Water	19-Mar-2020 14:28	20-Mar-2020 12:20
MW-02D-20200319	20C0265-11	Water	19-Mar-2020 15:03	20-Mar-2020 12:20
PZ-19-20200319	20C0265-12	Water	19-Mar-2020 15:20	20-Mar-2020 12:20
PZ-12-20200319	20C0265-13	Water	19-Mar-2020 10:35	20-Mar-2020 12:20
PZ-13-20200319	20C0265-14	Water	19-Mar-2020 10:42	20-Mar-2020 12:20
MW-01D-20200319	20C0265-15	Water	19-Mar-2020 18:57	20-Mar-2020 12:20
MW-01S-20200319	20C0265-16	Water	19-Mar-2020 18:52	20-Mar-2020 12:20



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Work Order Case Narrative

Chlorinated Phenols - EPA Method SW8041A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Gasoline by NWTPH-g (GC/MS)

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Semivolatiles - EPA Method SW8270D

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits except 2-Fluorobiphenyl which was out of control low in samples 20C0265-05 and 20C0265-15 and p-Terphenyl-d14 is out of control low in sample 20C0265-16RE2. Surrogate recoveries have been flagged on the associated forms.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM



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The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



Cooler Receipt Form

Cascade Pole

ARI Client: Landa Tacana

Project Name: Part of Olympia

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 2000265

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1340 3.1 1.0 0.1 0.4 0.34.5 0.7 1.4 0.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO5206

Cooler Accepted by: JSW for ES Date: 03/20/2020 Time: 1720

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA 03/10/2020

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSW Date: 03/20/2020 Time: 1423 Labels checked by: JSW

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
1 vial from sample LW-4R - 20200319 has air bubbles. Container is logged as 2000265-09A. Lab to determine size.

By: JSW Date: 03/20/2020



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TripBlank-20200319
20C0265-01 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0534
Prepared: 03/25/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-01 A
Sampled: 03/19/2020 10:35
Analyzed: 03/25/2020 09:55

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	97.9	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	94.8	%	



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MW-05S-20200319
20C0265-02 (Water)

Volatile Organic Compounds

Method: NWTPHg	Preparation Method: EPA 5030 (Purge and Trap)	Sampled: 03/19/2020 13:03
Instrument: NT2 Analyst: LH	Preparation Batch: BIC0534	Analyzed: 03/25/2020 12:57
Sample Preparation:	Prepared: 03/25/2020	Extract ID: 20C0265-02 A
	Sample Size: 10 mL	
	Final Volume: 10 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	95.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	98.1	%	



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MW-05S-20200319
20C0265-02 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 13:03

Instrument: NT6 Analyst: JZ

Analyzed: 03/26/2020 21:54

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-02 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	6.8	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	69.2	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	80.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	73.9	%	



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MW-05S-20200319
20C0265-02 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 13:03
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 15:10
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-02 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-02 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	45.1	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	59.1	%	



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MW-05S-20200319
20C0265-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 13:03
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 11:57
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-02 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-02 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-02 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	81.0	%	



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MW-05S-20200319
20C0265-02 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 13:03
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 18:39

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-02 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	111	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	105	%	



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PZ-30-20200319
20C0265-03 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 13:06
Instrument: NT2 Analyst: LH Analyzed: 03/25/2020 13:17
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-03 A
Preparation Batch: BIC0534 Sample Size: 10 mL
Prepared: 03/25/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	97.3	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	93.4	%	



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PZ-30-20200319
20C0265-03 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 13:06
Instrument: NT6 Analyst: JZ Analyzed: 03/26/2020 22:27

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-03 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	7.1	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	63.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	74.6	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	68.1	%	



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PZ-30-20200319
20C0265-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 13:06
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 15:36
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-03 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-03 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	44.4	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	79.6	%	



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PZ-30-20200319
20C0265-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 13:06
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 12:16
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-03 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-03 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-03 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	74.8	%	



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PZ-30-20200319
20C0265-03 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 13:06
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 18:57

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-03 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	116	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	104	%	



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PZ-18-20200319
20C0265-04 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 17:53
Instrument: NT2 Analyst: LH Analyzed: 03/25/2020 13:37
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-04 A
Preparation Batch: BIC0534 Sample Size: 10 mL
Prepared: 03/25/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	96.1	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	93.3	%	



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PZ-18-20200319
20C0265-04 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 17:53
Instrument: NT6 Analyst: JZ Analyzed: 03/26/2020 23:00

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-04 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	61.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	74.7	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	69.8	%	



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Reported:
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PZ-18-20200319
20C0265-04 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 17:53
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 16:01
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-04 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-04 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	39.7	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	78.8	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

PZ-18-20200319
20C0265-04 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 17:53
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 12:35
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-04 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-04 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-04 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	76.8	%	



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Project Manager: Christine Kimmel

Reported:
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PZ-18-20200319
20C0265-04 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 17:53
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 19:15

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-04 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	107	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	95.3	%	



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PZ-17-20200319
20C0265-05 (Water)

Volatile Organic Compounds

Method: NWTPHg	Sampled: 03/19/2020 16:52
Instrument: NT2 Analyst: LH	Analyzed: 03/25/2020 13:58
Sample Preparation:	Extract ID: 20C0265-05 A
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BIC0534	Sample Size: 10 mL
Prepared: 03/25/2020	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	942	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	99.6	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	93.5	%	



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PZ-17-20200319
20C0265-05 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 16:52

Instrument: NT6 Analyst: JZ

Analyzed: 03/26/2020 23:32

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-05 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	54.1	%	*
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	73.9	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	66.1	%	



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PZ-17-20200319
20C0265-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 16:52
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 16:27

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-05 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-05 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleaned: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	46.7	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	56.9	%	



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PZ-17-20200319
20C0265-05 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 16:52
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 12:55
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-05 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-05 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-05 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	281	ug/L	
HC ID: DRO						
Surrogate: o-Terphenyl			50-150 %	78.4	%	



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PZ-17-20200319
20C0265-05 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 16:52
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 19:32

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-05 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	104	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	94.4	%	



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CW-13-20200319
20C0265-06 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0534
Prepared: 03/25/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-06 A
Sampled: 03/19/2020 12:53
Analyzed: 03/25/2020 14:18

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	96.8	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	95.5	%	



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CW-13-20200319

20C0265-06 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 12:53

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 00:05

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-06 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	60.0	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	71.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	68.2	%	



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CW-13-20200319
20C0265-06 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 12:53
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 16:53
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-06 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-06 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	47.3	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	76.1	%	



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Reported:
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CW-13-20200319
20C0265-06 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 12:53
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 13:14
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-06 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-06 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-06 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	91.3	%	



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CW-13-20200319
20C0265-06 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 12:53
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 19:50

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-06 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	107	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	95.1	%	



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Reported:
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MW-05D-20200319
20C0265-07 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0534
Prepared: 03/25/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-07 A
Sampled: 03/19/2020 13:56
Analyzed: 03/25/2020 14:38

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	98.6	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	90.9	%	



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Reported:
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MW-05D-20200319
20C0265-07 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 13:56
Instrument: NT6 Analyst: JZ Analyzed: 03/27/2020 00:37

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-07 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	57.8	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	72.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	72.2	%	



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MW-05D-20200319
20C0265-07 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 13:56
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 17:19
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-07 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-07 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	47.4	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	77.2	%	



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Reported:
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MW-05D-20200319
20C0265-07 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 13:56
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 13:33
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-07 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-07 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-07 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	70.8	%	



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MW-05D-20200319
20C0265-07 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/19/2020 13:56
Instrument: ECD8 Analyst: YZ	Preparation Batch: BIC0550	Final Volume: 50 mL	Analyzed: 04/01/2020 20:08
Sample Preparation:	Prepared: 03/26/2020		Extract ID: 20C0265-07 E 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	105	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	90.9	%	



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LW-3-20200319
20C0265-08 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 16:50
Instrument: NT2 Analyst: LH Analyzed: 03/25/2020 14:59
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-08 A
Preparation Batch: BIC0534 Sample Size: 10 mL
Prepared: 03/25/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	134	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	97.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	94.9	%	



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LW-3-20200319
20C0265-08 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 16:50
Instrument: NT6 Analyst: JZ Analyzed: 03/27/2020 01:10

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-08 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	68.6	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	80.6	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	66.1	%	



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LW-3-20200319
20C0265-08 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 16:50
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 17:45

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-08 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-08 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleansed: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	43.7	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	70.4	%	



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LW-3-20200319
20C0265-08 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 16:50
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 13:53
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-08 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-08 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-08 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	80.9	%	



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LW-3-20200319
20C0265-08 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 16:50
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 20:26

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-08 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	105	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	100	%	



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LW-4R-20200319
20C0265-09 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 17:50
Instrument: NT2 Analyst: LH Analyzed: 03/25/2020 15:19
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-09 B
Preparation Batch: BIC0534 Sample Size: 10 mL
Prepared: 03/25/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	95.8	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	95.2	%	



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LW-4R-20200319

20C0265-09 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 17:50

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 01:42

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-09 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	65.3	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	82.6	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	73.5	%	



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LW-4R-20200319
20C0265-09 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 17:50
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 18:10
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-09 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-09 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	46.8	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	60.6	%	



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LW-4R-20200319

20C0265-09 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 17:50
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 14:12
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-09 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-09 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-09 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: o-Terphenyl			50-150 %	81.6	%	



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LW-4R-20200319
20C0265-09 (Water)

Phenols

Method: EPA 8041A
Instrument: ECD8 Analyst: YZ

Sampled: 03/19/2020 17:50
Analyzed: 04/01/2020 20:43

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BIC0550
Prepared: 03/26/2020

Sample Size: 500 mL
Final Volume: 50 mL

Extract ID: 20C0265-09 E 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	99.9	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	93.7	%	



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MW-02S-20200319
20C0265-10 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0534
Prepared: 03/25/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-10 A
Sampled: 03/19/2020 14:28
Analyzed: 03/25/2020 15:39

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	98.1	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	90.4	%	



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MW-02S-20200319
20C0265-10 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 14:28

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 02:15

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-10 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	1.2	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	63.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	74.6	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	65.8	%	



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MW-02S-20200319
20C0265-10 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 14:28
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 18:36
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Extract ID: 20C0265-10 F 01
	Sample Size: 500 mL Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Extract ID: 20C0265-10 F 01
	Initial Volume: 0.5 mL Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	43.7	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	64.1	%	



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MW-02S-20200319
20C0265-10 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 14:28
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 14:32
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-10 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-10 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-10 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: o-Terphenyl			50-150 %	88.0	%	



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MW-02S-20200319
20C0265-10 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 14:28
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 21:01

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-10 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	108	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	91.8	%	



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MW-02D-20200319
20C0265-11 (Water)

Volatile Organic Compounds

Method: NWTPHg	Preparation Method: EPA 5030 (Purge and Trap)	Sampled: 03/19/2020 15:03
Instrument: NT2 Analyst: LH	Preparation Batch: BIC0534	Analyzed: 03/25/2020 15:59
Sample Preparation:	Prepared: 03/25/2020	Extract ID: 20C0265-11 A
	Sample Size: 10 mL	
	Final Volume: 10 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	97.5	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	92.0	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

MW-02D-20200319
20C0265-11 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 15:03

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 02:47

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-11 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	2.9	ug/L	
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	3.0	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	64.1	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	72.2	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	69.0	%	



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Project Manager: Christine Kimmel

Reported:
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MW-02D-20200319
20C0265-11 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 15:03
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 19:02

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-11 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-11 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleaned: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	42.1	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	65.2	%	



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Project Manager: Christine Kimmel

Reported:
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MW-02D-20200319
20C0265-11 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 15:03
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 14:51
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-11 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-11 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-11 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	92.3	%	



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Reported:
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MW-02D-20200319
20C0265-11 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/19/2020 15:03
Instrument: ECD8 Analyst: YZ	Preparation Batch: BIC0550	Final Volume: 50 mL	Analyzed: 04/01/2020 21:36
Sample Preparation:	Prepared: 03/26/2020		Extract ID: 20C0265-11 E 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	119	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	100	%	



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Reported:
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PZ-19-20200319
20C0265-12 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0561
Prepared: 03/26/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-12 A
Sampled: 03/19/2020 15:20
Analyzed: 03/26/2020 12:51

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.7	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	83.0	%	



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Reported:
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PZ-19-20200319
20C0265-12 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 15:20
Instrument: NT6 Analyst: JZ Analyzed: 03/27/2020 03:20

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-12 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	59.3	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	70.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	67.6	%	



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Reported:
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PZ-19-20200319
20C0265-12 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 15:20
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 19:28
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-12 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-12 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	43.3	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	70.8	%	



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Reported:
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PZ-19-20200319
20C0265-12 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 15:20
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 16:08
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-12 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-12 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-12 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	89.2	%	



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Reported:
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PZ-19-20200319
20C0265-12 (Water)

Phenols

Method: EPA 8041A
Instrument: ECD8 Analyst: YZ

Sampled: 03/19/2020 15:20
Analyzed: 04/01/2020 21:54

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BIC0550
Prepared: 03/26/2020

Sample Size: 500 mL
Final Volume: 50 mL

Extract ID: 20C0265-12 E 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
Surrogate: 2,4,6-Tribromophenol			26-120 %	119	%	
Surrogate: 2,4,6-Tribromophenol [2C]			26-120 %	98.0	%	



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Reported:
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PZ-12-20200319
20C0265-13 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 10:35
Instrument: NT2 Analyst: LH Analyzed: 03/26/2020 13:12
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-13 A
Preparation Batch: BIC0561 Sample Size: 10 mL
Prepared: 03/26/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	96.4	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	86.8	%	



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Reported:
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PZ-12-20200319
20C0265-13 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 10:35

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 03:53

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-13 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	64.2	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	77.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	73.0	%	



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Reported:
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PZ-12-20200319
20C0265-13 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 10:35
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 19:54

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-13 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-13 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleaned: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	45.4	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	62.4	%	



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Reported:
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PZ-12-20200319
20C0265-13 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 10:35
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 16:28
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-13 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-13 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-13 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	87.3	%	



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Reported:
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PZ-12-20200319
20C0265-13 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 10:35
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 22:12

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-13 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	119	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	96.9	%	



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Reported:
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PZ-13-20200319
20C0265-14 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH

Sampled: 03/19/2020 10:42
Analyzed: 03/26/2020 13:32

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0561
Prepared: 03/26/2020

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 20C0265-14 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.7	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	83.0	%	



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Reported:
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PZ-13-20200319
20C0265-14 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 10:42

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 04:25

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-14 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	55.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	71.7	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	68.6	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

PZ-13-20200319
20C0265-14 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 10:42
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 20:19

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-14 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-14 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleaned: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	40.1	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	83.1	%	



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Project Manager: Christine Kimmel

Reported:
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PZ-13-20200319
20C0265-14 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 10:42
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 16:47
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-14 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-14 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-14 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	53.2	%	



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Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

PZ-13-20200319
20C0265-14 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 10:42
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 22:30

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-14 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	129	%	*
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	101	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-01D-20200319
20C0265-15 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2 Analyst: LH
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BIC0561
Prepared: 03/26/2020
Sample Size: 10 mL
Final Volume: 10 mL
Extract ID: 20C0265-15 A
Sampled: 03/19/2020 18:57
Analyzed: 03/26/2020 13:52

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	98.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	87.0	%	



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Project Manager: Christine Kimmel

Reported:
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MW-01D-20200319
20C0265-15 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D Sampled: 03/19/2020 18:57
Instrument: NT6 Analyst: JZ Analyzed: 03/27/2020 04:58

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-15 C 02
Preparation Batch: BIC0545 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	1.4	ug/L	
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	51.0	%	*
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	67.7	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	64.9	%	



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Reported:
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MW-01D-20200319
20C0265-15 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM Sampled: 03/19/2020 18:57
Instrument: NT8 Analyst: VAN/JZ Analyzed: 03/28/2020 20:45

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 20C0265-15 F 01
Preparation Batch: BIC0485 Sample Size: 500 mL
Prepared: 03/25/2020 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 20C0265-15 F 01
Cleanup Batch: CIC0170 Initial Volume: 0.5 mL
Cleaned: 27-Mar-2020 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	43.0	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	75.8	%	



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Reported:
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MW-01D-20200319
20C0265-15 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 18:57
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 17:06
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-15 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-15 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-15 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	69.0	%	



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Reported:
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MW-01D-20200319
20C0265-15 (Water)

Phenols

Method: EPA 8041A Sampled: 03/19/2020 18:57
Instrument: ECD8 Analyst: YZ Analyzed: 04/01/2020 22:47

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 20C0265-15 E 01
Preparation Batch: BIC0550 Sample Size: 500 mL
Prepared: 03/26/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	116	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	92.4	%	



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Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

MW-01S-20200319
20C0265-16 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 18:52
Instrument: NT2 Analyst: LH Analyzed: 03/26/2020 14:13
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-16 A
Preparation Batch: BIC0561 Sample Size: 10 mL
Prepared: 03/26/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	12100	ug/L	E
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	98.3	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	114	%	



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Reported:
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MW-01S-20200319
20C0265-16 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 18:52

Instrument: NT6 Analyst: JZ

Analyzed: 03/27/2020 05:30

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-16 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	950	ug/L	E
Acenaphthylene	208-96-8	1	1.0	6.6	ug/L	
Acenaphthene	83-32-9	1	1.0	158	ug/L	E
2-Methylnaphthalene	91-57-6	1	1.0	238	ug/L	E
Dibenzofuran	132-64-9	1	1.0	71.3	ug/L	
Fluorene	86-73-7	1	1.0	68.1	ug/L	
Pentachlorophenol	87-86-5	1	10.0	422	ug/L	E
Phenanthrene	85-01-8	1	1.0	68.3	ug/L	
Anthracene	120-12-7	1	1.0	16.6	ug/L	
Carbazole	86-74-8	1	1.0	35.8	ug/L	
Fluoranthene	206-44-0	1	1.0	15.6	ug/L	
Pyrene	129-00-0	1	1.0	9.1	ug/L	
Benzo(a)anthracene	56-55-3	1	1.0	1.6	ug/L	
Chrysene	218-01-9	1	1.0	1.6	ug/L	
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	198	ug/L	E
<i>Surrogate: 2-Fluorobiphenyl</i>				<i>54.4-120 %</i>	<i>55.8</i>	<i>%</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>				<i>49.3-128 %</i>	<i>74.2</i>	<i>%</i>
<i>Surrogate: p-Terphenyl-d14</i>				<i>60-120 %</i>	<i>60.1</i>	<i>%</i>



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Reported:
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MW-01S-20200319
20C0265-16 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM		Sampled: 03/19/2020 18:52
Instrument: NT8 Analyst: VAN/JZ		Analyzed: 03/28/2020 21:11
Sample Preparation:	Preparation Method: EPA 3520C (Liq Liq) Preparation Batch: BIC0485 Prepared: 03/25/2020	Sample Size: 500 mL Final Volume: 0.5 mL Extract ID: 20C0265-16 F 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0170 Cleared: 27-Mar-2020	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 20C0265-16 F 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	0.92	ug/L	
Chrysene	218-01-9	1	0.10	0.92	ug/L	
Benzo(a)fluoranthene, Total		1	0.20	0.79	ug/L	
Benzo(a)pyrene	50-32-8	1	0.10	0.34	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	0.12	ug/L	
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	42.6	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	62.2	%	



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Reported:
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MW-01S-20200319
20C0265-16 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx		Sampled: 03/19/2020 18:52
Instrument: FID4 Analyst: CTO		Analyzed: 03/30/2020 17:26
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BIC0486 Prepared: 03/26/2020	Sample Size: 500 mL Final Volume: 1 mL Extract ID: 20C0265-16 D 01
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CIC0178 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-16 D 01
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CIC0177 Cleaned: 27-Mar-2020	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 20C0265-16 D 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	2630	ug/L	
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	9930	ug/L	
HC ID: CREOSOTE						
Surrogate: o-Terphenyl				50-150 %	59.3	%



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Reported:
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MW-01S-20200319
20C0265-16RE1 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/19/2020 18:52
Instrument: NT2 Analyst: PKC Analyzed: 03/27/2020 13:12
Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Extract ID: 20C0265-16RE1 B
Preparation Batch: BIC0600 Sample Size: 1 mL
Prepared: 03/27/2020 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	1000	30100	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	95.3	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	103	%	



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Reported:
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MW-01S-20200319
20C0265-16RE1 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 18:52

Instrument: NT6 Analyst: VAN/JZ

Analyzed: 03/28/2020 13:41

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-16RE1 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	100	100	2690	ug/L	D
Acenaphthylene	208-96-8	100	100	ND	ug/L	U
Acenaphthene	83-32-9	100	100	245	ug/L	D
2-Methylnaphthalene	91-57-6	100	100	368	ug/L	D
Dibenzofuran	132-64-9	100	100	ND	ug/L	U
Fluorene	86-73-7	100	100	ND	ug/L	U
Pentachlorophenol	87-86-5	100	1000	ND	ug/L	U
Phenanthrene	85-01-8	100	100	ND	ug/L	U
Anthracene	120-12-7	100	100	ND	ug/L	U
Carbazole	86-74-8	100	100	ND	ug/L	U
Fluoranthene	206-44-0	100	100	ND	ug/L	U
Pyrene	129-00-0	100	100	ND	ug/L	U
Benzo(a)anthracene	56-55-3	100	100	ND	ug/L	U
Chrysene	218-01-9	100	100	ND	ug/L	U
Benzo(a)pyrene	50-32-8	100	100	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	100	100	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	100	100	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	100	100	ND	ug/L	U
1-Methylnaphthalene	90-12-0	100	100	255	ug/L	D
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	65.7	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %		D1	D1
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	74.0	%	



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Reported:
07-Apr-2020 08:57

MW-01S-20200319
20C0265-16RE2 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D

Sampled: 03/19/2020 18:52

Instrument: NT6 Analyst: JZ

Analyzed: 04/06/2020 14:05

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 20C0265-16RE2 C 02

Preparation Batch: BIC0545

Sample Size: 500 mL

Prepared: 03/25/2020

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	15	15.0	1710	ug/L	E, D
Acenaphthylene	208-96-8	15	15.0	ND	ug/L	U
Acenaphthene	83-32-9	15	15.0	206	ug/L	D
2-Methylnaphthalene	91-57-6	15	15.0	302	ug/L	D
Dibenzofuran	132-64-9	15	15.0	77.5	ug/L	D
Fluorene	86-73-7	15	15.0	71.7	ug/L	D
Pentachlorophenol	87-86-5	15	150	405	ug/L	D
Phenanthrene	85-01-8	15	15.0	77.0	ug/L	D
Anthracene	120-12-7	15	15.0	15.5	ug/L	D
Carbazole	86-74-8	15	15.0	30.3	ug/L	D
Fluoranthene	206-44-0	15	15.0	ND	ug/L	U
Pyrene	129-00-0	15	15.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	15	15.0	ND	ug/L	U
Chrysene	218-01-9	15	15.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	15	15.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	15	15.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	15	15.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	15	15.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	15	15.0	212	ug/L	D
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	55.5	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	69.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	59.8	%	*



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

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Volatile Organic Compounds - Quality Control

Batch BIC0534 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0534-BLK1)		Prepared: 25-Mar-2020 Analyzed: 25-Mar-2020 09:14								
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.94		ug/L	5.00		98.9	80-120			
Surrogate: 4-Bromofluorobenzene	4.91		ug/L	5.00		98.2	80-120			
LCS (BIC0534-BS1)		Prepared: 25-Mar-2020 Analyzed: 25-Mar-2020 08:13								
Gasoline Range Organics (Tol-Nap)	1030	100	ug/L	1000		103	72-128			
Surrogate: Toluene-d8	5.07		ug/L	5.00		101	80-120			
Surrogate: 4-Bromofluorobenzene	5.29		ug/L	5.00		106	80-120			
LCS Dup (BIC0534-BSD1)		Prepared: 25-Mar-2020 Analyzed: 25-Mar-2020 08:34								
Gasoline Range Organics (Tol-Nap)	1130	100	ug/L	1000		113	72-128	9.29	30	
Surrogate: Toluene-d8	5.01		ug/L	5.00		100	80-120			
Surrogate: 4-Bromofluorobenzene	5.14		ug/L	5.00		103	80-120			



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Volatile Organic Compounds - Quality Control

Batch BIC0561 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0561-BLK1)		Prepared: 26-Mar-2020 Analyzed: 26-Mar-2020 11:06								
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.75		ug/L	5.00		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	4.71		ug/L	5.00		94.2	80-120			
LCS (BIC0561-BS1)		Prepared: 26-Mar-2020 Analyzed: 26-Mar-2020 08:50								
Gasoline Range Organics (Tol-Nap)	972	100	ug/L	1000		97.2	72-128			
Surrogate: Toluene-d8	5.02		ug/L	5.00		100	80-120			
Surrogate: 4-Bromofluorobenzene	5.20		ug/L	5.00		104	80-120			
LCS Dup (BIC0561-BSD1)		Prepared: 26-Mar-2020 Analyzed: 26-Mar-2020 09:45								
Gasoline Range Organics (Tol-Nap)	946	100	ug/L	1000		94.6	72-128	2.70	30	
Surrogate: Toluene-d8	5.01		ug/L	5.00		100	80-120			
Surrogate: 4-Bromofluorobenzene	5.12		ug/L	5.00		102	80-120			



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Volatile Organic Compounds - Quality Control

Batch BIC0600 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0600-BLK1)		Prepared: 27-Mar-2020 Analyzed: 27-Mar-2020 12:10								
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.97		ug/L	5.00		99.3	80-120			
Surrogate: 4-Bromofluorobenzene	4.42		ug/L	5.00		88.4	80-120			
LCS (BIC0600-BS1)		Prepared: 27-Mar-2020 Analyzed: 27-Mar-2020 10:27								
Gasoline Range Organics (Tol-Nap)	890	100	ug/L	1000		89.0	72-128			
Surrogate: Toluene-d8	4.95		ug/L	5.00		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	4.99		ug/L	5.00		99.9	80-120			
LCS Dup (BIC0600-BSD1)		Prepared: 27-Mar-2020 Analyzed: 27-Mar-2020 10:48								
Gasoline Range Organics (Tol-Nap)	1030	100	ug/L	1000		103	72-128	14.20	30	
Surrogate: Toluene-d8	5.12		ug/L	5.00		102	80-120			
Surrogate: 4-Bromofluorobenzene	5.07		ug/L	5.00		101	80-120			



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Semivolatile Organic Compounds - Quality Control

Batch BIC0545 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0545-BLK1)										
Prepared: 25-Mar-2020 Analyzed: 26-Mar-2020 20:16										
Naphthalene	ND	1.0	ug/L							U
Acenaphthylene	ND	1.0	ug/L							U
Acenaphthene	ND	1.0	ug/L							U
2-Methylnaphthalene	ND	1.0	ug/L							U
Dibenzofuran	ND	1.0	ug/L							U
Fluorene	ND	1.0	ug/L							U
Pentachlorophenol	ND	10.0	ug/L							U
Phenanthrene	ND	1.0	ug/L							U
Anthracene	ND	1.0	ug/L							U
Carbazole	ND	1.0	ug/L							U
Fluoranthene	ND	1.0	ug/L							U
Pyrene	ND	1.0	ug/L							U
Benzo(a)anthracene	ND	1.0	ug/L							U
Chrysene	ND	1.0	ug/L							U
Benzo(a)pyrene	ND	1.0	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L							U
Dibenzo(a,h)anthracene	ND	1.0	ug/L							U
Benzo(g,h,i)perylene	ND	1.0	ug/L							U
1-Methylnaphthalene	ND	1.0	ug/L							U
<i>Surrogate: 2-Fluorobiphenyl</i>	15.3		ug/L	25.0		61.3	54.4-120			
<i>Surrogate: 2,4,6-Tribromophenol</i>	27.6		ug/L	37.5		73.6	49.3-128			
<i>Surrogate: p-Terphenyl-d14</i>	18.9		ug/L	25.0		75.6	60-120			
LCS (BIC0545-BS1)										
Prepared: 25-Mar-2020 Analyzed: 26-Mar-2020 20:49										
Naphthalene	18.1	1.0	ug/L	25.0		72.5	51.9-120			
Acenaphthylene	19.5	1.0	ug/L	25.0		78.0	56.5-120			
Acenaphthene	19.4	1.0	ug/L	25.0		77.4	60.9-120			
2-Methylnaphthalene	18.1	1.0	ug/L	25.0		72.4	56.5-120			
Dibenzofuran	20.4	1.0	ug/L	25.0		81.7	61.9-120			
Fluorene	20.1	1.0	ug/L	25.0		80.5	62.3-120			
Pentachlorophenol	60.1	10.0	ug/L	65.0		92.4	40.7-124			
Phenanthrene	20.6	1.0	ug/L	25.0		82.3	61-120			
Anthracene	20.5	1.0	ug/L	25.0		82.1	64.6-120			
Carbazole	20.5	1.0	ug/L	25.0		81.8	64.6-120			
Fluoranthene	21.1	1.0	ug/L	25.0		84.6	67.9-120			



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Semivolatile Organic Compounds - Quality Control

Batch BIC0545 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
LCS (BIC0545-BS1)		Prepared: 25-Mar-2020 Analyzed: 26-Mar-2020 20:49								
Pyrene	23.4	1.0	ug/L	25.0		93.4	66.4-120			
Benzo(a)anthracene	21.1	1.0	ug/L	25.0		84.3	65.9-120			
Chrysene	20.9	1.0	ug/L	25.0		83.4	61.5-120			
Benzo(a)pyrene	20.9	1.0	ug/L	25.0		83.6	74-121			
Indeno(1,2,3-cd)pyrene	17.6	1.0	ug/L	25.0		70.3	55.6-120			
Dibenzo(a,h)anthracene	17.8	1.0	ug/L	25.0		71.1	55-120			
Benzo(g,h,i)perylene	16.1	1.0	ug/L	25.0		64.5	49.4-120			
1-Methylnaphthalene	17.7	1.0	ug/L	25.0		70.9	54.4-120			
Surrogate: 2-Fluorobiphenyl	16.1		ug/L	25.0		64.2	54.4-120			
Surrogate: 2,4,6-Tribromophenol	29.4		ug/L	37.5		78.4	49.3-128			
Surrogate: p-Terphenyl-d14	19.1		ug/L	25.0		76.4	60-120			
LCS Dup (BIC0545-BSD1)		Prepared: 25-Mar-2020 Analyzed: 26-Mar-2020 21:22								
Naphthalene	17.1	1.0	ug/L	25.0		68.2	51.9-120	6.11	30	
Acenaphthylene	18.7	1.0	ug/L	25.0		74.8	56.5-120	4.18	30	
Acenaphthene	18.8	1.0	ug/L	25.0		75.1	60.9-120	3.05	30	
2-Methylnaphthalene	17.4	1.0	ug/L	25.0		69.6	56.5-120	3.92	30	
Dibenzofuran	19.8	1.0	ug/L	25.0		79.3	61.9-120	2.96	30	
Fluorene	19.9	1.0	ug/L	25.0		79.4	62.3-120	1.34	30	
Pentachlorophenol	60.3	10.0	ug/L	65.0		92.8	40.7-124	0.37	30	
Phenanthrene	20.7	1.0	ug/L	25.0		83.0	61-120	0.85	30	
Anthracene	20.6	1.0	ug/L	25.0		82.5	64.6-120	0.43	30	
Carbazole	20.6	1.0	ug/L	25.0		82.3	64.6-120	0.53	30	
Fluoranthene	21.3	1.0	ug/L	25.0		85.2	67.9-120	0.74	30	
Pyrene	23.5	1.0	ug/L	25.0		93.9	66.4-120	0.49	30	
Benzo(a)anthracene	20.9	1.0	ug/L	25.0		83.6	65.9-120	0.88	30	
Chrysene	20.9	1.0	ug/L	25.0		83.6	61.5-120	0.24	30	
Benzo(a)pyrene	21.0	1.0	ug/L	25.0		84.1	74-121	0.59	30	
Indeno(1,2,3-cd)pyrene	17.6	1.0	ug/L	25.0		70.5	55.6-120	0.29	30	
Dibenzo(a,h)anthracene	17.7	1.0	ug/L	25.0		71.0	55-120	0.23	30	
Benzo(g,h,i)perylene	16.2	1.0	ug/L	25.0		64.7	49.4-120	0.23	30	
1-Methylnaphthalene	16.8	1.0	ug/L	25.0		67.3	54.4-120	5.19	30	
Surrogate: 2-Fluorobiphenyl	15.2		ug/L	25.0		60.8	54.4-120			
Surrogate: 2,4,6-Tribromophenol	28.8		ug/L	37.5		76.7	49.3-128			



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

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Semivolatile Organic Compounds - Quality Control

Batch BIC0545 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BIC0545-BSD1)					Prepared: 25-Mar-2020 Analyzed: 26-Mar-2020 21:22					
Surrogate: <i>p-Terphenyl-d14</i>	18.7		ug/L	25.0		74.8	60-120			



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Semivolatile Organic Compounds - SIM - Quality Control

Batch BIC0485 - EPA 3520C (Liq Liq)

Instrument: NT8 Analyst: VAN/JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0485-BLK1)										
					Prepared: 25-Mar-2020 Analyzed: 28-Mar-2020 13:52					
Benzo(a)anthracene	ND	0.10	ug/L							U
Chrysene	ND	0.10	ug/L							U
Benzo(a)fluoranthene, Total	ND	0.20	ug/L							U
Benzo(a)pyrene	ND	0.10	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L							U
Dibenzo(a,h)anthracene	ND	0.10	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	1.29		ug/L	3.00		42.9	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	1.84		ug/L	3.00		61.4	10-125			
LCS (BIC0485-BS1)										
					Prepared: 25-Mar-2020 Analyzed: 28-Mar-2020 14:18					
Benzo(a)anthracene	2.09	0.10	ug/L	3.00		69.7	37-120			
Chrysene	2.35	0.10	ug/L	3.00		78.4	48-120			
Benzo(a)fluoranthene, Total	9.93	0.20	ug/L	9.00		110	46-120			
Benzo(a)pyrene	2.41	0.10	ug/L	3.00		80.4	25-120			
Indeno(1,2,3-cd)pyrene	3.31	0.10	ug/L	3.00		110	32-120			
Dibenzo(a,h)anthracene	3.54	0.10	ug/L	3.00		118	21-120			
Surrogate: 2-Methylnaphthalene-d10	1.45		ug/L	3.00		48.2	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.50		ug/L	3.00		83.5	10-125			
LCS Dup (BIC0485-BSD1)										
					Prepared: 25-Mar-2020 Analyzed: 28-Mar-2020 14:44					
Benzo(a)anthracene	2.21	0.10	ug/L	3.00		73.7	37-120	5.59	30	
Chrysene	2.40	0.10	ug/L	3.00		80.1	48-120	2.19	30	
Benzo(a)fluoranthene, Total	9.10	0.20	ug/L	9.00		101	46-120	8.69	30	
Benzo(a)pyrene	2.24	0.10	ug/L	3.00		74.7	25-120	7.41	30	
Indeno(1,2,3-cd)pyrene	2.99	0.10	ug/L	3.00		99.8	32-120	9.95	30	
Dibenzo(a,h)anthracene	3.16	0.10	ug/L	3.00		105	21-120	11.40	30	
Surrogate: 2-Methylnaphthalene-d10	1.33		ug/L	3.00		44.4	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.34		ug/L	3.00		78.0	10-125			



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Petroleum Hydrocarbons - Quality Control

Batch BIC0486 - EPA 3510C SepF

Instrument: FID4 Analyst: CTO

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0486-BLK1)		Prepared: 26-Mar-2020 Analyzed: 30-Mar-2020 10:59								
Diesel Range Organics (C12-C24)	ND	100	ug/L							U
Motor Oil Range Organics (C24-C38)	ND	200	ug/L							U
Creosote Range Organics (C12-C22)	ND	200	ug/L							U
<i>Surrogate: o-Terphenyl</i>	201		ug/L	225		89.5	50-150			
LCS (BIC0486-BS1)		Prepared: 26-Mar-2020 Analyzed: 30-Mar-2020 11:18								
Diesel Range Organics (C12-C24)	2370	100	ug/L	3000		79.1	56-120			
<i>Surrogate: o-Terphenyl</i>	200		ug/L	225		89.1	50-150			
LCS Dup (BIC0486-BSD1)		Prepared: 26-Mar-2020 Analyzed: 30-Mar-2020 11:37								
Diesel Range Organics (C12-C24)	1980	100	ug/L	3000		66.1	56-120	17.90	30	
<i>Surrogate: o-Terphenyl</i>	137		ug/L	225		60.8	50-150			



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Phenols - Quality Control

Batch BIC0550 - EPA 3510C SepF

Instrument: ECD8 Analyst: YZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0550-BLK1)		Prepared: 26-Mar-2020 Analyzed: 01-Apr-2020 17:46								
Pentachlorophenol	ND	0.25	ug/L							U
Surrogate: 2,4,6-Tribromophenol	2.41		ug/L	2.50		96.3	26-120			
Surrogate: 2,4,6-Tribromophenol [2C]	2.29		ug/L	2.50		91.4	26-120			
LCS (BIC0550-BS1)		Prepared: 26-Mar-2020 Analyzed: 01-Apr-2020 18:04								
Pentachlorophenol	1.67	0.25	ug/L	2.50		66.7	48-120			
Surrogate: 2,4,6-Tribromophenol	2.96		ug/L	2.50		118	26-120			
Surrogate: 2,4,6-Tribromophenol [2C]	2.72		ug/L	2.50		109	26-120			
LCS Dup (BIC0550-BSD1)		Prepared: 26-Mar-2020 Analyzed: 01-Apr-2020 18:21								
Pentachlorophenol	2.07	0.25	ug/L	2.50		83.0	48-120	21.80	30	
Surrogate: 2,4,6-Tribromophenol	3.11		ug/L	2.50		124	26-120			*
Surrogate: 2,4,6-Tribromophenol [2C]	2.85		ug/L	2.50		114	26-120			



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Certified Analyses included in this Report

Analyte	Certifications
EPA 8270D in Water	
Phenol	WADOE, DoD-ELAP, NELAP, CALAP
bis(2-chloroethyl) ether	WADOE, DoD-ELAP, NELAP, CALAP
2-Chlorophenol	WADOE, DoD-ELAP, NELAP, CALAP
1,3-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
1,4-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
1,2-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
Benzyl alcohol	WADOE, DoD-ELAP, NELAP, CALAP
2,2'-Oxybis(1-chloropropane)	WADOE, DoD-ELAP, NELAP, CALAP
2-Methylphenol	WADOE, DoD-ELAP, NELAP, CALAP
Hexachloroethane	WADOE, DoD-ELAP, NELAP, CALAP
N-Nitroso-di-n-Propylamine	WADOE, DoD-ELAP, NELAP, CALAP
4-Methylphenol	WADOE, DoD-ELAP, NELAP, CALAP
Nitrobenzene	WADOE, DoD-ELAP, NELAP, CALAP
Isophorone	WADOE, DoD-ELAP, NELAP, CALAP
2-Nitrophenol	WADOE, DoD-ELAP, NELAP, CALAP
2,4-Dimethylphenol	WADOE, DoD-ELAP, NELAP, CALAP
Bis(2-Chloroethoxy)methane	WADOE, DoD-ELAP, NELAP, CALAP
2,4-Dichlorophenol	WADOE, DoD-ELAP, NELAP, CALAP
1,2,4-Trichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
Naphthalene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Benzoic acid	WADOE, DoD-ELAP, NELAP, CALAP
4-Chloroaniline	WADOE, DoD-ELAP, NELAP, CALAP
2,6-Dinitrotoluene	WADOE, DoD-ELAP, NELAP, CALAP
Hexachlorobutadiene	WADOE, DoD-ELAP, NELAP, CALAP
4-Chloro-3-Methylphenol	WADOE, DoD-ELAP, NELAP, CALAP
Hexachlorocyclopentadiene	WADOE, DoD-ELAP, NELAP, CALAP
2,4,6-Trichlorophenol	WADOE, DoD-ELAP, NELAP, CALAP
2,4,5-Trichlorophenol	WADOE, DoD-ELAP, NELAP, CALAP
2-Chloronaphthalene	WADOE, DoD-ELAP, NELAP, CALAP
2-Nitroaniline	WADOE, DoD-ELAP, NELAP, CALAP
Acenaphthylene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Dimethylphthalate	WADOE, DoD-ELAP, NELAP, CALAP
Acenaphthene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
3-Nitroaniline	WADOE, DoD-ELAP, NELAP, CALAP
2-Methylnaphthalene	WADOE, DoD-ELAP, NELAP, CALAP, ADEC



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2,4-Dinitrophenol	WADOE,DoD-ELAP,NELAP,CALAP
Dibenzofuran	WADOE,DoD-ELAP,NELAP,CALAP
4-Nitrophenol	WADOE,DoD-ELAP,NELAP,CALAP
2,4-Dinitrotoluene	WADOE,DoD-ELAP,NELAP,CALAP
Fluorene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
4-Chlorophenylphenyl ether	WADOE,DoD-ELAP,NELAP,CALAP
Diethyl phthalate	WADOE,DoD-ELAP,NELAP,CALAP
4-Nitroaniline	WADOE,DoD-ELAP,NELAP,CALAP
4,6-Dinitro-2-methylphenol	WADOE,DoD-ELAP,NELAP,CALAP
N-Nitrosodiphenylamine	WADOE,DoD-ELAP,NELAP,CALAP
4-Bromophenyl phenyl ether	WADOE,DoD-ELAP,NELAP,CALAP
Hexachlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
Pentachlorophenol	WADOE,DoD-ELAP,NELAP,CALAP
Phenanthrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbazole	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Di-n-butylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Butylbenzylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Benzo(a)anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
3,3'-Dichlorobenzidine	WADOE,DoD-ELAP,NELAP,CALAP
Chrysene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
bis(2-Ethylhexyl)phthalate	WADOE,DoD-ELAP,NELAP,CALAP
Di-n-Octylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Benzo(b)fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(k)fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(a)pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Indeno(1,2,3-cd)pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibenzo(a,h)anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(g,h,i)perylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzofluoranthenes, Total	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
N-Nitrosodimethylamine	WADOE,DoD-ELAP,NELAP,CALAP
Aniline	WADOE,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Azobenzene (1,2-DP-Hydrazine)	WADOE,NELAP,CALAP
Benzidine	WADOE,DoD-ELAP
Retene	WADOE,DoD-ELAP
Pyridine	WADOE,DoD-ELAP
2,6-Dichlorophenol	WADOE



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
07-Apr-2020 08:57

alpha-Terpineol	WADOE,DoD-ELAP
1,4-Dioxane	WADOE,DoD-ELAP
2,3,4,6-Tetrachlorophenol	WADOE,DoD-ELAP
Triphenyl Phosphate	WADOE,DoD-ELAP
Butyl Diphenyl Phosphate	WADOE,DoD-ELAP
Dibutyl Phenyl Phosphate	WADOE,DoD-ELAP
Tributyl Phosphate	WADOE,DoD-ELAP
Butylated Hydroxytoluene	WADOE,DoD-ELAP
Tetrachloroguaiacol	WADOE,DoD-ELAP
3,4,5-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
Guaiacol	WADOE
1,2,4,5-Tetrachlorobenzene	WADOE

EPA 8270D-SIM in Water

Naphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
Biphenyl	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthene	DoD-ELAP
Dibenzofuran	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
Fluorene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Phenanthrene	DoD-ELAP
Anthracene	DoD-ELAP
Carbazole	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
Fluoranthene	DoD-ELAP
Pyrene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Chrysene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzofluoranthenes, Total	DoD-ELAP



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Reported:
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Benzo(e)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Perylene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP



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07-Apr-2020 08:57

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



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07-Apr-2020 08:57

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- D1 Surrogate was not detected due to sample extract dilution
- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- H Hold time violation - Hold time was exceeded.
- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



20 April 2021

Christine Kimmel
Landau Associates, Inc.
130 2nd Avenue S.
Edmonds, WA 98020

RE: Cascade Pole

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
21C0181	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

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.





Chain-of-Custody Record

21C0181

Seattle/Edmonds (425) 778-0907
 Tacoma (253) 926-2493

Spokane (509) 327-9737
 Portland (503) 542-1080

Date _____
Page 1 of 1

Turnaround Time:
 Standard
 Accelerated

Project Name Port of Olympia Project No. 0021041.010.020
Project Location/Event Cascade Pole / Wet Season 2021
Sampler's Name JEC/CAL/SMR
Project Contact Sierra Mott, Chris Kimmel
Send Results To S. Mott, D. Jorgensen, D. Boche

Testing Parameters
NWTPH-GX
NWTPH-DX + Cleanup
PA-HS
CPAH SIM
PCP 8270
PCP 8041

Special Handling Requirements:
Shipment Method:
Stored on ice: Yes / No

Sample I.D.	Date	Time	Matrix	No. of Containers	NWTPH-GX	NWTPH-DX	PA-HS	CPAH SIM	PCP 8270	PCP 8041	Observations/Comments
Trip Blank-20210310	—	—	Aq	2	X						
MW-02D-20210310	3/10/21	1120	Aq	10	X	X	X	X	X	X	Allow water samples to settle, collect aliquot from clear portion <input type="checkbox"/>
MW-02S-20210310	3/10/21	1130	Aq	10	X	X	X	X	X	X	NWTPH-DX - Acid wash cleanup <input checked="" type="checkbox"/>
PZ-12-20210310	3/10/21	1401	Aq	10	X	X	X	X	X	X	- Silica gel cleanup <input checked="" type="checkbox"/>
PZ-13-20210310	3/10/21	1345	Aq	10	X	X	X	X	X	X	Dissolved metal samples were field filtered
CW-13-20210310	3/10/21	1540	Aq	10	X	X	X	X	X	X	
MW-05D-20210310	3/10/21	1630	Aq	10	X	X	X	X	X	X	
MW-05S-20210310	3/10/21	1555	Aq	10	X	X	X	X	X	X	
PZ-30-20210310	3/10/21	1600	Aq	10	X	X	X	X	X	X	Other Run all samples for PCP using 8270. If result = ND, then and only then, Run PCP by 8041.
PZ-19-20210310	3/10/21	1753	Aq	10	X	X	X	X	X	X	
LW-3-20210310	3/10/21	1753	Aq	10	X	X	X	X	X	X	
LW-4R-20210310	3/10/21	1900	Aq	10	X	X	X	X	X	X	
PZ-17-20210310	3/10/21	1800	Aq	10	X	X	X	X	X	X	
PZ-18-20210310	3/10/21	1908	Aq	10	X	X	X	X	X	X	
MW-01D-20210311	3/11/21	950	Aq	10	X	X	X	X	X	X	
MW-01S-20210311	3/11/21	1001	Aq	10	X	X	X	X	X	X	
PZ-19-20210311	3/11/21	1128	Aq	10	X	X	X	X	X	X	

Relinquished by
Signature [Signature]
Printed Name Simone Rodriguez
Company Landau Associates Inc
Date 3/11/21 Time 14:20

Received by
Signature [Signature]
Printed Name Kenny Dang
Company ART
Date 3/11/21 Time 1420

Relinquished by
Signature _____
Printed Name _____
Company _____
Date _____ Time _____

Received by
Signature _____
Printed Name _____
Company _____
Date _____ Time _____



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TripBlank-20210310	21C0181-01	Water	11-Mar-2021 11:28	11-Mar-2021 14:20
MW-02D-20210310	21C0181-02	Water	10-Mar-2021 11:20	11-Mar-2021 14:20
MW-02S-20210310	21C0181-03	Water	10-Mar-2021 11:30	11-Mar-2021 14:20
PZ-12-20210310	21C0181-04	Water	10-Mar-2021 14:01	11-Mar-2021 14:20
PZ-13-20210310	21C0181-05	Water	10-Mar-2021 13:45	11-Mar-2021 14:20
CW-13-20210310	21C0181-06	Water	10-Mar-2021 15:40	11-Mar-2021 14:20
MW-05D-20210310	21C0181-07	Water	10-Mar-2021 16:30	11-Mar-2021 14:20
MW-05S-20210310	21C0181-08	Water	10-Mar-2021 15:55	11-Mar-2021 14:20
PZ-30-20210310	21C0181-09	Water	10-Mar-2021 16:00	11-Mar-2021 14:20
LW-3-20210310	21C0181-10	Water	10-Mar-2021 17:53	11-Mar-2021 14:20
LW-4R-20210310	21C0181-11	Water	10-Mar-2021 19:00	11-Mar-2021 14:20
PZ-17-20210310	21C0181-12	Water	10-Mar-2021 18:00	11-Mar-2021 14:20
PZ-18-20210310	21C0181-13	Water	10-Mar-2021 19:08	11-Mar-2021 14:20
MW-01D-20210311	21C0181-14	Water	11-Mar-2021 09:50	11-Mar-2021 14:20
MW-01S-20210311	21C0181-15	Water	11-Mar-2021 10:01	11-Mar-2021 14:20
PZ-19-20210311	21C0181-16	Water	11-Mar-2021 11:28	11-Mar-2021 14:20



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Work Order Case Narrative

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits with the exception of surrogates flagged on the associated forms.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Gasoline Range Organics - WA-Ecology Method NW-TPHG

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

Pentachlorophenol - EPA Method SW8041A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits with the exception of surrogates flagged on the associated forms.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.



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Project: Cascade Pole
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Reported:
20-Apr-2021 12:37

Polynuclear Aromatic Hydrocarbons (cPAH) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrogates flagged on the associated forms. The sample 21C0181-15 was re-analyzed at a dilution with msurrogate recoveries in control.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Semivolatiles - EPA Method SW8270E

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements with the exception of all associated "Q" flagged analytes which are out of control high in the CCAL for pyrene and out of control low for pentachlorophenol . All associated samples that contain analyte have been flagged with a "Q" qualifier.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrogates flagged on the associated forms.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.



Cooler Receipt Form

ARI Client: Landau Assoc.
 COC No(s): _____ (NA)
 Assigned ARI Job No: 21C0181

Project Name: Part of Olympia
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1310 1.4 1.6 4.7 0.6 0.4 0.2 1.0 2.0
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 3/11/21 Time: 1420

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 How were bottles sealed in plastic bags? Individually Grouped Not
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... (NA) YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI NA 3/3/21
 Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: KD Date: 3/12/21 Time: 0905 Labels checked by: KD

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

TripBlank-20210310
21C0181-01 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 03/11/2021 11:28

Instrument: NT2 Analyst: PKC

Analyzed: 03/16/2021 13:26

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 21C0181-01 A

Preparation Batch: BJC0416

Sample Size: 10 mL

Prepared: 03/16/2021

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	93.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	85.5	%	



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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-02D-20210310
21C0181-02 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 11:20
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 14:30
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-02 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.7	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	87.8	%	



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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-02D-20210310
21C0181-02 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 11:20
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 17:03

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-02 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	2.7	ug/L	
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	3.5	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	1.0	ug/L	
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	1.0	ug/L	
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	86.3	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	89.9	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	112	%	



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Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-02D-20210310
21C0181-02 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/10/2021 11:20

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 01:04

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-02 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	58.0	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	85.2	%	



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MW-02D-20210310
21C0181-02 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/10/2021 11:20
Instrument: ECD8 Analyst: yz	Preparation Batch: BJC0391	Final Volume: 50 mL	Analyzed: 03/29/2021 13:57
Sample Preparation:	Prepared: 03/17/2021		Extract ID: 21C0181-02 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	52.5	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	55.6	%	



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MW-02D-20210310
21C0181-02RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 11:20

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 08:27

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-02RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	92.5	%	



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MW-02S-20210310
21C0181-03 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 11:30
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 14:50
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-03 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.8	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	84.1	%	



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MW-02S-20210310
21C0181-03 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 11:30
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 17:37

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-03 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	1.3	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	85.1	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	96.2	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	110	%	



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MW-02S-20210310
21C0181-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/10/2021 11:30

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 01:31

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-03 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>63.7</i>	<i>%</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>85.0</i>	<i>%</i>	



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MW-02S-20210310
21C0181-03 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 11:30
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 14:15

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-03 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	29.9	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	33.4	%	



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MW-02S-20210310
21C0181-03RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx Sampled: 03/10/2021 11:30
Instrument: FID4 Analyst: CTO Analyzed: 04/16/2021 08:48

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-03RE1 A 01
Preparation Batch: BJC0355 Sample Size: 500 mL
Prepared: 03/16/2021 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	92.4	%	



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PZ-12-20210310
21C0181-04 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 14:01
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 15:10
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-04 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.7	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	86.1	%	



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PZ-12-20210310
21C0181-04 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 14:01
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 18:11

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-04 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	80.6	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	89.4	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	113	%	



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PZ-12-20210310
21C0181-04 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/10/2021 14:01

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 01:58

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-04 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	68.3	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	99.9	%	



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PZ-12-20210310
21C0181-04 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 14:01
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 14:32

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-04 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	18.7	%	*
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	19.2	%	*



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PZ-12-20210310
21C0181-04RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 14:01

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 09:09

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-04RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	97.2	%	



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PZ-13-20210310
21C0181-05 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 13:45
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 15:31

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-05 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	95.3	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	82.6	%	



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PZ-13-20210310
21C0181-05 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 13:45
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 18:45

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-05 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	79.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	89.1	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	112	%	



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PZ-13-20210310
21C0181-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 13:45
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 02:25

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-05 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	58.7	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	89.0	%	



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PZ-13-20210310
21C0181-05 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 13:45
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 14:50

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-05 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	33.7	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	29.0	%	



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PZ-13-20210310
21C0181-05RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 13:45

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 09:30

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-05RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	102	%	



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Reported:
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CW-13-20210310
21C0181-06 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 15:40
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 15:51
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-06 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.2	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	85.9	%	



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

CW-13-20210310
21C0181-06 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 15:40
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 19:19

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-06 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	88.8	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	98.5	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	122	%	*



Landau Associates, Inc.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

CW-13-20210310
21C0181-06 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 15:40
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 02:52

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-06 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>63.4</i>	<i>%</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>65.2</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

CW-13-20210310
21C0181-06 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 15:40
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 15:08

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-06 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	32.6	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	29.2	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

CW-13-20210310
21C0181-06RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 15:40

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 09:51

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-06RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	206	%	*



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-05D-20210310
21C0181-07 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 16:30
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 16:11
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-07 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	94.3	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	84.1	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-05D-20210310
21C0181-07 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 16:30
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 19:53

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-07 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	72.7	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	87.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	108	%	



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Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
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MW-05D-20210310
21C0181-07 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 16:30
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 03:19

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-07 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	46.1	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	85.9	%	



Landau Associates, Inc. 130 2nd Avenue S. Edmonds WA, 98020	Project: Cascade Pole Project Number: Cascade Pole Project Manager: Christine Kimmel	Reported: 20-Apr-2021 12:37
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MW-05D-20210310
21C0181-07 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/10/2021 16:30
Instrument: ECD8 Analyst: yz	Preparation Batch: BJC0391	Final Volume: 50 mL	Analyzed: 03/29/2021 15:26
Sample Preparation:	Prepared: 03/17/2021		Extract ID: 21C0181-07 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	26.5	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	23.3	%	*



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Project: Cascade Pole
Project Number: Cascade Pole
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Reported:
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MW-05D-20210310
21C0181-07RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 16:30

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 10:12

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-07RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			<i>50-150 %</i>	<i>104</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-05S-20210310
21C0181-08 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 15:55
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 16:32
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-08 J
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	83.4	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-05S-20210310
21C0181-08 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 15:55
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 20:27

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-08 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	7.5	ug/L	
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	5.7	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	1.1	ug/L	
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	68.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	87.5	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	108	%	



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Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-05S-20210310
21C0181-08 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 15:55
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 03:46

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-08 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	53.9	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	65.6	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-05S-20210310
21C0181-08 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 15:55
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 15:44

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-08 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	20.6	%	*
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	25.9	%	*



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-05S-20210310
21C0181-08RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 15:55

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 10:33

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-08RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	90.2	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-30-20210310
21C0181-09 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 16:00
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 16:52
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-09 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	94.9	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	83.8	%	



Landau Associates, Inc.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-30-20210310
21C0181-09 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 16:00
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 21:01

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-09 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	7.3	ug/L	
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	5.8	ug/L	
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	1.2	ug/L	
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	82.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	97.5	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	117	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-30-20210310
21C0181-09 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/10/2021 16:00

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 04:13

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-09 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	55.4	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	95.2	%	



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-30-20210310
21C0181-09 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 16:00
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 16:02

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-09 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	33.6	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	30.3	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-30-20210310
21C0181-09RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 16:00

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 10:54

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-09RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			<i>50-150 %</i>	<i>101</i>	<i>%</i>	



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-3-20210310
21C0181-10 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 17:53
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 17:13
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-10 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	1420	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	100	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	91.7	%	



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-3-20210310
21C0181-10 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 17:53
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 21:35

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-10 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	80.6	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	96.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	86.0	%	



Landau Associates, Inc.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-3-20210310
21C0181-10 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 17:53
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 04:40

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-10 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	52.3	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	56.4	%	



Landau Associates, Inc. 130 2nd Avenue S. Edmonds WA, 98020	Project: Cascade Pole Project Number: Cascade Pole Project Manager: Christine Kimmel	Reported: 20-Apr-2021 12:37
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LW-3-20210310
21C0181-10 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/10/2021 17:53
Instrument: ECD8 Analyst: yz	Preparation Batch: BJC0391	Final Volume: 50 mL	Analyzed: 03/29/2021 16:19
Sample Preparation:	Prepared: 03/17/2021		Extract ID: 21C0181-10 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	91.9	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	85.1	%	



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-3-20210310
21C0181-10RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 17:53

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 11:15

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-10RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	339	ug/L	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	98.4	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-4R-20210310
21C0181-11 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 19:00
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 17:33

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-11 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	85.0	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-4R-20210310
21C0181-11 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 19:00
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 22:09

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-11 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	78.5	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	89.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	107	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-4R-20210310
21C0181-11 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 19:00
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 05:07

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-11 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	56.8	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	78.1	%	



Landau Associates, Inc. 130 2nd Avenue S. Edmonds WA, 98020	Project: Cascade Pole Project Number: Cascade Pole Project Manager: Christine Kimmel	Reported: 20-Apr-2021 12:37
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LW-4R-20210310
21C0181-11 (Water)

Phenols

Method: EPA 8041A	Preparation Method: EPA 3510C SepF	Sample Size: 500 mL	Sampled: 03/10/2021 19:00
Instrument: ECD8 Analyst: yz	Preparation Batch: BJC0391	Final Volume: 50 mL	Analyzed: 03/29/2021 17:48
Sample Preparation:	Prepared: 03/17/2021		Extract ID: 21C0181-11 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	54.8	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	42.0	%	



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130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

LW-4R-20210310
21C0181-11RE2 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 19:00

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 11:36

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-11RE2 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	91.9	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-17-20210310
21C0181-12 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 18:00
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 17:54
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-12 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	830	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	99.2	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	87.3	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-17-20210310
21C0181-12 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 18:00
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 22:43

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-12 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	65.8	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	91.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	94.0	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-17-20210310
21C0181-12 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/10/2021 18:00
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 05:35

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-12 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	59.5	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	79.5	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-17-20210310
21C0181-12 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 18:00
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 18:06

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-12 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	76.9	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	59.4	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-17-20210310
21C0181-12RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 18:00

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 13:00

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-12RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
<i>Surrogate: o-Terphenyl</i>			<i>50-150 %</i>	<i>100</i>	<i>%</i>	



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130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-18-20210310
21C0181-13 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/10/2021 19:08
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 18:14
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-13 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	997	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	98.8	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	85.1	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-18-20210310
21C0181-13 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/10/2021 19:08
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 23:17

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-13 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	73.6	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	90.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	96.8	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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PZ-18-20210310
21C0181-13 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/10/2021 19:08

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 06:02

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-13 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>63.1</i>	<i>%</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>83.6</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-18-20210310
21C0181-13 (Water)

Phenols

Method: EPA 8041A Sampled: 03/10/2021 19:08
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 18:24

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-13 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	47.7	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	35.3	%	



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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-18-20210310
21C0181-13RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/10/2021 19:08

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 13:21

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-13RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	97.2	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01D-20210311
21C0181-14 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/11/2021 09:50
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 18:35
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-14 I
Preparation Batch: BJC0416 Sample Size: 10 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	82.3	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01D-20210311
21C0181-14 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/11/2021 09:50
Instrument: NT6 Analyst: JZ Analyzed: 03/19/2021 23:51

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-14 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	77.5	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	88.5	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	107	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-01D-20210311
21C0181-14 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM Sampled: 03/11/2021 09:50
Instrument: NT8 Analyst: JZ Analyzed: 03/29/2021 06:29

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) Extract ID: 21C0181-14 E 01
Preparation Batch: BJC0390 Sample Size: 500 mL
Prepared: 03/15/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)anthracene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			31-120 %	56.9	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			10-125 %	63.0	%	



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Project Manager: Christine Kimmel

Reported:
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MW-01D-20210311
21C0181-14 (Water)

Phenols

Method: EPA 8041A Sampled: 03/11/2021 09:50
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 18:42

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-14 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	53.9	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	33.3	%	



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Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
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MW-01D-20210311
21C0181-14RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/11/2021 09:50

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 13:42

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-14RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	99.8	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-01S-20210311
21C0181-15 (Water)

Volatile Organic Compounds

Method: NWTPHg Sampled: 03/11/2021 10:01
Instrument: NT2 Analyst: PKC Analyzed: 03/16/2021 18:58
Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 21C0181-15 I
Preparation Batch: BJC0416 Sample Size: 0.4 mL
Prepared: 03/16/2021 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	2500	36100	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			80-120 %	94.2	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	92.5	%	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
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MW-01S-20210311
21C0181-15 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/11/2021 10:01
Instrument: NT6 Analyst: JZ Analyzed: 03/20/2021 00:25

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-15 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	12600	ug/L	E
Acenaphthylene	208-96-8	1	1.0	4.0	ug/L	
Acenaphthene	83-32-9	1	1.0	346	ug/L	E
2-Methylnaphthalene	91-57-6	1	1.0	734	ug/L	E
Dibenzofuran	132-64-9	1	1.0	95.4	ug/L	E
Fluorene	86-73-7	1	1.0	107	ug/L	E
Pentachlorophenol	87-86-5	1	10.0	88.5	ug/L	E
Phenanthrene	85-01-8	1	1.0	121	ug/L	E
Anthracene	120-12-7	1	1.0	15.7	ug/L	
Carbazole	86-74-8	1	1.0	16.1	ug/L	
Fluoranthene	206-44-0	1	1.0	29.0	ug/L	
Pyrene	129-00-0	1	1.0	24.7	ug/L	
Benzo(a)anthracene	56-55-3	1	1.0	4.4	ug/L	
Chrysene	218-01-9	1	1.0	4.2	ug/L	
Benzo(a)pyrene	50-32-8	1	1.0	1.7	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	505	ug/L	E
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	79.4	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	95.8	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	99.1	%	



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Project Manager: Christine Kimmel

Reported:
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MW-01S-20210311
21C0181-15 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/11/2021 10:01

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 06:56

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-15 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	2.10	ug/L	
Chrysene	218-01-9	1	0.10	2.04	ug/L	
Benzo(a)fluoranthene, Total		1	0.20	1.68	ug/L	
Benzo(a)pyrene	50-32-8	1	0.10	0.85	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	0.21	ug/L	
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>11.4</i>	<i>%</i>	<i>*</i>
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>71.9</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01S-20210311
21C0181-15RE1 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/11/2021 10:01
Instrument: NT6 Analyst: JZ Analyzed: 03/26/2021 13:02

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-15RE1 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	10.0	5010	ug/L	D, E
Acenaphthylene	208-96-8	10	10.0	ND	ug/L	U
Acenaphthene	83-32-9	10	10.0	256	ug/L	D
2-Methylnaphthalene	91-57-6	10	10.0	358	ug/L	D
Dibenzofuran	132-64-9	10	10.0	84.8	ug/L	D
Fluorene	86-73-7	10	10.0	79.4	ug/L	D
Pentachlorophenol	87-86-5	10	75.0	78.0	ug/L	D
Phenanthrene	85-01-8	10	10.0	104	ug/L	D
Anthracene	120-12-7	10	10.0	16.3	ug/L	D
Carbazole	86-74-8	10	10.0	16.6	ug/L	D
Fluoranthene	206-44-0	10	10.0	27.8	ug/L	D
Pyrene	129-00-0	10	10.0	24.8	ug/L	D
Benzo(a)anthracene	56-55-3	10	10.0	ND	ug/L	U
Chrysene	218-01-9	10	10.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	10	10.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	10	10.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	10	10.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	10	10.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	10	10.0	251	ug/L	D
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	81.7	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	106	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	111	%	*



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01S-20210311
21C0181-15RE1 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/11/2021 10:01

Instrument: NT8 Analyst: JZ

Analyzed: 03/30/2021 13:17

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-15RE1 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	10	1.00	2.33	ug/L	D
Chrysene	218-01-9	10	1.00	2.40	ug/L	D
Benzo(a)fluoranthene, Total		10	2.00	ND	ug/L	U
Benzo(a)pyrene	50-32-8	10	1.00	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	10	1.00	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	10	1.00	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>75.4</i>	<i>%</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>74.8</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01S-20210311
21C0181-15RE2 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/11/2021 10:01
Instrument: NT6 Analyst: JZ Analyzed: 03/22/2021 17:40

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-15RE2 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	100	100	3480	ug/L	D
Acenaphthylene	208-96-8	100	100	ND	ug/L	U
Acenaphthene	83-32-9	100	100	260	ug/L	D
2-Methylnaphthalene	91-57-6	100	100	341	ug/L	D
Dibenzofuran	132-64-9	100	100	ND	ug/L	U
Fluorene	86-73-7	100	100	ND	ug/L	U
Pentachlorophenol	87-86-5	100	1000	ND	ug/L	U
Phenanthrene	85-01-8	100	100	104	ug/L	D
Anthracene	120-12-7	100	100	ND	ug/L	U
Carbazole	86-74-8	100	100	ND	ug/L	U
Fluoranthene	206-44-0	100	100	ND	ug/L	U
Pyrene	129-00-0	100	100	ND	ug/L	U
Benzo(a)anthracene	56-55-3	100	100	ND	ug/L	U
Chrysene	218-01-9	100	100	ND	ug/L	U
Benzo(a)pyrene	50-32-8	100	100	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	100	100	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	100	100	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	100	100	ND	ug/L	U
1-Methylnaphthalene	90-12-0	100	100	232	ug/L	D
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %		D1	D1
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %		D1	D1
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %		D1	D1



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

MW-01S-20210311
21C0181-15RE2 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/11/2021 10:01

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 14:24

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-15RE2 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24) HC ID: DRO	DRO	10	1000	3370	ug/L	D
Motor Oil Range Organics (C24-C38) HC ID: CREOSOTE	RRO	10	2000	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	10	2000	15300	ug/L	D
Surrogate: <i>o</i> -Terphenyl			50-150 %	100	%	



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-19-20210311
21C0181-16 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 03/11/2021 11:28

Instrument: NT2 Analyst: PKC

Analyzed: 03/16/2021 19:18

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 21C0181-16 I

Preparation Batch: BJC0416

Sample Size: 10 mL

Prepared: 03/16/2021

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	94.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	88.2	%	



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-19-20210311
21C0181-16 (Water)

Semivolatile Organic Compounds

Method: EPA 8270E Sampled: 03/11/2021 11:28
Instrument: NT6 Analyst: JZ Analyzed: 03/20/2021 01:00

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-16 C 01
Preparation Batch: BJC0389 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.0	ND	ug/L	U
Acenaphthylene	208-96-8	1	1.0	ND	ug/L	U
Acenaphthene	83-32-9	1	1.0	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	1.0	ND	ug/L	U
Dibenzofuran	132-64-9	1	1.0	ND	ug/L	U
Fluorene	86-73-7	1	1.0	ND	ug/L	U
Pentachlorophenol	87-86-5	1	10.0	ND	ug/L	U
Phenanthrene	85-01-8	1	1.0	ND	ug/L	U
Anthracene	120-12-7	1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	1.0	ND	ug/L	U
Fluoranthene	206-44-0	1	1.0	ND	ug/L	U
Pyrene	129-00-0	1	1.0	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	1.0	ND	ug/L	U
Chrysene	218-01-9	1	1.0	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	1.0	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.0	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	1.0	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	1.0	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	1.0	ND	ug/L	U
<i>Surrogate: 2-Fluorobiphenyl</i>			54.4-120 %	79.3	%	
<i>Surrogate: 2,4,6-Tribromophenol</i>			49.3-128 %	91.0	%	
<i>Surrogate: p-Terphenyl-d14</i>			60-120 %	110	%	



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Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-19-20210311
21C0181-16 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM

Sampled: 03/11/2021 11:28

Instrument: NT8 Analyst: JZ

Analyzed: 03/29/2021 07:23

Sample Preparation:

Preparation Method: EPA 3520C (Liq Liq)

Extract ID: 21C0181-16 E 01

Preparation Batch: BJC0390

Sample Size: 500 mL

Prepared: 03/15/2021

Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			<i>31-120 %</i>	<i>54.5</i>	<i>%</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			<i>10-125 %</i>	<i>75.3</i>	<i>%</i>	



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

PZ-19-20210311
21C0181-16 (Water)

Phenols

Method: EPA 8041A Sampled: 03/11/2021 11:28
Instrument: ECD8 Analyst: yz Analyzed: 03/29/2021 19:00

Sample Preparation: Preparation Method: EPA 3510C SepF Extract ID: 21C0181-16 G 01
Preparation Batch: BJC0391 Sample Size: 500 mL
Prepared: 03/17/2021 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Pentachlorophenol	87-86-5	1	0.25	ND	ug/L	U
<i>Surrogate: 2,4,6-Tribromophenol</i>			26-120 %	41.7	%	
<i>Surrogate: 2,4,6-Tribromophenol [2C]</i>			26-120 %	27.9	%	



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Reported:
20-Apr-2021 12:37

PZ-19-20210311
21C0181-16RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 03/11/2021 11:28

Instrument: FID4 Analyst: CTO

Analyzed: 04/16/2021 14:45

Sample Preparation:

Preparation Method: EPA 3510C SepF

Extract ID: 21C0181-16RE1 A 01

Preparation Batch: BJC0355

Sample Size: 500 mL

Prepared: 03/16/2021

Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	100	ND	ug/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	200	ND	ug/L	U
Creosote Range Organics (C12-C22)	8001-58-9	1	200	ND	ug/L	U
Surrogate: <i>o</i> -Terphenyl			50-150 %	79.8	%	



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Project: Cascade Pole
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Reported:
20-Apr-2021 12:37

Volatile Organic Compounds - Quality Control

Batch BJC0416 - EPA 5030C (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJC0416-BLK1)				Prepared: 16-Mar-2021 Analyzed: 16-Mar-2021 12:45						
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.77		ug/L	5.00		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	4.31		ug/L	5.00		86.2	80-120			
LCS (BJC0416-BS1)				Prepared: 16-Mar-2021 Analyzed: 16-Mar-2021 10:18						
Gasoline Range Organics (Tol-Nap)	1000	100	ug/L	1000		100	72-128			
Surrogate: Toluene-d8	4.98		ug/L	5.00		99.6	80-120			
Surrogate: 4-Bromofluorobenzene	4.73		ug/L	5.00		94.6	80-120			
LCS Dup (BJC0416-BSD1)				Prepared: 16-Mar-2021 Analyzed: 16-Mar-2021 10:38						
Gasoline Range Organics (Tol-Nap)	1020	100	ug/L	1000		102	72-128	2.22	30	
Surrogate: Toluene-d8	5.03		ug/L	5.00		101	80-120			
Surrogate: 4-Bromofluorobenzene	4.72		ug/L	5.00		94.5	80-120			



Landau Associates, Inc.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Semivolatile Organic Compounds - Quality Control

Batch BJC0389 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJC0389-BLK1)										
				Prepared: 17-Mar-2021 Analyzed: 19-Mar-2021 15:06						
Naphthalene	ND	1.0	ug/L							U
Acenaphthylene	ND	1.0	ug/L							U
Acenaphthene	ND	1.0	ug/L							U
2-Methylnaphthalene	ND	1.0	ug/L							U
Dibenzofuran	ND	1.0	ug/L							U
Fluorene	ND	1.0	ug/L							U
Pentachlorophenol	ND	10.0	ug/L							U
Phenanthrene	ND	1.0	ug/L							U
Anthracene	ND	1.0	ug/L							U
Carbazole	ND	1.0	ug/L							U
Fluoranthene	ND	1.0	ug/L							U
Pyrene	ND	1.0	ug/L							U
Benzo(a)anthracene	ND	1.0	ug/L							U
Chrysene	ND	1.0	ug/L							U
Benzo(a)pyrene	ND	1.0	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L							U
Dibenzo(a,h)anthracene	ND	1.0	ug/L							U
Benzo(g,h,i)perylene	ND	1.0	ug/L							U
1-Methylnaphthalene	ND	1.0	ug/L							U
Surrogate: 2-Fluorobiphenyl	22.7		ug/L	25.0		90.9	54.4-120			
Surrogate: 2,4,6-Tribromophenol	35.5		ug/L	37.5		94.7	49.3-128			
Surrogate: p-Terphenyl-d14	30.4		ug/L	25.0		121	60-120			*
LCS (BJC0389-BS1)										
				Prepared: 17-Mar-2021 Analyzed: 19-Mar-2021 15:55						
Naphthalene	19.8	1.0	ug/L	25.0		79.1	51.9-120			
Acenaphthylene	21.5	1.0	ug/L	25.0		85.8	56.5-120			
Acenaphthene	20.9	1.0	ug/L	25.0		83.5	60.9-120			
2-Methylnaphthalene	18.7	1.0	ug/L	25.0		74.8	56.5-120			
Dibenzofuran	21.8	1.0	ug/L	25.0		87.1	61.9-120			
Fluorene	22.3	1.0	ug/L	25.0		89.4	62.3-120			
Pentachlorophenol	42.9	10.0	ug/L	65.0		66.0	40.7-124			Q
Phenanthrene	22.1	1.0	ug/L	25.0		88.4	61-120			
Anthracene	20.4	1.0	ug/L	25.0		81.5	64.6-120			
Carbazole	18.8	1.0	ug/L	25.0		75.1	42-177			
Fluoranthene	20.6	1.0	ug/L	25.0		82.6	67.9-120			



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Semivolatile Organic Compounds - Quality Control

Batch BJC0389 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJC0389-BS1)				Prepared: 17-Mar-2021 Analyzed: 19-Mar-2021 15:55						
Pyrene	29.0	1.0	ug/L	25.0		116	69-135			Q
Benzo(a)anthracene	23.1	1.0	ug/L	25.0		92.6	65-133			
Chrysene	22.2	1.0	ug/L	25.0		88.7	61.5-120			
Benzo(a)pyrene	23.0	1.0	ug/L	25.0		91.9	74-121			
Indeno(1,2,3-cd)pyrene	25.3	1.0	ug/L	25.0		101	40-147			
Dibenzo(a,h)anthracene	26.4	1.0	ug/L	25.0		106	37-148			
Benzo(g,h,i)perylene	27.0	1.0	ug/L	25.0		108	49.4-120			
1-Methylnaphthalene	19.4	1.0	ug/L	25.0		77.7	54.4-120			
Surrogate: 2-Fluorobiphenyl	21.4		ug/L	25.0		85.8	54.4-120			
Surrogate: 2,4,6-Tribromophenol	36.8		ug/L	37.5		98.2	49.3-128			
Surrogate: p-Terphenyl-d14	29.5		ug/L	25.0		118	60-120			
LCS Dup (BJC0389-BSD1)				Prepared: 17-Mar-2021 Analyzed: 19-Mar-2021 16:29						
Naphthalene	18.1	1.0	ug/L	25.0		72.4	51.9-120	8.81	30	
Acenaphthylene	20.0	1.0	ug/L	25.0		80.1	56.5-120	6.97	30	
Acenaphthene	19.5	1.0	ug/L	25.0		78.1	60.9-120	6.75	30	
2-Methylnaphthalene	17.4	1.0	ug/L	25.0		69.5	56.5-120	7.30	30	
Dibenzofuran	20.7	1.0	ug/L	25.0		82.6	61.9-120	5.33	30	
Fluorene	21.2	1.0	ug/L	25.0		84.8	62.3-120	5.29	30	
Pentachlorophenol	41.1	10.0	ug/L	65.0		63.3	40.7-124	4.24	30	Q
Phenanthrene	20.7	1.0	ug/L	25.0		83.0	61-120	6.34	30	
Anthracene	19.4	1.0	ug/L	25.0		77.8	64.6-120	4.62	30	
Carbazole	18.5	1.0	ug/L	25.0		73.8	42-177	1.76	30	
Fluoranthene	19.2	1.0	ug/L	25.0		76.7	67.9-120	7.42	30	
Pyrene	28.3	1.0	ug/L	25.0		113	69-135	2.29	30	Q
Benzo(a)anthracene	23.1	1.0	ug/L	25.0		92.6	65-133	0.02	30	
Chrysene	21.7	1.0	ug/L	25.0		86.8	61.5-120	2.18	30	
Benzo(a)pyrene	21.6	1.0	ug/L	25.0		86.2	74-121	6.34	30	
Indeno(1,2,3-cd)pyrene	24.1	1.0	ug/L	25.0		96.5	40-147	4.88	30	
Dibenzo(a,h)anthracene	24.5	1.0	ug/L	25.0		97.9	37-148	7.54	30	
Benzo(g,h,i)perylene	25.2	1.0	ug/L	25.0		101	49.4-120	7.01	30	
1-Methylnaphthalene	18.7	1.0	ug/L	25.0		74.8	54.4-120	3.78	30	
Surrogate: 2-Fluorobiphenyl	19.8		ug/L	25.0		79.2	54.4-120			
Surrogate: 2,4,6-Tribromophenol	36.0		ug/L	37.5		95.9	49.3-128			



Landau Associates, Inc.
130 2nd Avenue S.
Edmonds WA, 98020

Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Semivolatile Organic Compounds - Quality Control

Batch BJC0389 - EPA 3510C SepF

Instrument: NT6 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJC0389-BSD1)					Prepared: 17-Mar-2021 Analyzed: 19-Mar-2021 16:29					
<i>Surrogate: p-Terphenyl-d14</i>	29.1		ug/L	25.0		116	60-120			



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Project: Cascade Pole
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Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJC0390 - EPA 3520C (Liq Liq)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJC0390-BLK1)										
				Prepared: 15-Mar-2021 Analyzed: 28-Mar-2021 23:15						
Benzo(a)anthracene	ND	0.10	ug/L							U
Chrysene	ND	0.10	ug/L							U
Benzo(a)fluoranthene, Total	ND	0.20	ug/L							U
Benzo(a)pyrene	ND	0.10	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L							U
Dibenzo(a,h)anthracene	ND	0.10	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	1.61		ug/L	3.00		53.6	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.62		ug/L	3.00		87.2	10-125			
LCS (BJC0390-BS1)										
				Prepared: 15-Mar-2021 Analyzed: 28-Mar-2021 23:42						
Benzo(a)anthracene	1.89	0.10	ug/L	3.00		62.9	37-120			
Chrysene	2.02	0.10	ug/L	3.00		67.3	48-120			
Benzo(a)fluoranthene, Total	7.67	0.20	ug/L	9.00		85.3	46-120			
Benzo(a)pyrene	1.95	0.10	ug/L	3.00		65.0	25-120			
Indeno(1,2,3-cd)pyrene	2.33	0.10	ug/L	3.00		77.7	32-120			
Dibenzo(a,h)anthracene	2.45	0.10	ug/L	3.00		81.6	21-120			
Surrogate: 2-Methylnaphthalene-d10	1.78		ug/L	3.00		59.2	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.75		ug/L	3.00		91.8	10-125			
LCS Dup (BJC0390-BSD1)										
				Prepared: 15-Mar-2021 Analyzed: 29-Mar-2021 00:09						
Benzo(a)anthracene	1.96	0.10	ug/L	3.00		65.2	37-120	3.69	30	
Chrysene	2.11	0.10	ug/L	3.00		70.2	48-120	4.23	30	
Benzo(a)fluoranthene, Total	7.71	0.20	ug/L	9.00		85.6	46-120	0.44	30	
Benzo(a)pyrene	2.08	0.10	ug/L	3.00		69.2	25-120	6.21	30	
Indeno(1,2,3-cd)pyrene	2.45	0.10	ug/L	3.00		81.7	32-120	5.09	30	
Dibenzo(a,h)anthracene	2.66	0.10	ug/L	3.00		88.6	21-120	8.15	30	
Surrogate: 2-Methylnaphthalene-d10	1.87		ug/L	3.00		62.3	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.87		ug/L	3.00		95.8	10-125			



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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Petroleum Hydrocarbons - Quality Control

Batch BJC0355 - EPA 3510C SepF

Instrument: FID4 Analyst: CTO

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJC0355-BLK1)		Prepared: 16-Mar-2021 Analyzed: 16-Apr-2021 07:24								
Diesel Range Organics (C12-C24)	ND	100	ug/L							U
Motor Oil Range Organics (C24-C38)	ND	200	ug/L							U
Creosote Range Organics (C12-C22)	ND	200	ug/L							U
Surrogate: o-Terphenyl	221		ug/L	225		98.1	50-150			
LCS (BJC0355-BS1)		Prepared: 16-Mar-2021 Analyzed: 16-Apr-2021 07:45								
Diesel Range Organics (C12-C24)	3010	100	ug/L	3000		100	56-120			
Surrogate: o-Terphenyl	266		ug/L	225		118	50-150			
LCS Dup (BJC0355-BSD1)		Prepared: 16-Mar-2021 Analyzed: 16-Apr-2021 08:06								
Diesel Range Organics (C12-C24)	2680	100	ug/L	3000		89.4	56-120	11.40	30	
Surrogate: o-Terphenyl	222		ug/L	225		98.8	50-150			



Landau Associates, Inc.
130 2nd Avenue S.
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Project: Cascade Pole
Project Number: Cascade Pole
Project Manager: Christine Kimmel

Reported:
20-Apr-2021 12:37

Phenols - Quality Control

Batch BJC0391 - EPA 3510C SepF

Instrument: ECD8 Analyst: yz

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJC0391-BLK1)		Prepared: 17-Mar-2021 Analyzed: 29-Mar-2021 16:55								
Pentachlorophenol	ND	0.25	ug/L							U
Surrogate: 2,4,6-Tribromophenol	0.957		ug/L	2.50		38.3	26-120			
Surrogate: 2,4,6-Tribromophenol [2C]	0.592		ug/L	2.50		23.7	26-120			*
LCS (BJC0391-BS1)		Prepared: 17-Mar-2021 Analyzed: 29-Mar-2021 17:13								
Pentachlorophenol	2.20	0.25	ug/L	2.50		88.1	48-120			
Surrogate: 2,4,6-Tribromophenol	0.861		ug/L	2.50		34.4	26-120			
Surrogate: 2,4,6-Tribromophenol [2C]	0.585		ug/L	2.50		23.4	26-120			*
LCS Dup (BJC0391-BSD1)		Prepared: 17-Mar-2021 Analyzed: 29-Mar-2021 17:31								
Pentachlorophenol	2.87	0.25	ug/L	2.50		115	48-120	26.40	30	
Surrogate: 2,4,6-Tribromophenol	1.47		ug/L	2.50		58.8	26-120			
Surrogate: 2,4,6-Tribromophenol [2C]	1.02		ug/L	2.50		40.6	26-120			



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Certified Analyses included in this Report

Analyte	Certifications
EPA 8270E in Water	
Phenol	WADOE, DoD-ELAP, NELAP
Phenol	WADOE, DoD-ELAP, NELAP, CALAP
Phenol	DoD-ELAP, NELAP, CALAP
Phenol	WADOE, DoD-ELAP, CALAP
bis(2-chloroethyl) ether	WADOE, DoD-ELAP, NELAP, CALAP
bis(2-chloroethyl) ether	DoD-ELAP, NELAP, CALAP
bis(2-chloroethyl) ether	WADOE, DoD-ELAP, CALAP
bis(2-chloroethyl) ether	WADOE, DoD-ELAP, NELAP
2-Chlorophenol	WADOE, DoD-ELAP, CALAP
2-Chlorophenol	WADOE, DoD-ELAP, NELAP, CALAP
2-Chlorophenol	WADOE, DoD-ELAP, NELAP
2-Chlorophenol	DoD-ELAP, NELAP, CALAP
1,3-Dichlorobenzene	WADOE, DoD-ELAP, NELAP
1,3-Dichlorobenzene	DoD-ELAP, NELAP, CALAP
1,3-Dichlorobenzene	WADOE, DoD-ELAP, CALAP
1,3-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
1,4-Dichlorobenzene	WADOE, DoD-ELAP, NELAP
1,4-Dichlorobenzene	WADOE, DoD-ELAP, CALAP
1,4-Dichlorobenzene	DoD-ELAP, NELAP, CALAP
1,4-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
1,2-Dichlorobenzene	WADOE, DoD-ELAP, NELAP
1,2-Dichlorobenzene	WADOE, DoD-ELAP, CALAP
1,2-Dichlorobenzene	DoD-ELAP, NELAP, CALAP
1,2-Dichlorobenzene	WADOE, DoD-ELAP, NELAP, CALAP
Benzyl alcohol	DoD-ELAP, NELAP, CALAP
Benzyl alcohol	WADOE, DoD-ELAP, CALAP
Benzyl alcohol	WADOE, DoD-ELAP, NELAP
Benzyl alcohol	WADOE, DoD-ELAP, NELAP, CALAP
2,2'-Oxybis(1-chloropropane)	WADOE, DoD-ELAP, NELAP
2,2'-Oxybis(1-chloropropane)	WADOE, DoD-ELAP, CALAP
2,2'-Oxybis(1-chloropropane)	DoD-ELAP, NELAP, CALAP
2,2'-Oxybis(1-chloropropane)	WADOE, DoD-ELAP, NELAP, CALAP
2-Methylphenol	WADOE, DoD-ELAP, CALAP
2-Methylphenol	DoD-ELAP, NELAP, CALAP
2-Methylphenol	WADOE, DoD-ELAP, NELAP



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2-Methylphenol	WADOE,DoD-ELAP,NELAP,CALAP
Hexachloroethane	WADOE,DoD-ELAP,CALAP
Hexachloroethane	DoD-ELAP,NELAP,CALAP
Hexachloroethane	WADOE,DoD-ELAP,NELAP
Hexachloroethane	WADOE,DoD-ELAP,NELAP,CALAP
N-Nitroso-di-n-Propylamine	WADOE,DoD-ELAP,NELAP,CALAP
N-Nitroso-di-n-Propylamine	WADOE,DoD-ELAP,NELAP
N-Nitroso-di-n-Propylamine	WADOE,DoD-ELAP,CALAP
N-Nitroso-di-n-Propylamine	DoD-ELAP,NELAP,CALAP
4-Methylphenol	WADOE,DoD-ELAP,CALAP
4-Methylphenol	DoD-ELAP,NELAP,CALAP
4-Methylphenol	WADOE,DoD-ELAP,NELAP
4-Methylphenol	WADOE,DoD-ELAP,NELAP,CALAP
Nitrobenzene	WADOE,DoD-ELAP,CALAP
Nitrobenzene	DoD-ELAP,NELAP,CALAP
Nitrobenzene	WADOE,DoD-ELAP,NELAP
Nitrobenzene	WADOE,DoD-ELAP,NELAP,CALAP
Isophorone	WADOE,DoD-ELAP,NELAP,CALAP
Isophorone	DoD-ELAP,NELAP,CALAP
Isophorone	WADOE,DoD-ELAP,CALAP
Isophorone	WADOE,DoD-ELAP,NELAP
2-Nitrophenol	WADOE,DoD-ELAP,NELAP,CALAP
2-Nitrophenol	WADOE,DoD-ELAP,NELAP
2-Nitrophenol	WADOE,DoD-ELAP,CALAP
2-Nitrophenol	DoD-ELAP,NELAP,CALAP
2,4-Dimethylphenol	WADOE,DoD-ELAP,NELAP
2,4-Dimethylphenol	WADOE,DoD-ELAP,CALAP
2,4-Dimethylphenol	DoD-ELAP,NELAP,CALAP
2,4-Dimethylphenol	WADOE,DoD-ELAP,NELAP,CALAP
Bis(2-Chloroethoxy)methane	WADOE,DoD-ELAP,CALAP
Bis(2-Chloroethoxy)methane	WADOE,DoD-ELAP,NELAP
Bis(2-Chloroethoxy)methane	DoD-ELAP,NELAP,CALAP
Bis(2-Chloroethoxy)methane	WADOE,DoD-ELAP,NELAP,CALAP
2,4-Dichlorophenol	DoD-ELAP,NELAP,CALAP
2,4-Dichlorophenol	WADOE,DoD-ELAP,CALAP
2,4-Dichlorophenol	WADOE,DoD-ELAP,NELAP
2,4-Dichlorophenol	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,CALAP



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1,2,4-Trichlorobenzene	DoD-ELAP,NELAP,CALAP
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
Naphthalene	WADOE,DoD-ELAP,CALAP,ADEC
Naphthalene	DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzoic acid	WADOE,DoD-ELAP,NELAP
Benzoic acid	WADOE,DoD-ELAP,NELAP,CALAP
Benzoic acid	DoD-ELAP,NELAP,CALAP
Benzoic acid	WADOE,DoD-ELAP,CALAP
4-Chloroaniline	DoD-ELAP,NELAP,CALAP
4-Chloroaniline	WADOE,DoD-ELAP,NELAP,CALAP
4-Chloroaniline	WADOE,DoD-ELAP,CALAP
4-Chloroaniline	WADOE,DoD-ELAP,NELAP
2,6-Dinitrotoluene	DoD-ELAP,NELAP,CALAP
2,6-Dinitrotoluene	WADOE,DoD-ELAP,NELAP
2,6-Dinitrotoluene	WADOE,DoD-ELAP,CALAP
2,6-Dinitrotoluene	WADOE,DoD-ELAP,NELAP,CALAP
Hexachlorobutadiene	DoD-ELAP,NELAP,CALAP
Hexachlorobutadiene	WADOE,DoD-ELAP,CALAP
Hexachlorobutadiene	WADOE,DoD-ELAP,NELAP,CALAP
Hexachlorobutadiene	WADOE,DoD-ELAP,NELAP
4-Chloro-3-Methylphenol	WADOE,DoD-ELAP,NELAP
4-Chloro-3-Methylphenol	WADOE,DoD-ELAP,CALAP
4-Chloro-3-Methylphenol	DoD-ELAP,NELAP,CALAP
4-Chloro-3-Methylphenol	WADOE,DoD-ELAP,NELAP,CALAP
Hexachlorocyclopentadiene	DoD-ELAP,NELAP,CALAP
Hexachlorocyclopentadiene	WADOE,DoD-ELAP,NELAP
Hexachlorocyclopentadiene	WADOE,DoD-ELAP,CALAP
Hexachlorocyclopentadiene	WADOE,DoD-ELAP,NELAP,CALAP
2,4,6-Trichlorophenol	WADOE,DoD-ELAP,NELAP
2,4,6-Trichlorophenol	DoD-ELAP,NELAP,CALAP
2,4,6-Trichlorophenol	WADOE,DoD-ELAP,NELAP,CALAP
2,4,6-Trichlorophenol	WADOE,DoD-ELAP,CALAP
2,4,5-Trichlorophenol	DoD-ELAP,NELAP,CALAP
2,4,5-Trichlorophenol	WADOE,DoD-ELAP,CALAP
2,4,5-Trichlorophenol	WADOE,DoD-ELAP,NELAP,CALAP
2,4,5-Trichlorophenol	WADOE,DoD-ELAP,NELAP
2-Chloronaphthalene	WADOE,DoD-ELAP,NELAP



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2-Chloronaphthalene	WADOE,DoD-ELAP,NELAP,CALAP
2-Chloronaphthalene	DoD-ELAP,NELAP,CALAP
2-Chloronaphthalene	WADOE,DoD-ELAP,CALAP
2-Nitroaniline	WADOE,DoD-ELAP,NELAP,CALAP
2-Nitroaniline	WADOE,DoD-ELAP,CALAP
2-Nitroaniline	DoD-ELAP,NELAP,CALAP
2-Nitroaniline	WADOE,DoD-ELAP,NELAP
Acenaphthylene	WADOE,DoD-ELAP,NELAP,ADEC
Acenaphthylene	DoD-ELAP,NELAP,CALAP,ADEC
Acenaphthylene	WADOE,DoD-ELAP,CALAP,ADEC
Acenaphthylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dimethylphthalate	WADOE,DoD-ELAP,CALAP
Dimethylphthalate	DoD-ELAP,NELAP,CALAP
Dimethylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Dimethylphthalate	WADOE,DoD-ELAP,NELAP
Acenaphthene	WADOE,DoD-ELAP,CALAP,ADEC
Acenaphthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acenaphthene	DoD-ELAP,NELAP,CALAP,ADEC
Acenaphthene	WADOE,DoD-ELAP,NELAP,ADEC
3-Nitroaniline	WADOE,DoD-ELAP,NELAP
3-Nitroaniline	WADOE,DoD-ELAP,CALAP
3-Nitroaniline	DoD-ELAP,NELAP,CALAP
3-Nitroaniline	WADOE,DoD-ELAP,NELAP,CALAP
2-Methylnaphthalene	DoD-ELAP,NELAP,CALAP,ADEC
2-Methylnaphthalene	WADOE,DoD-ELAP,CALAP,ADEC
2-Methylnaphthalene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Methylnaphthalene	WADOE,DoD-ELAP,NELAP,ADEC
2,4-Dinitrophenol	WADOE,DoD-ELAP,NELAP,CALAP
2,4-Dinitrophenol	WADOE,DoD-ELAP,NELAP
2,4-Dinitrophenol	DoD-ELAP,NELAP,CALAP
2,4-Dinitrophenol	WADOE,DoD-ELAP,CALAP
Dibenzofuran	WADOE,DoD-ELAP,NELAP,CALAP
Dibenzofuran	DoD-ELAP,NELAP,CALAP
Dibenzofuran	WADOE,DoD-ELAP,CALAP
Dibenzofuran	WADOE,DoD-ELAP,NELAP
4-Nitrophenol	WADOE,DoD-ELAP,NELAP,CALAP
4-Nitrophenol	DoD-ELAP,NELAP,CALAP
4-Nitrophenol	WADOE,DoD-ELAP,CALAP
4-Nitrophenol	WADOE,DoD-ELAP,NELAP



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2,4-Dinitrotoluene	WADOE,DoD-ELAP,NELAP
2,4-Dinitrotoluene	WADOE,DoD-ELAP,CALAP
2,4-Dinitrotoluene	DoD-ELAP,NELAP,CALAP
2,4-Dinitrotoluene	WADOE,DoD-ELAP,NELAP,CALAP
Fluorene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Fluorene	WADOE,DoD-ELAP,NELAP,ADEC
Fluorene	WADOE,DoD-ELAP,CALAP,ADEC
Fluorene	DoD-ELAP,NELAP,CALAP,ADEC
4-Chlorophenylphenyl ether	WADOE,DoD-ELAP,NELAP
4-Chlorophenylphenyl ether	DoD-ELAP,NELAP,CALAP
4-Chlorophenylphenyl ether	WADOE,DoD-ELAP,CALAP
4-Chlorophenylphenyl ether	WADOE,DoD-ELAP,NELAP,CALAP
Diethyl phthalate	WADOE,DoD-ELAP,NELAP,CALAP
Diethyl phthalate	DoD-ELAP,NELAP,CALAP
Diethyl phthalate	WADOE,DoD-ELAP,CALAP
Diethyl phthalate	WADOE,DoD-ELAP,NELAP
4-Nitroaniline	WADOE,DoD-ELAP,CALAP
4-Nitroaniline	WADOE,DoD-ELAP,NELAP
4-Nitroaniline	DoD-ELAP,NELAP,CALAP
4-Nitroaniline	WADOE,DoD-ELAP,NELAP,CALAP
4,6-Dinitro-2-methylphenol	WADOE,DoD-ELAP,NELAP,CALAP
4,6-Dinitro-2-methylphenol	WADOE,DoD-ELAP,NELAP
4,6-Dinitro-2-methylphenol	DoD-ELAP,NELAP,CALAP
4,6-Dinitro-2-methylphenol	WADOE,DoD-ELAP,CALAP
N-Nitrosodiphenylamine	DoD-ELAP,NELAP,CALAP
N-Nitrosodiphenylamine	WADOE,DoD-ELAP,NELAP,CALAP
N-Nitrosodiphenylamine	WADOE,DoD-ELAP,CALAP
N-Nitrosodiphenylamine	WADOE,DoD-ELAP,NELAP
4-Bromophenyl phenyl ether	WADOE,DoD-ELAP,CALAP
4-Bromophenyl phenyl ether	DoD-ELAP,NELAP,CALAP
4-Bromophenyl phenyl ether	WADOE,DoD-ELAP,NELAP,CALAP
4-Bromophenyl phenyl ether	WADOE,DoD-ELAP,NELAP
Hexachlorobenzene	WADOE,DoD-ELAP,CALAP
Hexachlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
Hexachlorobenzene	WADOE,DoD-ELAP,NELAP
Hexachlorobenzene	DoD-ELAP,NELAP,CALAP
Pentachlorophenol	WADOE,DoD-ELAP,NELAP
Pentachlorophenol	WADOE,DoD-ELAP,CALAP
Pentachlorophenol	DoD-ELAP,NELAP,CALAP



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Pentachlorophenol	WADOE,DoD-ELAP,NELAP,CALAP
Phenanthrene	DoD-ELAP,NELAP,CALAP,ADEC
Phenanthrene	WADOE,DoD-ELAP,CALAP,ADEC
Phenanthrene	WADOE,DoD-ELAP,NELAP,ADEC
Phenanthrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Anthracene	WADOE,DoD-ELAP,NELAP,ADEC
Anthracene	WADOE,DoD-ELAP,CALAP,ADEC
Anthracene	DoD-ELAP,NELAP,CALAP,ADEC
Carbazole	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbazole	DoD-ELAP,NELAP,CALAP,ADEC
Carbazole	WADOE,DoD-ELAP,NELAP,ADEC
Carbazole	WADOE,DoD-ELAP,CALAP,ADEC
Di-n-butylphthalate	DoD-ELAP,NELAP,CALAP
Di-n-butylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Di-n-butylphthalate	WADOE,DoD-ELAP,NELAP
Di-n-butylphthalate	WADOE,DoD-ELAP,CALAP
Fluoranthene	WADOE,DoD-ELAP,NELAP,ADEC
Fluoranthene	DoD-ELAP,NELAP,CALAP,ADEC
Fluoranthene	WADOE,DoD-ELAP,CALAP,ADEC
Fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Pyrene	WADOE,DoD-ELAP,CALAP,ADEC
Pyrene	DoD-ELAP,NELAP,CALAP,ADEC
Pyrene	WADOE,DoD-ELAP,NELAP,ADEC
Pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Butylbenzylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Butylbenzylphthalate	DoD-ELAP,NELAP,CALAP
Butylbenzylphthalate	WADOE,DoD-ELAP,CALAP
Butylbenzylphthalate	WADOE,DoD-ELAP,NELAP
Benzo(a)anthracene	WADOE,DoD-ELAP,CALAP,ADEC
Benzo(a)anthracene	DoD-ELAP,NELAP,CALAP,ADEC
Benzo(a)anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(a)anthracene	WADOE,DoD-ELAP,NELAP,ADEC
3,3'-Dichlorobenzidine	WADOE,DoD-ELAP,NELAP,CALAP
3,3'-Dichlorobenzidine	WADOE,DoD-ELAP,CALAP
3,3'-Dichlorobenzidine	WADOE,DoD-ELAP,NELAP
3,3'-Dichlorobenzidine	DoD-ELAP,NELAP,CALAP
Chrysene	WADOE,DoD-ELAP,NELAP,ADEC
Chrysene	DoD-ELAP,NELAP,CALAP,ADEC



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Chrysene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chrysene	WADOE,DoD-ELAP,CALAP,ADEC
bis(2-Ethylhexyl)phthalate	DoD-ELAP,NELAP,CALAP
bis(2-Ethylhexyl)phthalate	WADOE,DoD-ELAP,NELAP,CALAP
bis(2-Ethylhexyl)phthalate	WADOE,DoD-ELAP,NELAP
bis(2-Ethylhexyl)phthalate	WADOE,DoD-ELAP,CALAP
Di-n-Octylphthalate	WADOE,DoD-ELAP,NELAP,CALAP
Di-n-Octylphthalate	WADOE,DoD-ELAP,CALAP
Di-n-Octylphthalate	WADOE,DoD-ELAP,NELAP
Di-n-Octylphthalate	DoD-ELAP,NELAP,CALAP
Benzo(b)fluoranthene	WADOE,DoD-ELAP,NELAP,ADEC
Benzo(b)fluoranthene	WADOE,DoD-ELAP,CALAP,ADEC
Benzo(b)fluoranthene	DoD-ELAP,NELAP,CALAP,ADEC
Benzo(b)fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(k)fluoranthene	WADOE,DoD-ELAP,NELAP,ADEC
Benzo(k)fluoranthene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(k)fluoranthene	DoD-ELAP,NELAP,CALAP,ADEC
Benzo(k)fluoranthene	WADOE,DoD-ELAP,CALAP,ADEC
Benzo(a)pyrene	WADOE,DoD-ELAP,NELAP,ADEC
Benzo(a)pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzo(a)pyrene	WADOE,DoD-ELAP,CALAP,ADEC
Benzo(a)pyrene	DoD-ELAP,NELAP,CALAP,ADEC
Indeno(1,2,3-cd)pyrene	WADOE,DoD-ELAP,CALAP,ADEC
Indeno(1,2,3-cd)pyrene	DoD-ELAP,NELAP,CALAP,ADEC
Indeno(1,2,3-cd)pyrene	WADOE,DoD-ELAP,NELAP,ADEC
Indeno(1,2,3-cd)pyrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibenzo(a,h)anthracene	DoD-ELAP,NELAP,CALAP,ADEC
Dibenzo(a,h)anthracene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibenzo(a,h)anthracene	WADOE,DoD-ELAP,CALAP,ADEC
Dibenzo(a,h)anthracene	WADOE,DoD-ELAP,NELAP,ADEC
Benzo(g,h,i)perylene	WADOE,DoD-ELAP,CALAP,ADEC
Benzo(g,h,i)perylene	WADOE,DoD-ELAP,NELAP,ADEC
Benzo(g,h,i)perylene	DoD-ELAP,NELAP,CALAP,ADEC
Benzo(g,h,i)perylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzofluoranthenes, Total	WADOE,DoD-ELAP,NELAP,ADEC
Benzofluoranthenes, Total	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzofluoranthenes, Total	DoD-ELAP,NELAP,CALAP,ADEC
Benzofluoranthenes, Total	WADOE,DoD-ELAP,CALAP,ADEC
N-Nitrosodimethylamine	DoD-ELAP,NELAP,CALAP



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N-Nitrosodimethylamine	WADOE,DoD-ELAP,NELAP,CALAP
N-Nitrosodimethylamine	WADOE,DoD-ELAP,NELAP
N-Nitrosodimethylamine	WADOE,DoD-ELAP,CALAP
Aniline	WADOE,DoD-ELAP,CALAP
Aniline	DoD-ELAP,NELAP,CALAP
Aniline	WADOE,DoD-ELAP,NELAP
Aniline	WADOE,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1-Methylnaphthalene	DoD-ELAP,NELAP,CALAP,ADEC
1-Methylnaphthalene	WADOE,DoD-ELAP,CALAP,ADEC
1-Methylnaphthalene	WADOE,DoD-ELAP,NELAP,ADEC
Azobenzene (1,2-DP-Hydrazine)	WADOE,NELAP,CALAP
Azobenzene (1,2-DP-Hydrazine)	WADOE,CALAP
Azobenzene (1,2-DP-Hydrazine)	NELAP,CALAP
Azobenzene (1,2-DP-Hydrazine)	WADOE,NELAP
Benzidine	WADOE,DoD-ELAP
Benzidine	WADOE,DoD-ELAP
Benzidine	DoD-ELAP
Benzidine	WADOE,DoD-ELAP
Retene	WADOE,DoD-ELAP
Retene	WADOE,DoD-ELAP
Retene	DoD-ELAP
Retene	WADOE,DoD-ELAP
Pyridine	DoD-ELAP
Pyridine	WADOE,DoD-ELAP
Pyridine	WADOE,DoD-ELAP
Pyridine	WADOE,DoD-ELAP
2,6-Dichlorophenol	WADOE
2,6-Dichlorophenol	
2,6-Dichlorophenol	WADOE
2,6-Dichlorophenol	WADOE
alpha-Terpineol	WADOE,DoD-ELAP
alpha-Terpineol	DoD-ELAP
alpha-Terpineol	WADOE,DoD-ELAP
alpha-Terpineol	WADOE,DoD-ELAP
1,4-Dioxane	WADOE,DoD-ELAP
1,4-Dioxane	WADOE,DoD-ELAP
1,4-Dioxane	WADOE,DoD-ELAP
1,4-Dioxane	DoD-ELAP



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2,3,4,6-Tetrachlorophenol	DoD-ELAP
2,3,4,6-Tetrachlorophenol	WADOE,DoD-ELAP
2,3,4,6-Tetrachlorophenol	WADOE,DoD-ELAP
2,3,4,6-Tetrachlorophenol	WADOE,DoD-ELAP
Triphenyl Phosphate	DoD-ELAP
Triphenyl Phosphate	WADOE,DoD-ELAP
Triphenyl Phosphate	WADOE,DoD-ELAP
Triphenyl Phosphate	WADOE,DoD-ELAP
Butyl Diphenyl Phosphate	DoD-ELAP
Butyl Diphenyl Phosphate	WADOE,DoD-ELAP
Butyl Diphenyl Phosphate	WADOE,DoD-ELAP
Butyl Diphenyl Phosphate	WADOE,DoD-ELAP
Dibutyl Phenyl Phosphate	WADOE,DoD-ELAP
Dibutyl Phenyl Phosphate	DoD-ELAP
Dibutyl Phenyl Phosphate	WADOE,DoD-ELAP
Dibutyl Phenyl Phosphate	WADOE,DoD-ELAP
Tributyl Phosphate	WADOE,DoD-ELAP
Tributyl Phosphate	DoD-ELAP
Tributyl Phosphate	WADOE,DoD-ELAP
Tributyl Phosphate	WADOE,DoD-ELAP
Butylated Hydroxytoluene	DoD-ELAP
Butylated Hydroxytoluene	WADOE,DoD-ELAP
Butylated Hydroxytoluene	WADOE,DoD-ELAP
Butylated Hydroxytoluene	WADOE,DoD-ELAP
Tetrachloroguaiacol	WADOE,DoD-ELAP
Tetrachloroguaiacol	WADOE,DoD-ELAP
Tetrachloroguaiacol	DoD-ELAP
Tetrachloroguaiacol	WADOE,DoD-ELAP
3,4,5-Trichloroguaiacol	WADOE
3,4,5-Trichloroguaiacol	WADOE
3,4,5-Trichloroguaiacol	WADOE
3,4,5-Trichloroguaiacol	
3,4,6-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	
3,4,6-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	



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4,5,6-Trichloroguaiacol	WADOE
Guaiacol	
Guaiacol	WADOE
Guaiacol	WADOE
Guaiacol	WADOE
1,2,4,5-Tetrachlorobenzene	WADOE
1,2,4,5-Tetrachlorobenzene	WADOE
1,2,4,5-Tetrachlorobenzene	
1,2,4,5-Tetrachlorobenzene	WADOE

EPA 8270E-SIM in Water

Naphthalene	DoD-ELAP
Naphthalene	DoD-ELAP
Naphthalene	DoD-ELAP
Naphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
Biphenyl	DoD-ELAP
Biphenyl	DoD-ELAP
Biphenyl	DoD-ELAP
Biphenyl	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthene	DoD-ELAP



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Acenaphthene	DoD-ELAP
Acenaphthene	DoD-ELAP
Acenaphthene	DoD-ELAP
Dibenzofuran	DoD-ELAP
Dibenzofuran	DoD-ELAP
Dibenzofuran	DoD-ELAP
Dibenzofuran	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
Fluorene	DoD-ELAP
Fluorene	DoD-ELAP
Fluorene	DoD-ELAP
Fluorene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Phenanthrene	DoD-ELAP
Phenanthrene	DoD-ELAP
Phenanthrene	DoD-ELAP
Phenanthrene	DoD-ELAP
Anthracene	DoD-ELAP
Anthracene	DoD-ELAP
Anthracene	DoD-ELAP
Anthracene	DoD-ELAP
Carbazole	DoD-ELAP
Carbazole	DoD-ELAP
Carbazole	DoD-ELAP
Carbazole	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
Fluoranthene	DoD-ELAP
Fluoranthene	DoD-ELAP
Fluoranthene	DoD-ELAP
Fluoranthene	DoD-ELAP



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Pyrene	DoD-ELAP
Pyrene	DoD-ELAP
Pyrene	DoD-ELAP
Pyrene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Chrysene	DoD-ELAP
Chrysene	DoD-ELAP
Chrysene	DoD-ELAP
Chrysene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzo(b)fluoranthenes, Total	DoD-ELAP
Benzo(b)fluoranthenes, Total	DoD-ELAP
Benzo(b)fluoranthenes, Total	DoD-ELAP
Benzo(b)fluoranthenes, Total	DoD-ELAP
Benzo(e)pyrene	DoD-ELAP
Benzo(e)pyrene	DoD-ELAP
Benzo(e)pyrene	DoD-ELAP
Benzo(e)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Perylene	DoD-ELAP
Perylene	DoD-ELAP
Perylene	DoD-ELAP



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Perylene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP
Diesel Range Organics (C12-C24)	DoD-ELAP,WADOE
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C25)	DoD-ELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C24)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP



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Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP
Motor Oil Range Organics (C24-C40)	DoD-ELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP
JP8 Range Organics (C8-C18)	DoD-ELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE



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JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP
JP5 Range Organics (C10-C16)	DoD-ELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP
JP4 Range Organics (Tol-C14)	DoD-ELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP
Jet-A Range Organics (C10-C18)	DoD-ELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP
Bunker C Range Organics (C10-C38)	DoD-ELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-Nap)	DoD-ELAP
Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	DoD-ELAP



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Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C6-C10)	ADEC,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022



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Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- D1 Surrogate was not detected due to sample extract dilution
- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- J Estimated concentration value detected below the reporting limit.
- M Estimated value for a GC/MS analyte detected and confirmed by an analyst but with low spectral match parameters.
- P1 The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.